



**भारत सरकार**

**GOVERNMENT OF INDIA**

**जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय**  
**Ministry of Water Resources, River Development & Ganga**  
**Rejuvenation**  
**केन्द्रीय जल आयोग**  
**CENTRAL WATER COMMISSION**



## **INTEGRATED HYDROLOGICAL DATA BOOK**

**(NON-CLASSIFIED RIVER BASINS)**

**HYDROLOGICAL DATA DIRECTORATE**  
**INFORMATION SYSTEMS ORGANISATION**  
**WATER PLANNING & PROJECTS WING**  
**CENTRAL WATER COMMISSION**

**NEW DELHI**

**January, 2015**

संगठित जल वैज्ञानिकीय  
आँकड़ा पुस्तक  
( अवर्गीकृत नदी कछारें )  
**INTEGRATED HYDROLOGICAL  
DATA BOOK  
(NON-CLASSIFIED RIVER BASINS)**

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## Foreword

Water Resources planning requires time series data on hydrological aspects. The Hydrological Observation Divisions of CWC collect and process the basic hydrological data on gauge, discharge, silt, sedimentation and water quality on a regular basis for onward transmission to the CWC regional field officers, who document it in the form of Water Year Book, Sediment Year Book and Water Quality Year Books. Integrated Hydrological Data Book is a compendium of important information of major basins consolidated at the national level.



The present issue of the data book provides updated basin/sitewise data of all non-classified basins covering aspects such as location, drainage area, temprature, average runoff, sesonal water flow, historical water levels, average sediment load, water quality parameters and land use statistics.

It is expected that the information would be of use to planners, researchers, policy makers and the public at large.

(A B Pandya)

Chairman

Central Water Commission

New Delhi  
January, 2015



## Preface

The designing and execution of water resources projects require time series data on hydrological aspects. The basic hydrological data on gauge, discharge, silt, sedimentation and water quality are regularly collected at hydrological observation stations of CWC and processed. Thereafter the authenticated data is transmitted to the CWC regional field offices who document it in the form of Water Year Book, Sediment Year Book and Water Quality Year Book. At macro level, a centralized databank of important hydrological data of twelve non-classified basins is being maintained by CWC. This publication provides inter-alia consolidated information on important hydrological water quality parameters.




The publication presents salient features of all non-classified basins relating to location, drainage area, soil characteristics, type of industries, principal minerals, rainfall, temperature, type of climate, average annual run off, seasonal water flow, historical water levels, live storage capacity, annual flow of water into river basin, dependable flow of water in different river basins, ten daily & monthly sediment load for different river basins, critical absolute values of water quality parameter, land use statistics etc.

The collection, compilation and collation of the data and finalization of the publication were undertaken by the Hydrological Data Directorate of Information System Organisation in WP&P Wing of Central Water Commission. Shri P. S. Tanck, Director; Shri S. K. Madan, Director; J. P. Meena & Sumanta Chakraborty - Assistant Directors assisted by the staff members have done excellent job under able guidance of Shri D. C. Sharma, Advisor(ISO) in preparation of this publication and giving it a presentable shape. Thanks are also due to Field Organisations for their cooperation in supplying the data.

While every care has been taken to include updated information and ensure accuracy of data, the possibility of errors and omissions in such a voluminous publication cannot altogether be ruled out.

Suggestions for improvement of the contents and presentation of the publication will be highly appreciated.

New Delhi  
January, 2015

  
(A. Mahendran)  
Member (WP&P)  
Central Water Commission



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## ABBREVIATIONS AND SYMBOLS

-	:	Anion
+	:	Cation
<sup>0</sup> C	:	Degree Centigrade
BCM	:	Billion Cubic Meter
BOD	:	Bio-Chemical Oxygen Demand
cumec	:	Cubic Meter per Second
CWC	:	Central Water Commission
DO	:	Dissolved Oxygen
G	:	Gauge Sites
GD	:	Gauge & Discharge sites
GDQ	:	Gauge, Discharge and Water Quality Sites
GDS	:	Gauge, Discharge & Sediment sites
GDSQ	:	Gauge, Discharge, Sediment and Water Quality Sites
m	:	Meter
max	:	Maximum
MCM	:	Million Cubic Meter
mg/l	:	Milligram per Litre
min	:	Minimum
mm	:	Millimeters
MPN	:	Most Probable Number
N.A.	:	Not Applicable
pH	:	Negative logarithm of hydrogen ion concentration
ppm	:	Part per million
RSC	:	Residual Sodium Carbonate
SAR	:	Sodium Absorption Ratio
Sq Km	:	Square Kilometers
WQ	:	Water Quality



## ABBREVIATIONS AND SYMBOLS

pH_Gen	:	Negative logarithm of hydrogen ion concentration - General
B	:	Boron
Ca	:	Calcium
Cl	:	Chloride
CO <sub>3</sub>	:	Carbonate
F	:	Fluoride
Fe	:	Iron
HCO <sub>3</sub>	:	Bicarbonate
K	:	Potassium
Mg	:	Magnesium
Na	:	Sodium
NH <sub>3</sub> -N	:	Ammonia Nitrogen
NO <sub>2</sub> -N	:	Nitrite Nitrogen
NO <sub>3</sub> -N	:	Nitrate Nitrogen
SiO <sub>2</sub>	:	Silica
SO <sub>4</sub>	:	Sulphate
As	:	Arsenic
Cd	:	Cadmium
Cr	:	Chromium
Cu	:	Copper
Hg	:	Mercury
Ni	:	Nickel
Pb	:	Lead
Zn	:	Zinc
%	:	Percentage

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# Chapter 1

## Introduction

### 1.0 Assessment of Water Resources

**1.0.1** The annual precipitation including snowfall is the main source of water in India and is estimated to be of the order of 4000 cu km. The total water resource potential of the country, which occurs as natural run off in the rivers is estimated at 1869 cu km considering both surface and groundwater into account. Due to various constraints of topography, uneven distribution of resource over space and time, it has been estimated that only about 1123 cu km can be put to beneficial use – out of which only 690 cu km is surface water. However, 370 cu km of estimated utilizable surface water comes from the non-classified river basins.

### 1.1 Per Capita Availability of Water

**1.1.1** As per the distribution of water resources potential in the country, the national per capita annual availability of water is 1545 cu m (estimated as on 1<sup>st</sup> March 2011). The average availability in Brahmaputra and Barak basin is as high as 14057 cu m while it is as low as 308 cu m in Sabarmati basin in 2000. Brahmaputra and Barak basin with 7.6 % of geographical area and 5.2 % of population of all the basins in the country has 31 % of the annual water resources. Per capita annual availability for rest of the country excluding Brahmaputra and Barak basin works out to about 1345 cu m. An availability of less than 1000 cu m per capita is considered by international agencies as scarcity condition. Cauvery, Sabarmati, East flowing rivers and west flowing rivers are some of the basins which fall into this category.

### 1.2 Background

**1.2.1** Information System Organisation (ISO) of Water Planning & Projects Wing (WP&P) in CWC is a statistical unit of CWC entrusted in compiling data collected by CWC field offices and bringing out publications for backing up data for planning and policy formulation and researchers relating to water resources. Among these publications the present one is on hydrological data entitled “Integrated Hydrological Data Book”.

**1.2.2** River management is one of the key issues for political and economical affairs of the country. For designing and execution of water resource projects in the country, planners and policy makers require a comprehensive and reliable time series data on hydrological aspects. The primary objective of this data book is to provide those data.

**1.2.3** The scope of this publication is limited to non-classified river basins. It contains data pertaining to non-classified river basins only. In the country there are 3 classified river basins, namely, (1) Indus, (2) Ganga, Brahmaputra and Barak, (3) Minor river draining into Myanmar and Bangladesh. The rest of the river basins are treated as non-classified basins. The non-classified basins for the purpose of this publication are listed below.

1. Mahanadi
2. Subarnarekha, Burhabalang & Baitarani
3. Brahmani
4. Rushikulya, Vamsadhara, Sarada & Nagavali
5. Godavari
6. Krishna
7. Cauvery
8. East Flowing Rivers between Mahanadi to Kanyakumari
9. West Flowing Rivers from Kanyakumari to Tapi
10. Tapi
11. Narmada
12. Mahi, Sabarmati & other West Flowing

The physical features of these non-classified basins are described in Chapter 2.

**1.2.4** The nation-wide data collection network of CWC is spread over 878 hydrological observation stations covering both classified and non-classified river basins. Out of these, 282 operational sites are located in non-classified river basins. The distribution of the sites by river basin has been presented in Table 3. The data here are restricted to non-classified river basins only. In these sites hydrological data on gauge, discharge, silt, sedimentation, water quality and water flow are collected regularly.

**1.2.5** Based on the data collected in the field, three water year books for gauge and discharge, sediment and water quality are prepared by CWC field office at divisional level. All these books along with some relevant land use statistics collected by the Ministry of Agriculture are integrated in this data book.

**1.2.6** This book contains data for 2010-11 and 2011-12. Wherever time series data are presented, it covers a period of ten years from 2002-03 to 2011-12. However, there are some basins for which latest data are not available due to unavoidable reasons.

# Chapter 2

## Description of different river basins

**2.0** There are three river basins namely (i) Indus, (ii) Ganga, Brahmaputra & Barak and (iii) Minor river draining into Myanmar and Bangladesh called classified. The rest are non-classified. This chapter gives a detailed account of non-classified river basins. It covers salient features like geographical location, topology, topography, major tributaries, soil characteristics, availability of minerals, major industries, urban centres and important irrigation projects including observation sites. Basin-wise detailed information is presented in Table 2 of Appendix.

### 2.1 Mahanadi Basin

**2.1.1 Location:** The basin is physically bounded in the north by Central India hills, in the south and east by the Eastern Ghats and in the west by Maikala hill range. The Chiroli Hills form the watershed dividing the Wainganga valley from the Mahanadi Basin, the upper portion of which is designed as the Chhattisgarh Basin. The Mahanadi basin lies encompassed within geographical co-ordinates of  $80^{\circ}30'$  to  $86^{\circ}50'$  east longitudes and  $19^{\circ}20'$  to  $23^{\circ}35'$  of north latitudes running a total length of about 851 km. The total catchment area of the basin is 141600 sq km spreading over five States viz. Chhattisgarh, Orissa, Madhya Pradesh, Jharkhand and Maharashtra of which more than 99% is in Chhattisgarh and Orissa.

**2.1.2** The river Mahanadi is one of the major inter-state east flowing rivers in peninsular India. It originates at an elevation of about 442 m above Mean Sea Level (msl) near Pharsiya village near Nagri town in Raipur district of Chhattisgarh. The total length of the river from its origin to confluence at the Bay of Bengal is about 851 km, of which 357 km is in Chhattisgarh and the balance 494 km in Orissa. During its traverse, a number of tributaries join the river on both the banks. There are 14 major tributaries of which 12 are joining upstream of Hirakud reservoir and 2 downstream of it.

**2.1.3** On the left bank six tributaries namely the Seonath, the Hasdeo, the Mand, the Ib, the Kelo and Borai drain into main channel upstream of Hirakud reservoir. On the Right Bank six tributaries namely the Pairi, the Jonk, the Sukha, Kanji, the Lilar and the Lath join upstream of Hirakud reservoir and two tributaries namely Tel and Ong join downstream of it. The three major tributaries namely the Seonath and the Ib on the Left Bank and the Tel on the Right Bank together constitute nearly 46.63% of the total catchment area of the river Mahanadi. The Seonath, which is the largest tributary of Mahanadi, rises from an elevation of 533 m in village Kotgai, District Durg (Chhattisgarh) and drains three districts of Chhattisgarh namely Durg, Rajnandgaon and Bilaspur. The Tel, which is the second largest tributary of Mahanadi River, rises from an elevation of 700 m in village Jorigam of Nabarangpur district of Orissa and drains five districts of Orissa namely Nabarangpur, Kalahandi, Bolangir, Boudh and Kandhamal. The Ib, which is the third largest tributary of Mahanadi, rises from an elevation of 762 m in village Pandrapat, District Raigarh (Chhattisgarh) and drains Raigarh and Jashpur districts of Chhattisgarh, along with two districts of Orissa, namely Sundergarh and Sambalpur. The monsoon is the principal rainy season, when over 75% of the annual rainfall is received over a major portion of the basin with July/August as the rainiest month. The average annual rainfall of the basin is of the order of 1400 mm.

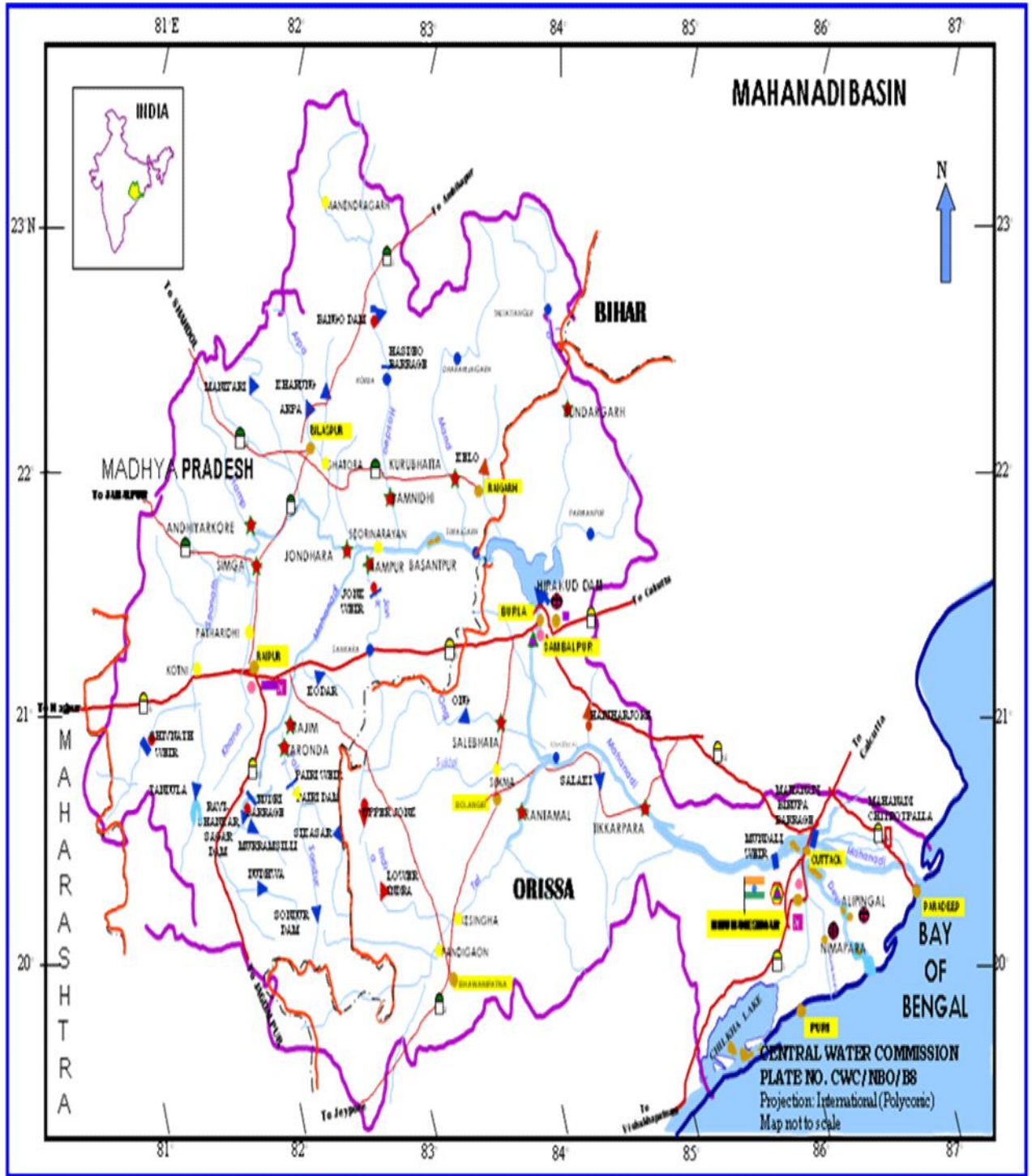


**2.1.4 Irrigation Projects:** The Major Projects namely Tandula, Mahandi main Canal, Kharang Tank, Manairi Tank, Hasdeo Bango, Tairi, Kodar, Salaki, Ong Diversion and Sunder Dam fall in the catchment areas of the river basin.

**2.1.5 Urban Centres:** Two important urban centres in the basin are Raipur and Cuttack.

**2.1.6 Industries:** Mahanadi, because of its rich mineral reserve and adequate power resource, has a favorable industrial climate. The important industries presently existing in the basin are iron & steel plant, aluminum factories, paper mills and cement industries.

**2.1.7 Hydrological Sites:** The Central as well as State Governments carried out hydrological observations. The CWC maintains 40 gauge sites in the basin and in 20 of these discharge observations are made and in 16 stations sediment observations are also carried out (as per 2011-12 data).



For international IS state boundaries and Coast lines refer to Survey of India maps

## 2.2 Subarnarekha, Burhabalang, & Baitarni basin

### 2.2.1 Subarnarekha

**2.2.1.1 Location:** The Subarnarekha is one of the longest east flowing inter-state rivers. It covers large areas of Jharkhand and some parts of Orissa and West Bengal. The basin lies between north latitudes of 21<sup>0</sup>33' to 23<sup>0</sup>32' and east longitudes of 85<sup>0</sup>09' to 87<sup>0</sup>27' situated in the northeast corner of the peninsular India. It is bounded on the northwest by the Chhotanagpur Plateau, in the south west by Brahmani Basin, in the south by Burhabalang basin and in the south-east by the Bay of Bengal. This river originates near Nagri village in Ranchi district of Jharkhand at an elevation of 600 m. The total length of the river is about 395 km. Its principal tributaries are Kanchi, Kharkai, Karkari and Dulang. The basin is generally influenced by South-West monsoon, which onsets in the month of June and extended upto October.

**2.2.1.2 Irrigation Projects:** The Kanchi Irrigation Schemes is the Major Project in the basin.

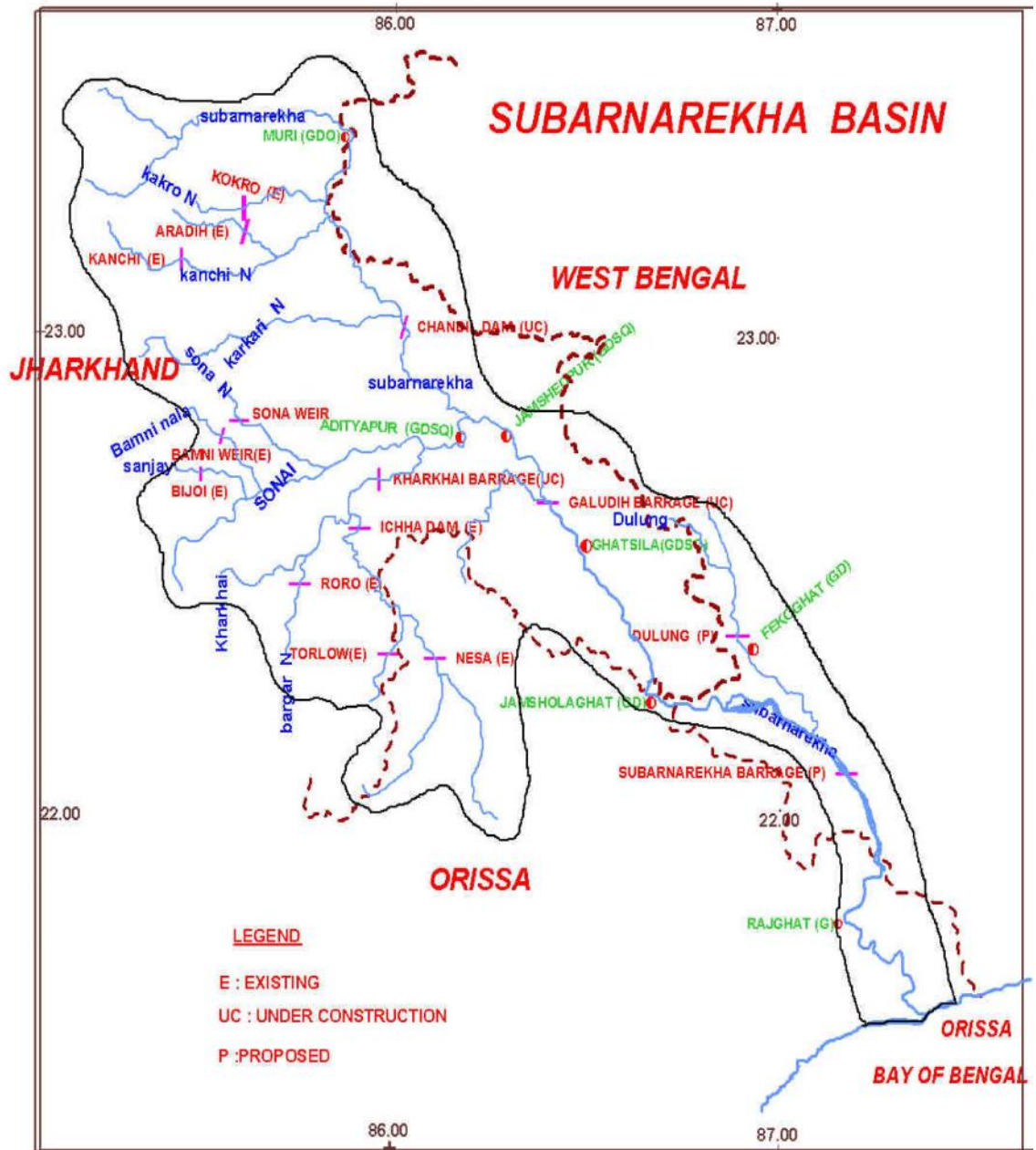
**2.2.1.3 Urban Centres:** The important cities/ towns in the basin are Jamshedpur, and Muri.

**2.2.1.4 Industries:** Important industries in the basin are tobacco products, cement, asbestos sheets, glass, ceramics, Locomotives & Coaches, automobiles, agricultural equipment, wires & cables, iron & steel machinery, metal tubes & conduits, copper & brass, chemicals acids & caustics, fertilizers and Soaps.

**2.2.1.5 Minerals:** The important minerals found in the basin are Coal, Iron ore, Bauxite, Micagenists, Phyllites, Dolomites and Granites.

**2.2.1.6 Hydrological Sites:** There are 7 H.O. sites out of which for 3 sites (at Ghatsila, Jamshedpur and Adityapur) the data on gauge, discharge, sedimentation and water quality are collected. In one site at Muri data collected pertains to observations on gauge, discharge and water quality. At site Fekoghat and jamsholaghat, data are collected for gauge, discharge. Besides these sites, there is one site where only Gauge related data are collected (as per 2011-12 data).





## 2.2.2 Burhabalang

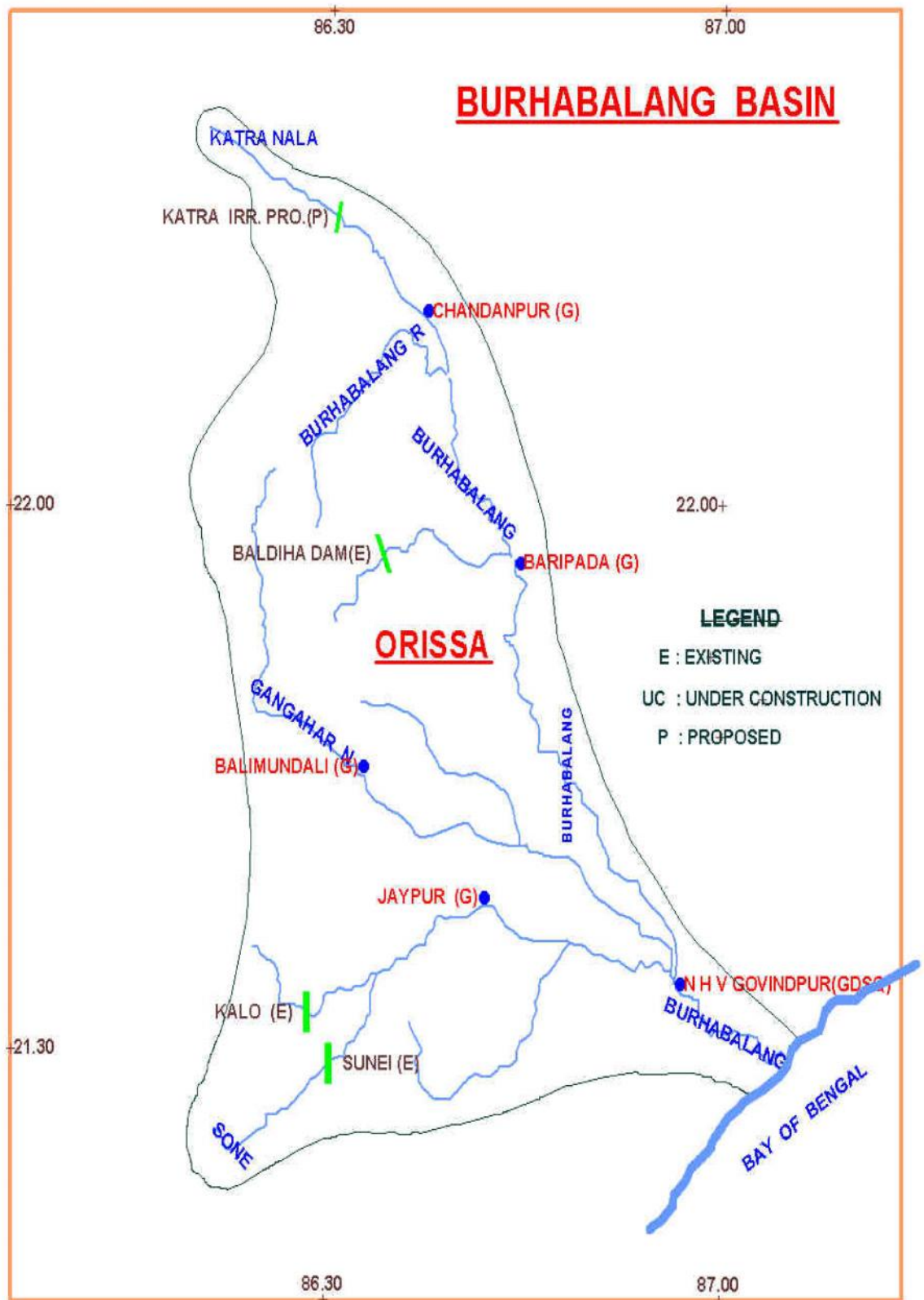
**2.2.2.1 Location:** The Burhabalang is one of the east flowing rivers situated in the northern part of Orissa State. It is bounded by the geographical co-ordinates of north latitudes between  $21^{\circ} 22'$  to  $22^{\circ} 20'$  and east longitudes  $86^{\circ} 20'$  to  $87^{\circ} 05'$ . It drains parts of the areas in Mayurbhanj and Balasore districts of Orissa with a total catchment area of 4800 sq km. This is a flashy river having a source at an elevation of 800 m and drops into the sea after traversing a total distance of 125 km. The basin is greatly influenced by the South-West monsoon, which sets in June and withdraws in middle of October.

**2.2.2.2 Urban Centres:** The important towns in the basin are Baripada.

**2.2.2.3 Industries:** The basin has no large industry.

**2.2.2.4 Minerals:** Iron ore, china clay, quartz and soap stone are found in limited areas in the Mayurbhanj portion of the basin. Limestone is seen in the Similipal hill ranges.

**2.2.2.5 Hydrological Sites:** Gauge, discharge, sedimentation and water quality observations are made at Govindpur station.



### 2.2.3 Baitarni

**2.2.3.1 Location:** The Baitarani is one of the important east flowing rivers of peninsular India, flowing eastward and joining the Bay of Bengal. The river originates in the hill ranges of Keonjhar District of Orissa near Mankarancho village at an elevation of about 900 m. The river flows through Jharkhand and Orissa states. . On its way, many tributaries join the river from both banks. The total catchment area of this basin is 10,982 sq km. More than 93% of the catchment area falls in Orissa. The basin is situated approximately between east longitudes of 85<sup>0</sup>10' to 87<sup>0</sup>03' and between north latitudes of 20<sup>0</sup>35' to 22<sup>0</sup>15'. The basin is surrounded by the Brahmani on the South and West, the Subernarekha on the north, the Burhabalang and the Bay of Bengal on the east. The river is flashy in nature; having a total length of 355 km with the upper reach up to Anandpur is in the hilly region. There is a considerable fall in elevation from RL 367 m at Champua to RL 28 m at Anandpur. The basin receives most of the rainfall from the South-West monsoons during the period from June to October.

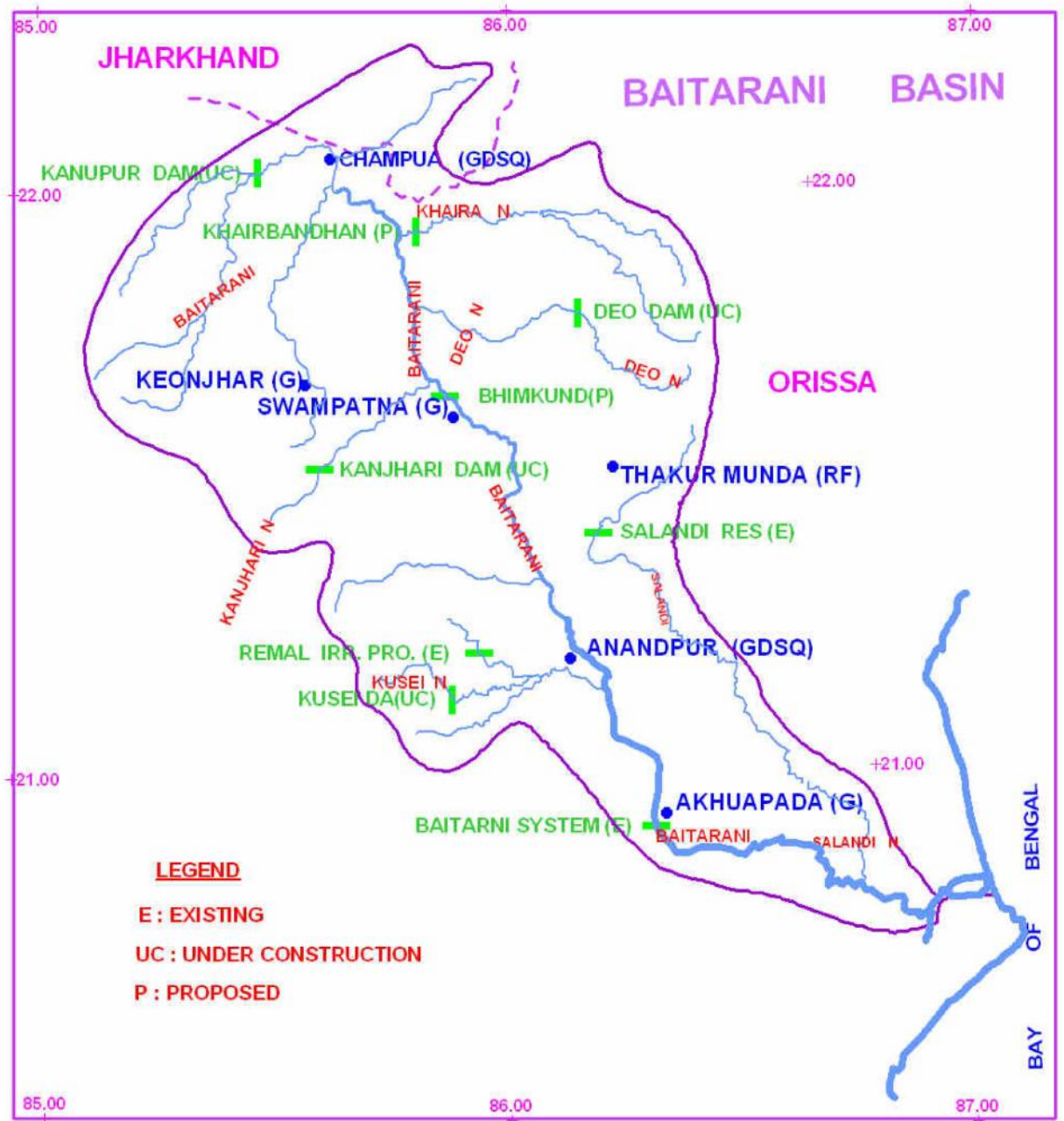
**2.2.3.2 Irrigation Projects:** Akhuapada, Salandi, Anandpur Barrage and Kanpur Irrigation System are the Major Irrigation Projects in the catchment area of the Baitarni River Basins.

**2.2.3.3 Urban Centres:** The important towns in the basin are Champua, Karanjia, Keonjhar, and Anandpur.

**2.2.3.4 Industries:** Major industries in the basin are Ferro-Manganese and sponge Iron Plant.

**2.2.3.5 Minerals:** The rocks of the basin belong to the iron ore series of the Upper Dharwar system of the Archean group. In the zonal area of the Sundargarh district, Shales, Phyllites and Dolomites are found. In the hills and forests between the Dhenkanal border and Anandpur, Quartzites, Shales, Phyllites, Granites and Genesis are also found.

**2.2.3.6 Hydrological Sites:** Water quality, gauge, discharge and sedimentation observations are made at Anandpur and Champua sites. There are 3 sites exclusively for guage data and one site for rainfall only.





## 2.3 Brahmani Basin

**2.3.1 Location:** The Brahmani is the major inter-state east flowing river among the peninsular rivers in India. This basin is situated within the geographical co-ordinates of north latitude  $20^{\circ} - 28'$  to  $23^{\circ} - 35'$  and east longitude  $83^{\circ} - 52'$  to  $87^{\circ} - 03'$  approximately. This basin is bounded in the north by Chhota Nagpur plateau, in the west and south by Mahanadi basin and in the east by the Bay of Bengal. The basin flows through Jharkhand, Chattisgarh, and Orissa States and its catchment area is 39033 sq km.

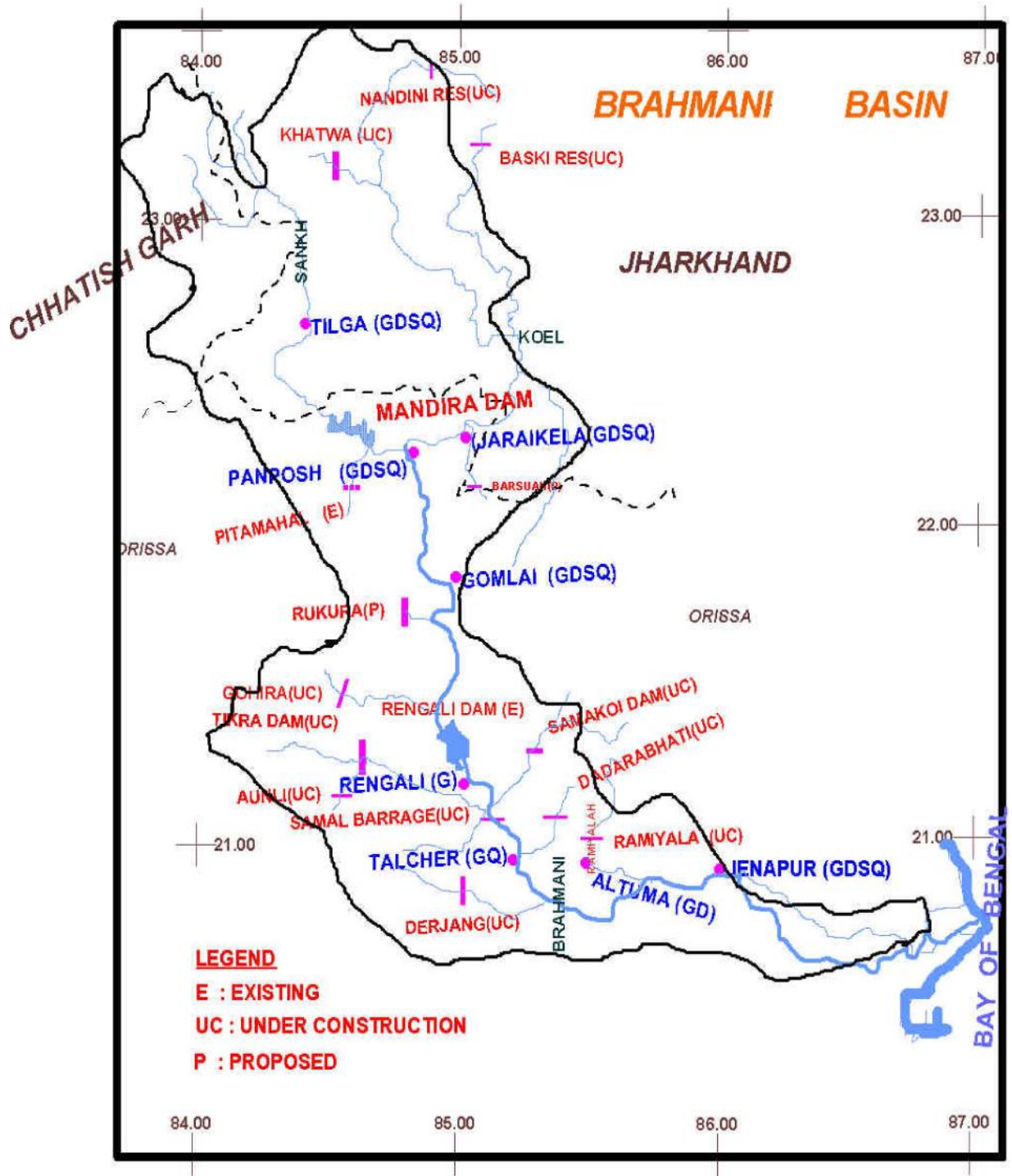
The Brahmani is known as the South Koel in the upper reaches. It originates near Nagri village in Ranchi District of Bihar at an elevation of about 600 m. The total length of its run is about 799 km. The principal tributaries of this river are Sankh, Tikra and Karo. The climate of the basin is tropical with a fairly hot summer and moderately cold winter. The basin is influenced by south west monsoon from June to October.

**2.3.2 Irrigation Projects:** There is no major project in the catchment areas of the river basin.

**2.2.3 Minerals:** The basin is rich in mineral resources. Coal, Iron ore, Copper, Chromites, Limestone, Dolomites, Bauxite, Manganese, China clay and Fire clay are the main mineral resources of this basin.

**2.3.4 Industries:** Major industries in the basin are Steel Plants and Aluminium plants. There exist a number of other industries like fertilizers, cement, explosives chemicals and machine tools.

**2.3.5 Hydrological Sites:** There are total 11 H.O. site out of which one site exclusively for guage data and three sites for water quality only. Gauge, Discharge, Sedimentation and Water Quality observation are being conducted at five sites and one each for recording observation on gauge & discharge and gauge & quality (as per 2011-12 data).



## 2.4 Rushikulya, Vamsadhara, Saradea & Nagavali Basin

### 2.4.1 Rushikulya

**2.4.1.1 Location:** The Rushikulya River is one of the east flowing rivers in Orissa. It covers entire catchment area in the districts of Kandhamal and Ganjam. The river flows through Purushottampur, Pratappur and joins with the Bay of Bengal at Ganjam district. The river Rushikulya originates at an elevation of about 1000 m near Matabarhi village of Kandhmal district of Orissa State and lies within the geographical co-ordinates of 19<sup>0</sup> 07' to 20<sup>0</sup> 19' north latitude and 84<sup>0</sup> 01' to 85<sup>0</sup> 06' east longitude. The total catchment area is 7700 sq km. The Badanadi, Ghodahada, Baghua and Pathama are the main principal tributaries.

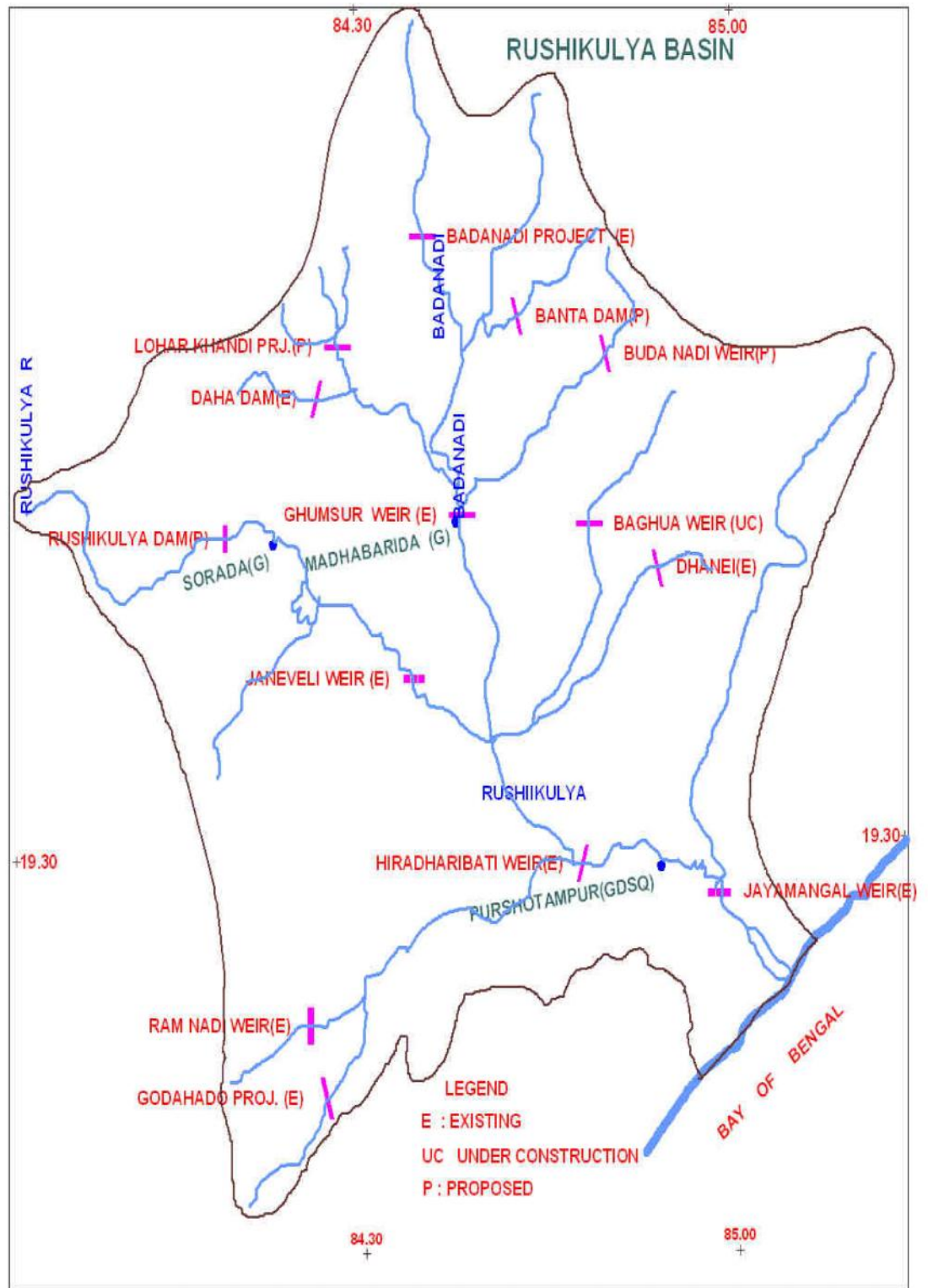
**2.4.1.3 Urban Centres:** Behrampur city is situated in the basin and other important towns are Ganjam and Sorada.

**2.4.1.2 Irrigation Projects:** The Rushikulya Irrigation System is the only Major Irrigation Project in the catchment area of the Rushikulya River Basins.

**2.4.1.3 Industries:** Major industries in the basin are chemical, sugar and Spinning Mills.

**2.4.1.4 Minerals:** The basin is rich in mineral wealth. The major economic minerals are clay, lime stone, manganese, sand talc, black sand and grinding materials.

**2.4.1.5 Hydrological Sites:** Gauge Discharge, sediment and water quality observation are made at Purushottampur observation station.



## 2.4.2 Vamsadhara

**2.4.2.1 Location:** The Vamsadhara River is an important east flowing river between Mahanadi and Godavari. The river originates near Lanjigarh village in Kalahanadi district in Orissa and traverses a total distance of about 254 km before it joins the Bay of Bengal at Kalingapatnam in erstwhile Andhra Pradesh. It has five principal tributaries viz. Chauldua, Phalphalia, Ganguda (Harbhangi), Sanna Nadhi and Mathendrathanaya. Most of its catchment area falls on the left. The basin is narrow and full of undulations. It is situated within the geographical co-ordinates of  $18^{\circ} 15'$  to  $19^{\circ} 55'$  north latitudes and  $83^{\circ} 20'$  to  $84^{\circ} 20'$  east longitudes. The total catchment area of this basin works out to 10830 Sq km.

**2.4.2.2 Urban Centres:** Srikakulam and Gunupur are the important towns in the basin.

**2.4.2.3 Industries:** There is no large scale industry in the basin.

**2.4.2.4 Minerals:** The important minerals found in the Vamsadhara basin are manganese, graphite, quartz, limestone, mica and bauxite besides building materials. Manganese ore is available extensively in Srikakulam (erstwhile Andhra Pradesh) and Koraput districts (Orissa).

**2.4.2.5 Hydrological Sites:** Water quality, Gauge, discharge and sediment observations are done at Kashinagar station. Gauge discharge observation is also made at Gunupur.

## 2.4.3 Sarada

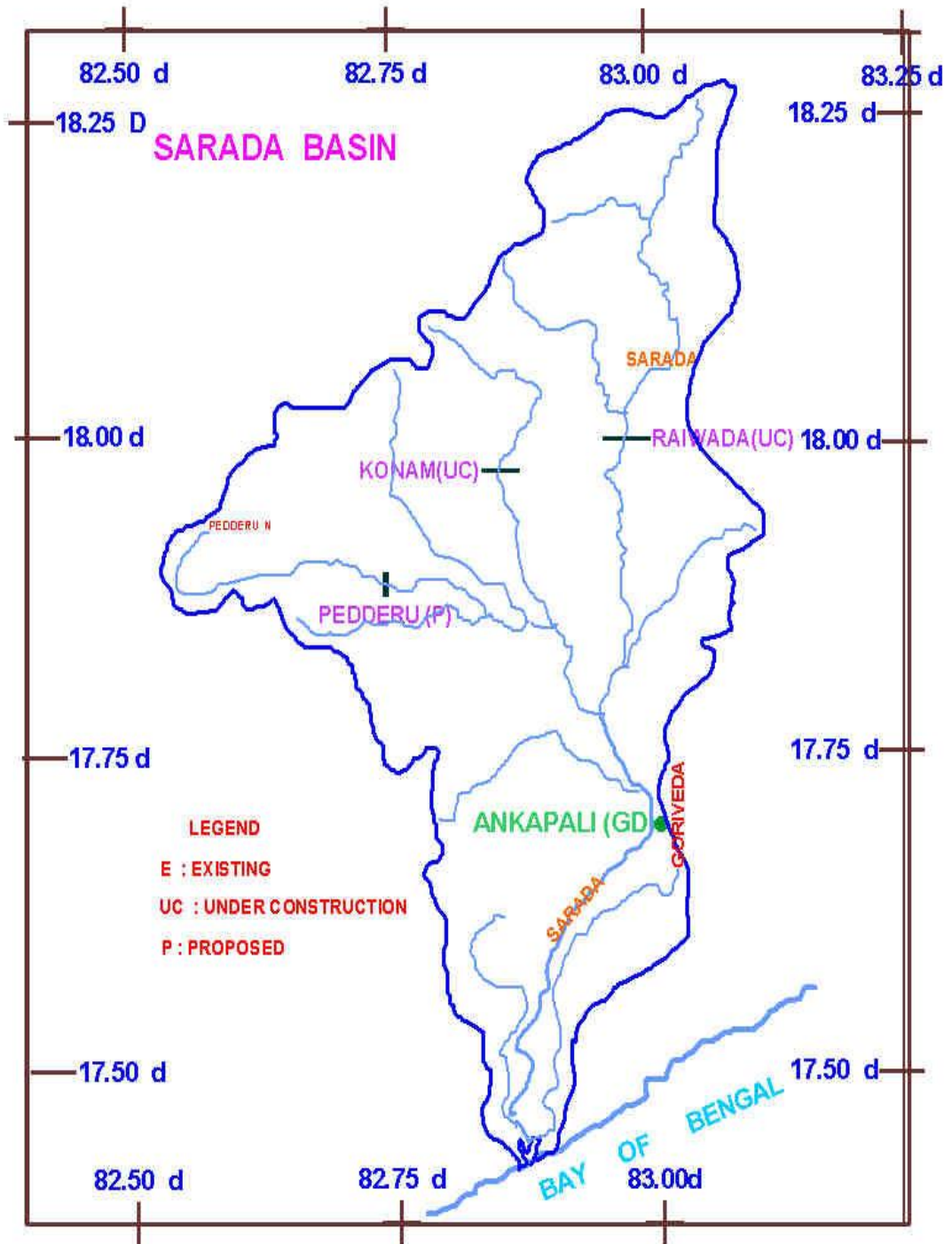
**2.4.3.1 Location:** The Sarada River, an east flowing medium sized river, lies in the district of Visakhapatnam of erstwhile Andhra Pradesh. The geographical co-ordinates of the river are north latitude  $17^{\circ} 25'$  to  $18^{\circ} 17'$  and east longitude  $82^{\circ} 32'$  to  $83^{\circ} 06'$ . The basin is surrounded by Nagavali in the north, Gostari, Gambi Ramgedda, Megadnigedda in the east, Bay of Bengal in the South and Machhkund sub-basin of the Godavari in the west. The catchment area of the basin is 2665 sq km. It rises at an elevation of 1000 m near Longuparu village and traverses a distance of 122 km before joining the sea.

**2.4.3.2 Urban Centres:** Visakhapatnam is the main important town in the basin.

**2.4.3.3 Industries:** Major industries in the river basin are Steel plants.

**2.4.3.4 Minerals:** Important minerals found in the basin are manganese, quartz, graphite, mica, bauxite, aluminums and fire clay.

**2.4.3.5 Hydrological Sites:** Gauge & discharge observations are made at Anakapali observation station.



## 2.4.4 Nagavali

**2.4.4.1 Location:** The Nagavali river is a medium sized east flowing river in peninsular India and lies within the geographical co-ordinates of north latitude  $18^{\circ} 10'$  to  $19^{\circ} 44'$  and east longitudes of  $82^{\circ} 53'$  and  $84^{\circ} 05'$ . It is surrounded by Vamsadhara in the north, Champavathi and Peddagedda in the south, Godavari in the west and the Bay of Bengal in the east. It drains parts of the districts of Kalahandi, Rayagada, Koraput of Orissa and Srikakulam, Vijayanagaram and Visakhapatnam of erstwhile Andhra Pradesh state. The total catchment area is 9510 sq km.

The Nagavali River originates near the Lakhbahal in Kalahandi district (Orissa) at an elevation of about 1300 m. The total length of the river run is 256 km. The important tributaries are Janjhvati, Vottigedda, Suvarnamukhi, and Vegavathi.

**2.4.4.2 Irrigation Projects:** The Thotapally, Narayan Puram and Jaiyavathi are the major irrigation projects in the catchment areas of the river basin.

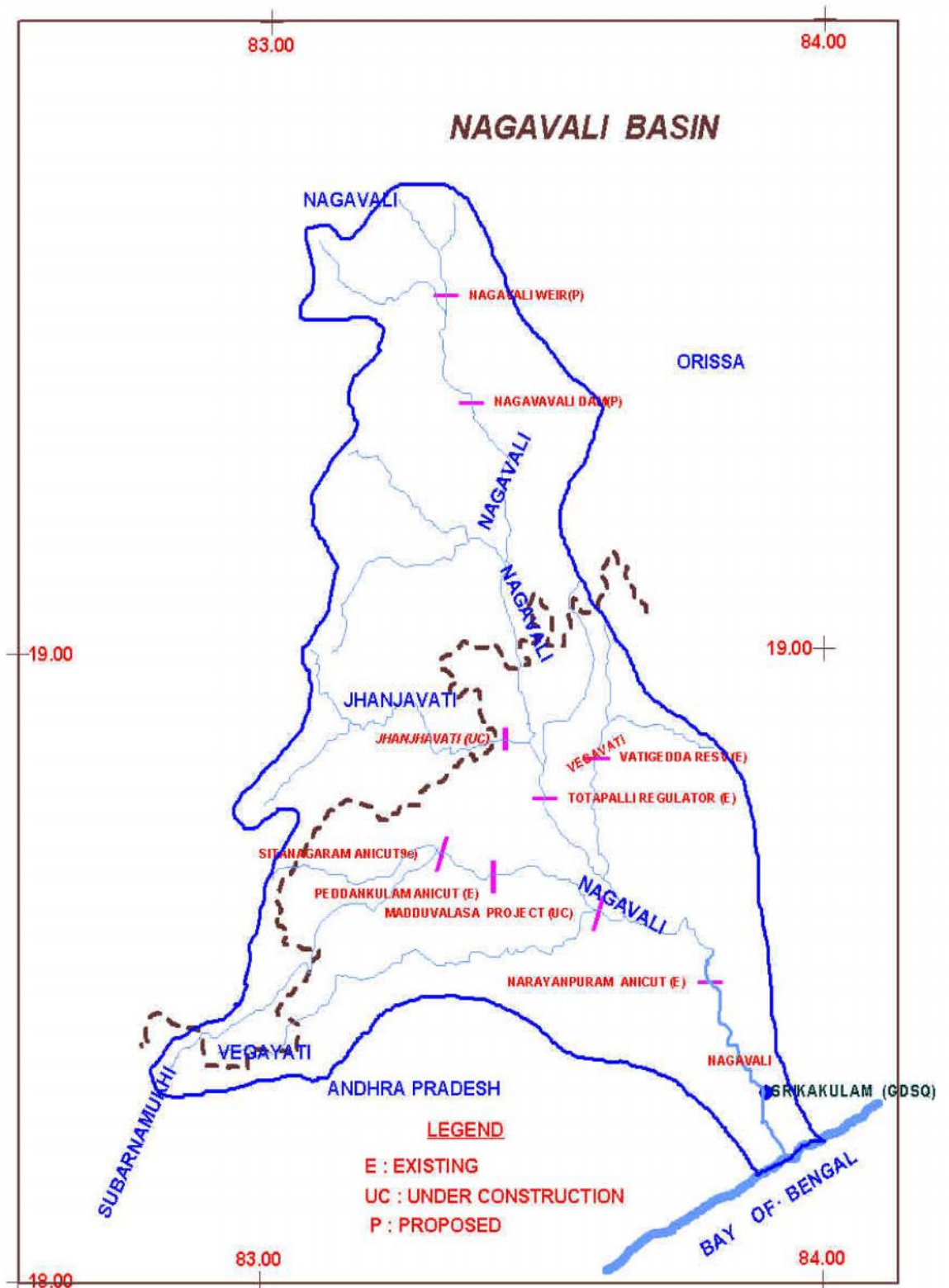
**2.4.4.3 Urban Centres:** The important towns in the basin are Rayagada and Vijayanagaram.

**2.4.4.4 Industries:** The basin has no large scale industry in the basin.

**2.4.4.5 Minerals:** Manganese, quartz, mica, graphite, limestone, bauxite and construction materials are found in abundance in the Basin.

**2.4.4.6 Hydrological Sites:** Gauge discharge, sediment and water quality observations are made at Srikakulum observation station.





## 2.5 Godavari Basin

**2.5.1 Location:** The Godavari River, the largest of the peninsular rivers and third largest in India, covers drains about 10% of India's total geographical area. The catchment area of the river is 3,12,812 sq km and is spread in the States of Maharashtra (48.6%), erstwhile Andhra Pradesh (23.4%), Madhya Pradesh (10.0%), Chhattisgarh (10.9%), Orissa (5.7%) and Karnataka (1.4%). The basin lies in the Deccan Plateau and is situated between latitude 16° 16' North and 22° 36' North and longitude 73° 26' East and 83° 07' East. The Godavari river rises in the Nasik district of Maharashtra, about 80 km from the Arabian sea at an elevation of 1,067 m after flowing for about 1,465 km in a generally south-east direction, through Maharashtra and erstwhile Andhra Pradesh it falls into the Bay of Bengal. The Godavari basin is bounded on the north by the Satmala Hills, the Ajantha Range and the Mahadeo Hills on the south and the Eastern Ghats on east and the Western Ghats on the west. The basin is roughly triangular in shape and the main river itself runs practically along the base of the triangle.

**2.5.2** The western edge of the basin is an almost unbroken line formed by the Sahyadri range of the Western Ghats, from 600 to 2100 m height. It has the heaviest rainfall and the dampest climate in the basin.

**2.5.3** About 64 km from its source, the Godavari receives the waters from Dharna, on its right bank and short distances lower down the Kadana joins it from the left. The combined waters of the Pravara and Mula which rise in the hills of Akola join the river about 217 km from its source, About 338 km lower down, while still in Maharashtra, the river receives the combined waters from the Purna and Dudhna rivers and after a further 138 km at the border of Maharashtra and erstwhile Andhra Pradesh, the waters of the Majira river joins it from the south. At this point, Godavari flows at an elevation of about 329 m.

**2.5.4** The Pranhita river, conveying the combined waters of the Penganga, the Wardha and Wainganga, which drain Nagpur and southern slopes of the Satpura ranges, falls into Godavari about 306 km below its confluence with the Majira. Forty eight km lower, the waters of the Indravathi join the river. Both the Pranhita and the Indravathi are major rivers in their own right. The last major tributary is the Sabari from Orissa, which falls into the Godavari, 100 km above Rajahmundry.

**2.5.5** The largest tributary of the Godavari is the Pranhita with about 34.9% coverage of drainage area. The Pravara, Manjira and Maner are notable right bank tributaries covering about 16.1%, the Purna, Pranhita, Indravathi and Sabari are important left bank tributaries, covering nearly 59.7% of the total catchment area of the basin. The Godavari in the upper, middle and lower reaches make up for the balance of 24.2%. The Godavari basin as whole receives 84% of the annual rainfall on an average, during the southwest monsoon, which sets in mid June and ends by mid October.

**2.5.6 Irrigation Projects:** Kadam, Wainganga Canal and Surthi System major Irrigation Projects are in the catchment area of Godavari Basin. The Kodwa, Godavari (Darna), Pravara, Purna, Girna, Pus, Gangapur, Bagh, and Mula Major Projects of Maharashtra are in the catchment area of Godavari Basin. There are several prominent Major Irrigation Projects like Waghed, Ozarkhed, Karanjawan, Pallakhed and Madmeswar, Jayakwadi Stage-1, Bhandaradara, Manar, Adhole, SRS Project, Nizamsagar, Lower Maner, Maner Project,

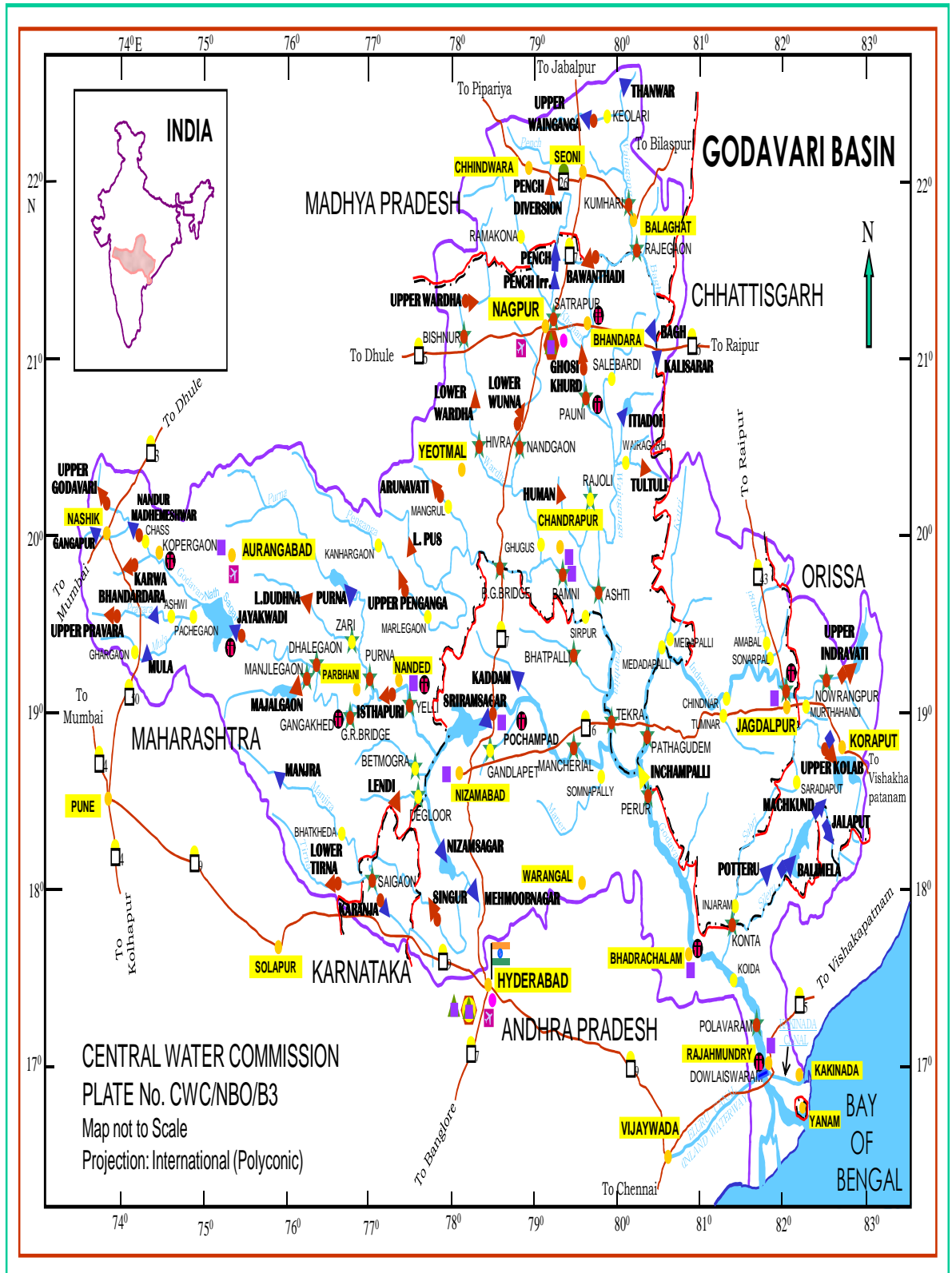
Manjira, Dhuti weir, Idiadoh, Cotton Barrage and Lakhnavaram are also in the catchment areas of the river basin.

**2.5.7 Urban Centre:** Nagpur is the most important urban centre in the basin. Other important towns are Nashik, Aurangabad, Warangal, Rajahmundry, and Nizamabad.

**2.5.8 Industries:** A small part of the enormous forest wealth of the basin is at present utilized as timber and in the manufacture of paper and other timber products. Industries based on agricultural produce are the processing of agricultural commodities like rice milling, cotton ginning, processing, spinning and weaving, manufacture of sugar, manufacture of textiles, extraction of oil from groundnut and other oil seeds. Mining of coal, manganese and other ores are important activity in the districts rich in minerals.

**2.5.9 Minerals:** The Godavari basin has a rich variety of mineral wealth spread over vast areas. The principal minerals found are bauxite, manganese, iron ore and coal. Other minerals like lead, zinc, and corundum are also found in different parts of the basin.

**2.5.10 Hydrological Sites:** There are 34 H.O. sites on the basin for measurement of water quality out of which 16 of them are for sediment measurements. In all there are 48 H.O. sites for gauge, discharge observations (as per 2011-12 data).



For International / State boundaries and Coast lines refer to Survey of India maps

## 2.6 Krishna Basin

**2.6.1 Location:** The Krishna basin extends over an area of 2,58,948 Sq km out of which 26.8% is in Maharashtra, 43.7% is in Karnataka and 29.5% falls in erstwhile Andhra Pradesh. The basin lies between east longitudes  $73^{\circ} 21'$  to  $81^{\circ} 09'$  and north latitudes  $13^{\circ} 07'$  to  $19^{\circ} 25'$  in the Deccan plateau. The Krishna rises in the Western Ghats at an altitude of 1337 m just north of Mahabaleshwar, about 64 km from the Arabian Sea and flows from west to east through the States of Maharashtra, Karnataka and erstwhile Andhra Pradesh to join the Bay of Bengal. The total length of the river from the sources to its outfall in the sea is about 1,400 km of which 612 km are in erstwhile Andhra Pradesh, 306 km in Maharashtra and 483 km in Karnataka. Together with its tributaries, the river drains about 708 km of the Western Ghats, which is its chief source of supply. The Ghataprabha, the Malaprabha, the Bhima, the Tungabhadra, Muneru and Musi are the principal tributaries. The Krishna Basin's predominant land use is agriculture.

**2.6.2** The Krishna basin is bounded in the north by the ridge separating it from the Godavari basin in the south and in east by the Eastern Ghats and in the west by the Western Ghats. The basin is roughly triangular in shape with its base along the Western Ghats, the apex at Vijayawada and the Krishna itself forming the median. All the major tributaries draining the base of the triangle fall into the river in the upper two-thirds of its length.

**2.6.3** The river Krishna rises in the western Ghats at an altitude of 1337 m just north of Mahabaleswar, about 64 km. from the Arabian Sea and flows from west to east through the States of Maharashtra, Karnataka and erstwhile Andhra Pradesh before it joins the Bay of Bengal downstream of Vijayawada.

**2.6.4** There are about 13 major tributaries which join river Krishna along its 1400 km. course, out of which six are right bank tributaries and seven are left bank tributaries. Among the major tributaries, the Ghataprabha, the Malaprabha and the Tunga Bhadra are the principal right bank tributaries which together account for 35.45% of the total catchment whereas the Bhima, the Musi and the Munneru are the principal left bank tributaries which together account for 35.62% of the total catchment area.

**2.6.5** The average annual rainfall in the Krishna basin is 784 mm. The South West Monsoon sets in by middle of June and withdraws by the middle of October. About 90% of annual rainfall is received during the Monsoon months, of which more than 70% occurs during July, August and September.

**2.6.6** Though few major projects like Krishna delta were in existence prior to independence, planned development of water resources of Krishna basin took place after independence. The completed important major projects in Krishna basin are Koyna and Ujjani projects in Maharashtra state.

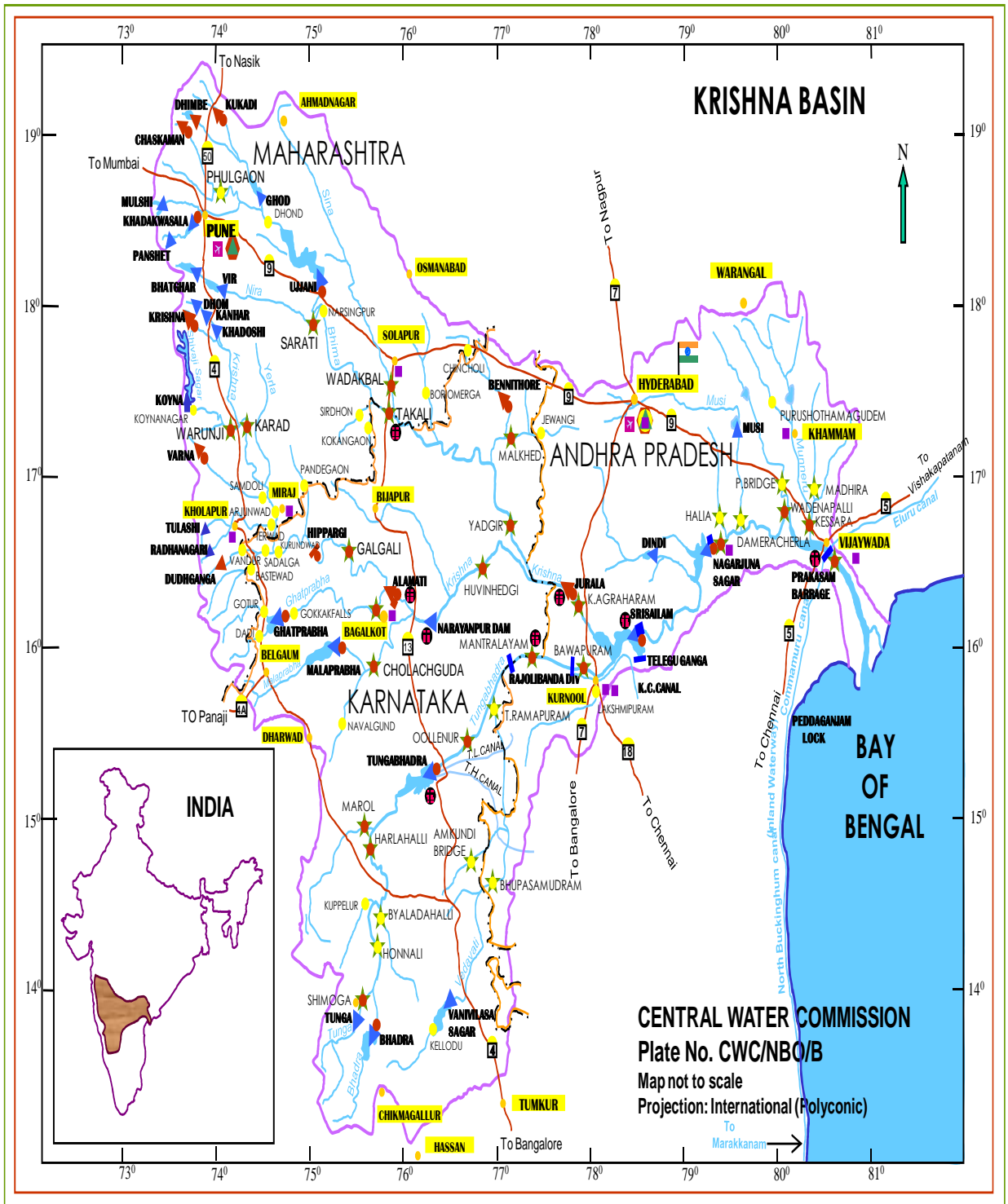
**2.6.7 Irrigation projects:** Radhanagari, Ghod, Khadakwasla, Vir Dam, Konya, Tungabhadra, Bhadra, Musi Project, Nagarjuna Sagar, Srisailam, P.D.Jurala and Prakasam Barrage are the major projects in the catchment areas of the river basin.

**2.6.8 Urban Centres:** The major cities in the basin are Pune, Hyderabad & Vjayawada.

**2.6.9 Industries:** The main industries in the catchment are Textiles, Sugar, Chemical, Cement factories, Automobiles, Engineering goods, Nuclear.

**2.6.10 Minerals:** The important minerals found in the catchment are gold, bauxite, lime stone, iron ore, manganese ore, quartz, copper, red oxide, soapstone, etc.

**2.6.11 Hydrological Sites:** As per 2011-12 data, there are 36 water quality observation stations in the basin. Sediment observations are also made at 12 of these stations. In addition, gauge discharge observations are made at all stations in the basin.



## 2.7 Cauvery Basin

**2.7.1 Location:** The Cauvery river originates at Talakaveri in Coorg District of Karnataka in Brahmagiri Range of hills in the Western Ghats at an elevation of 1,341 m and drains a total of 81,155 Sq km area of which 34,273 Sq km lies in Karnataka, 43,856 sq km in Tamil Nadu, 2,866 sq km in Kerala and 160 sq km in the Union Territory of Pondicherry. The Cauvery basin is bounded by Tungabhadra sub-basin of Krishna basin in the northern side and Palar sub-basin in the Southern side. The Western Ghats form the Western boundary. The Nilgiris, an offshore of Western Ghats, extend eastwards to the Eastern Ghats and divide the basin into two natural and political regions i.e. Karnataka plateau in the North and the Tamil Nadu plateau in the South. In Tamil Nadu, the Eastern part of the basin is in the elevation range of 0 to 150 m sloping gently up from the sea.

**2.7.2** At Shivanasamudram, the river branches off into two parts and falls through a height of 91 m. in a series of falls and rapids. The falls at this point is utilised for power generation. The power station at Shivanasamudram was built as early as 1902. The two branches of the river join after the falls and flows through a wide gorge which is known as "Mekedatu" (Goats leap) and continues its journey and forms the boundary between Karnataka and Tamil Nadu States for a distance of 64 kms. At Hogennekkal Falls, it takes southerly direction and enters the Mettur Reservoir, which was constructed in 1934. A tributary called Bhavani joins Cauvery on the right bank about 45 kms below Mettur Reservoir, thereafter it takes easternly course to enter the plains of Tamil Nadu. Two more tributaries Noyyal and Amaravathi join on the right bank and here the river widens with sandy bed and flows as "Akhandu Cauvery".

**2.7.3** Immediately after crossing Tiruchirappalli district, the river divides into two parts, the northern branch being called "The Coleroon" and southern branch remains as Cauvery and from here the Cauvery Delta begins. After flowing for about 16 kms, the two branches join again to form "Srirangam Island". On the Cauvery branch lies the "Grand Anicut" said to have been constructed by a Chola King in 2<sup>nd</sup> Century AD. Below the Grand Anicut, the Cauvery branch splits into two, Cauvery and Vennar. These branches divide and sub-divide into small branches and form a network all over the delta.

**2.7.4** The total length of the river from the origin to its outfall into the sea is 800 kms of which 320 kms is in Karnataka, 416 kms in Tamil Nadu and 64 kms forms the common border between the Karnataka and Tamil Nadu states. The Cauvery basin is fan shaped in Karnataka and leaf shaped in Tamil Nadu. The run-off does not drain off quickly because of its shape and therefore no fast rising floods occur in the basin. In the Cauvery basin, four distinct seasons occur viz. (i) Cold weather, (ii) Hot weather, (iii) South West Monsoon and (iv) North-East Monsoon. The basin is mainly influenced by South-West Monsoon in Karnataka & Kerala and North-East Monsoon in Tamil Nadu.

**2.7.5** The Cauvery river system consists of 21 principal tributaries each with catchment area exceeding 250 sq km. The largest of all of them are the Catchment Area Shimsha, lying wholly in Karnataka, the Amaravathi rising in Kerala but lying mostly in Tamil Nadu and the Kabini rising in both Kerala and Tamil Nadu but lying mostly in Karnataka. The Bhavani is the fourth largest and the second longest. It rises in Kerala and Karnataka but lies mostly in Tamil Nadu. The longest tributary, the Hemavathi (245 kms) is the fifth largest river in catchment area and lies wholly in Karnataka. From the point of view of flow contribution to the system, apart from



the head reach of the Cauvery main, the most important tributaries are i) the Hemavathi, ii) the Kabini and iii) the Bhavani.

**2.7.6 Irrigation Projects:** Krishnaraja Sagar, Hemavathi, Mettur, and Kabini are the major projects in the catchment areas of the river basin. Kabini and K.R.Sagara are major irrigation projects of Karnataka are in the catchment area of Cauvery basin. Kalingirayan Anicut, Kodivary Anicut, Lower Colleron Anicut, Kattalai Regulator, Mettur major projects of Tamil Nadu are in the catchment area of Cauvery river basin.

**2.7.7 Urban Centre:** Important cities on the basin are Coimbatore, Bangalore & Tiruchirapally.

**2.7.8 Industries:** Some of the main industries in the basin are Paper mills, Sugar mills, Chemical Factories, and Cotton mills. Mining activity in the basin includes Stone mining for building construction works.

**2.7.9 Hydrological Sites:** There are 34 sites in the basin for recording observation on water quality, gauge and discharge. Sediment observations are made at 15 of these stations (as per 2011-12 data).



## 2.8 East flowing rivers Basin

**2.8.1 Location:** The basin of east flowing rivers consists of all small independent rivers of peninsular India lying to the south of Krishna basin except Cauvery basin. All these rivers are draining into the Bay of Bengal.

**2.8.2** The basin of East flowing rivers covers large areas in the states of erstwhile Andhra Pradesh, Tamil Nadu, Puducherry and a small area in the state of Karnataka. There are twelve river sub-basins of which the Pennar, Palar and Ponnaiyar are more important and covers a large drainage area. Other river sub-basins are the Gundlakamma, the Paleru, the Swarnamukhi, the Kalingi, the Varahanadi, the Vellar, the Vaigai, the Vaippar, and the Tambraparani. The normal annual rainfall in the basins varies from region to region. The coastal areas of the basins get heavier rainfall than western parts. Brief descriptions of these river basins are given below.

**2.8.3 Gundlakamma:** The Gundlakamma river rises near Iskagundam village in Kurnool district at an elevation of 600 m from the eastern slopes of the Nallamala hills at north latitude  $15^{\circ} 38'$  and east longitude  $78^{\circ} 47'$  and flows in a north-east, east and southern direction for a total length of 220 km to join the Bay of Bengal. The total area drained by this river is 8,494 sq km. The Kandleru is its important left bank tributary.

**2.8.4 Varahanadi:** The main river Varahanadi originates from the Northern part of Pakkammalai hills at an elevation of 566 m above m.s.l, in the western slopes past of Gingee Taluk. The total area of the basin is 2564 Sq. Kms. The total length of Varahanadi up to its outfall into Bay of Bengal, a little South of Puducherry state, is about 78.50 kms. There is one HO site on this stream at Kumarapalayam being operated by Central Water Commission.

**2.8.5 Pennar:** The Pennar River is one of the major East Flowing Rivers in Southern India. It rises in the Chenakesava hill of the Nandidurg range in Karnataka, flows in the north westerly direction through Kolar and Tumkur districts of Karnataka; it enters erstwhile Andhra Pradesh in the Hindupur taluk of Anantapur district, runs eastwards before draining into the Bay of Bengal near Nellore. The Basin lies between east longitude  $77^{\circ} 04'$  to  $80^{\circ} 10'$  and north latitude  $13^{\circ} 16'$  to  $15^{\circ} 52'$ . The Somashila is the only major project in the catchment area of the river basin. The total length of the river is 597 km. CWC is operating 8 hydrological observation sites on Main Pennar and its tributaries.

**2.8.6 Swarnamukhi:** The Swarnamukhi is an East Flowing river basin having a small catchment Area of 3,225 sq km. It rises at an elevation of 300 m in the Eastern Ghat ranges near Pakala village in Chittur district of erstwhile Andhra Pradesh at North latitude  $13^{\circ} 28'$  and east longitude  $79^{\circ} 09'$ . It runs generally in north eastern direction passing through the famous Tirupati hills before joining into the Bay of Bengal. Its total length is 130 km. This Independent river has no major tributaries and therefore its flow depends only on rainfall in its upper catchment.

**2.8.7 Kalingi:** The Kalingi River is one of the East flowing rivers in erstwhile Andhra Pradesh. It originates near Kalashasti in erstwhile Andhra Pradesh and drains completely in erstwhile Andhra Pradesh and joins in Pulicat lake after Sulerpet. The catchment area of Kalingi River is 5,927 sq km and the length is 76 km. The important tributary is Kalleru river

which joins Kalingi River after Sulurpet town. At present there are two medium irrigation projects in this basin namely (1) Kalingi Reservoir and (2) Thanyali Anicut which irrigate an area of 4,650 acres and 10,000 acres respectively.

**2.8.8 Palar:** The Palar basin is an important basin among the 12 basins lying between the Pennar and the Cauvery basin. This basin is divided into three major topographical divisions namely, (i) the hill ranges of Eastern Ghats (ii) the plateau region and (iii) the coastal plains. Though most of the drainage area lies in Tamil Nadu, its drainage area extends to cover the southeast and southwest parts of Karnataka and erstwhile Andhra Pradesh respectively. The shape of the basin is rhombus. The basin finds its outlet into Bay of Bengal. The Palar drains an area of 17,871 sq km out of which nearly 57 percent lies in Tamil Nadu and the balance in the states of Karnataka and erstwhile Andhra Pradesh.

**2.8.9 Ponnaiyar:** The Ponnaiyar basin is the second largest interstate East Flowing river basin among the 12 basins lies between the Pennar and the Cauvery basins. It covers a large area in the state of Tamil Nadu, besides the areas covered in the states of Karnataka and erstwhile Andhra Pradesh. It lies between the east longitudes  $77^{\circ} 33'$  to  $79^{\circ} 47'$  and north latitudes  $11^{\circ} 45'$  to  $13^{\circ} 30'$ . This basin is bounded in the northwest and south by various ranges of the Eastern Ghats like the Velikonda range, the Nagari hills, the Javadu hills, the Shevaroy hills, the Chitteri hills and the Kalrayan hills and in the east by the Bay of Bengal. The Ponnaiyar drains an area of 16,019 Sq km out of which nearly 77 percent lies in Tamil Nadu. The Ponnaiyar or the Dakshina Pinakini river rises near Hongashenhalli village at an elevation of about 900m above msl at north latitude  $13^{\circ} 25'$  and east longitude  $77^{\circ} 58'$  in the Kolar district of Karnataka state. From its origin, the river Ponnaiyar generally flows in the southern direction through Kolar and Bangalore districts of Karnataka to a length of 79 km before entering the Dharmapuri district of Tamil Nadu. The river flows another 247 km generally in the south east direction in the districts of Dharmapuri, Vellore, Tiruvannamalai, Cuddalore and Villupuram districts. Then, the river flows in the eastern direction below the Tirukoyilur anicut for another 70 km before finding its way into the Bay of Bengal. The river Ponnaiyar branches into two, the Gadilam near Cuddalore and the Ponnaiyar near the Union Territory of Pondicherry. On its way, the river Ponnaiyar receives a number of small streams and rivulets. Krishnagiri and Sathanur Reservoir are the major projects in the catchment areas of the river basin.

**2.8.10 Vellar:** The Vellar River rises at an elevation of 900 m near the village of Tumba in the Chittori hills, of the Eastern Ghats in the Salem district of Tamil Nadu. It flows generally in an easterly direction for a total length of 210 Km through Salem and Cuddalore districts in Tamil Nadu and finally out falls into the Bay of Bengal near Porto Nova in Cuddalore district. It drains a total catchment area of about 8,922 sq km. The Gomukinadhi and Manimukthanadi are the important left bank tributaries and Swetanadhi and Chinnar are the right bank tributaries of the Vellar.

### 2.8.11 Vaigai

**2.8.11.1** The Vaigai basin is an important basin among the 12 basins lying between the Cauvery and Kanyakumari. The basin is bounded by the Varushanadu hills, the Andipatti hills, the Cardaman hills and the Palani hills on the west and the Palk Strait and Palk Bay on the east. This basin is divided into two major topographical divisions namely (i) the hilly areas and (ii) the plains. The basin is elongated in shape and drains into the Palk Bay. The Vaigai drains an area of 7,741 sq km which entirely lies in the state of Tamil Nadu.

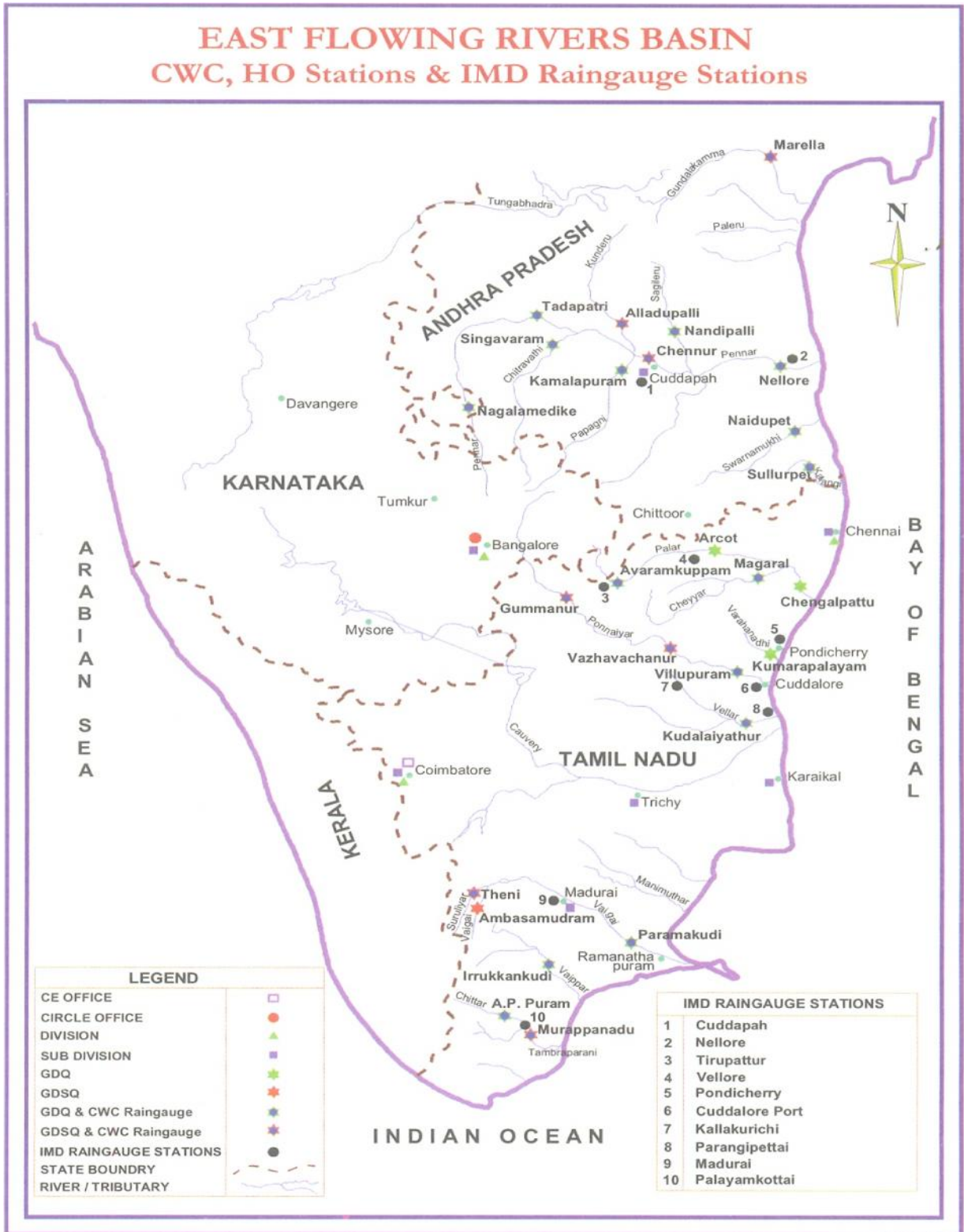
**2.8.11.2** The Vaigai river rises on the eastern slopes of the Varushanadu hills at an elevation on 1,200m above msl near Kottamalai in the Madurai district at a north latitude  $9^{\circ} 32'$  and east longitude  $77^{\circ} 23'$  and flows in the northerly and north easterly directions up to its confluence with the Varahanadi and then takes a turn towards east and south east to flow through Madurai, Sivagangai and Ramanathapuram districts. After traversing about 258 km, the river Vaigai discharges into Ramnad big tank and some other tanks. The surplus water from the tanks finally discharges into the Palk Bay near Mandapam. On its way, the Vaigai receives two important tributaries namely the Suruliyar and the Manjalar on its left bank, besides a large number of small streams and rivulets. The river has been dammed downstream of its confluence with the Suruliyar.

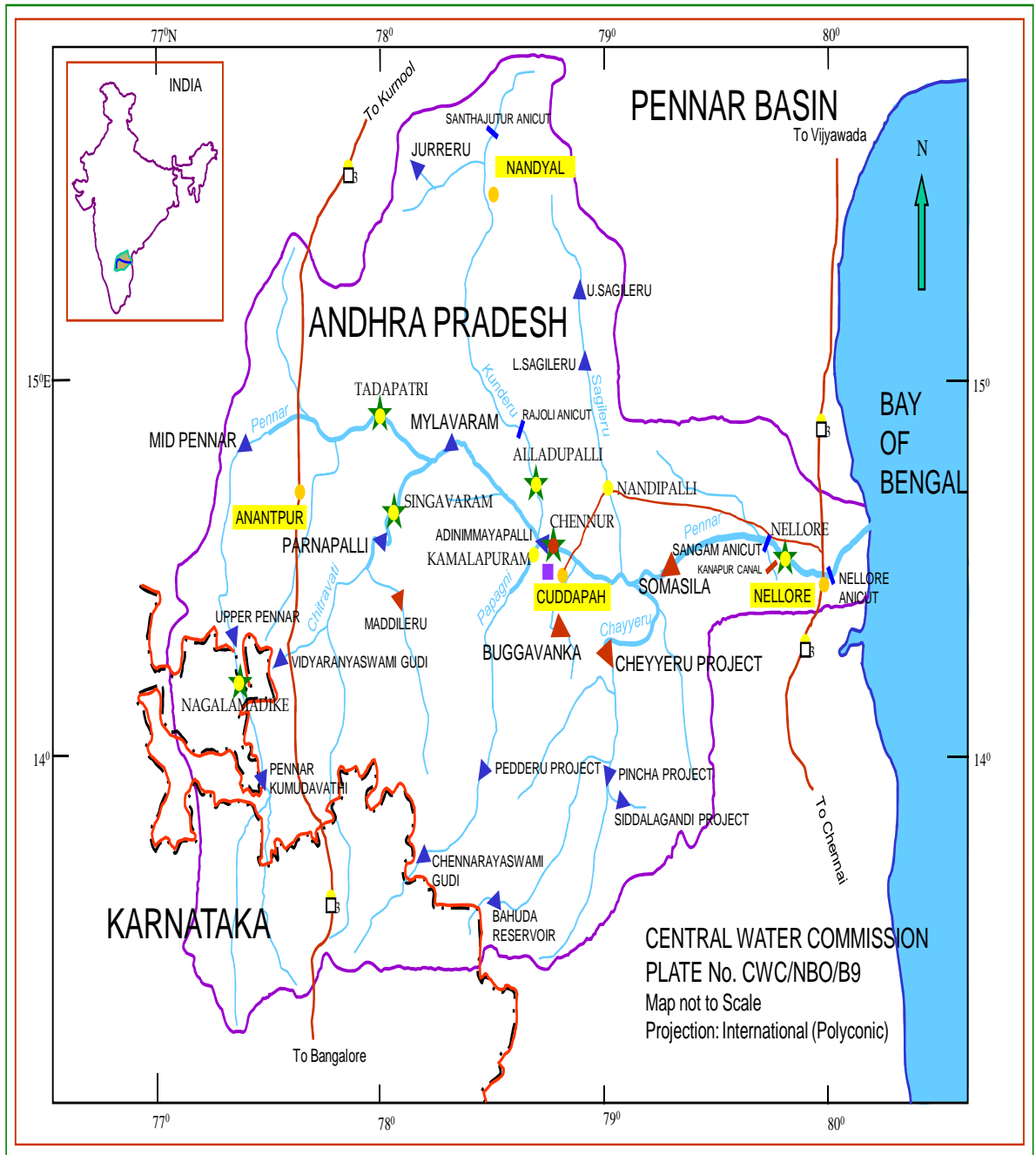
**2.8.11.3** The Suruliyar and the Manjalar, the two important left bank tributaries together account for nearly 20 percent of the total catchment area of the Vaigai. The Suruliyar is the principal tributary of the Vaigai also rises in the eastern slopes of the Varushanadu hills and flows in the north and north eastern direction. It receives Theniar on its left bank just before its confluence with the Vaigai. The Manjalar another major tributary rises in the Palani hills and flows generally in the easterly direction before joining the Vaigai below the Vaigai dam. The Vaigai also receives another minor tributary namely the Varahanadi on its left bank below the Vaigai dam. The Vaigai Reservoir, Manjalar Reservoir, Marudhanadhi Reservoir are the major projects in the catchment area of the basin.

**2.8.12 Vaippar:** The Vaippar River rises on the eastern slopes of the Varushanadu hill ranges of the Western Ghats near Sivagiri in Thirunelveli district in Tamilnadu at an elevation of about 900m. It flows generally in an easterly direction for a length of about 125 km through Thirunelveli, Virudhunagar and Tuticorin districts in Tamilnadu and joins the Gulf of Mannar near Kalattur. The river basin is located on south of Vaigai. It drains a total catchment area of 5,069 sq km. The catchment area lies entirely in Tamilnadu. The Arjunanadhi and Vijayanadhi are the important tributaries on the left bank.

**2.8.13 Tambraparani:** The Tambraparani river rises on the eastern slopes of the Western Ghats at an elevation of about 1,400m at north latitude  $8^{\circ} 46'$  and east longitude  $77^{\circ} 15'$  near Alwarkurichi village in Thirunelveli district of Tamilnadu to flow in a generally easterly direction for a total length of 130 km and joins the Gulf of Mannar. The Chittar and Manimuthar are the left & right bank tributaries of this river. The total area drained by the Tambraparani is 5,482 sq km.

**2.8.14 Hydrological Site:** There are 26 sites in the basin for recording observations on water quality, gauge and discharge. Sediment observations are made at 8 of these stations (as per 2011-12 data).





For International / State boundaries and Coast - Line refer to Survey of India maps.

## 2.9 West flowing rivers Basin

**2.9.1 Location:** The basin of West flowing rivers consists of all small independent river basins of peninsular India lying to the south of Krishna basin, except Cauvery basin draining into Arabian Sea. There are about 31 major and minor rivers basins in this region.

**2.9.2** The basin of the West Flowing Rivers located in the South West corner of the peninsular India covers areas in the states of Maharashtra, Karnataka, Tamilnadu and Kerala. There are a number of medium and minor river basins in this region. All the rivers originate from the high mountains of the Western Ghats and exhibit similar characteristics. They have steep high banks, which rarely overflow or cause floods.

**2.9.3** Important west flowing river sub-basins are described as under.

**2.9.3.1 Ulhas:** The Ulhas River is one of the West Flowing rivers in Maharashtra falling into the Arabian Sea. The boundary of the basin consists of the main Sahyadri hills on the east, western off shoots on the north and south and on the west, a narrow opening at the end leading to the sea. The Ulhas basin lies between north latitudes of  $18^{\circ} 44'$  to  $19^{\circ} 42'$  and east longitudes of  $72^{\circ} 45'$  to  $73^{\circ} 48'$ . The Ulhas drains an area of 4,637 sq km and lies completely in Maharashtra. The Thane, Raigad and Pune districts fall in the basin. The Ulhas rises from Sahyadri hill ranges in the Raigad district of Maharashtra at an elevation of 600m above msl. The total length of the Ulhas from its origin to its outfall in to the Arabian Sea is 122 km. The basin receives most of the rainfall from South-West monsoon during June to October. The important tributaries of the Ulhas River are Pej, Barvi Murbari, Kalu, Shari, Bhasta, Salpe, Poshir and Shilar. The Kalu and Bhasta are the major right bank tributaries which together accounts for 55.7% of the total catchment area of Ulhas.

**2.9.3.2 Netravathi:** The Netravathi rises between Kudermukh and Ballalaryan Durga in the Dakshina Kannada district of Karnataka at an elevation of about 1000 m at  $75^{\circ} 20'$  East longitude and  $30^{\circ} 10'$  North latitude flows generally in north-south direction for 40 km up to Gohattu, where it takes a turn towards the west and flow in east-west direction practically up to its outfall into the Arabian Sea near Mangalore. The climate of the basin is characterized by heavy rainfall, high humidity and opperasive weather in hot season. The hot season from March to May is followed by the South West monsoon from June to September. The Kumaradhara, a major left-bank tributary joins it near the village Uppinangadi. The total length of the Netravathi is 103 km from its source to the outfall. The river drains an area of 3,657 sq km. No major project is in existence in this basin. However, the investigations for the project titled multi-purpose Netravathi Anicut Scheme have been completed.

**2.9.3.3 Valapatanam:** The Valapatanam river rises south of Ammatti village in the district of Coorg in Karnataka State at  $75^{\circ} 52'$  east longitude  $12^{\circ} 13'$  north latitude at an elevation of 900m above msl. The river has a total length of 101 km from its source to its fall into the Arabian Sea. The river drains an area of 1,867 sq km of which 546 sq km lies in Karnataka and rest in Kerala. The climate of this basin is characterized by heavy rainfall, high humidity and opperasive weather in hot season. The Kattampally multipurpose project at Kattampally, and Pazhassi project at Valiambra are the main irrigation Projects in this basin. The Kattampally project has been planned in two stages. The stage I will not only prevent saline water intrusion and reduction of flood but also provide irrigation benefits to an area of 1,280 ha. The second



stage of the project is expected to irrigate an additional area of 1,650 hectares. The Pazhassi project is proposed to irrigate 16,110 hectares of land.

**2.9.3.4 Chaliyar:** The Chaliyar, known in the lower reaches as the Beypore, is one of the major rivers of Kerala. The main river starts from the Elambalari hills at an altitude of 2,067m above msl. It is formed by the confluence of numerous streams and rivers. Its important tributaries are the Cherupuzha, the Kurumbanpuzha, the Kanhirapuzha, The Punnapuzha, the Karimpuzha, the Vadapurampuzha and the Chaliyarpuzha. The Chaliyar flowing for a total length of about 169 km and finally joins the Arabian Sea at Beypore. The river drains a total area of about 2,933 sq km of which 2545 sq. Km lies in Kerala and 388 sq. Km in Tamilnadu. Good rainfall and humid temperature throughout the year are the characteristic of the basin. The climate along the coastal area of the basin is generally hot with high humidity.

**2.9.3.5 Bharathapuzha:** The Bharathapuzha River is the second longest west flowing river that drains into the Arabian Sea in Kerala State. This basin is bounded in the east by the Cauvery basin and in the west by the Arabian Sea. The basin lies approximately between  $10^{\circ} 26'$  and  $11^{\circ} 13'$  north latitudes and  $75^{\circ} 53'$  to  $77^{\circ} 13'$  east longitudes. Its drainage area is spread in Tamilnadu and Kerala states. The basin is elongated in shape and finds its outlet into the Arabian Sea. The total drainage area of the basin is 6,186 sq km out of which nearly 71 percent lies in the Kerala State. The Bharathapuzha basin receives copious rainfall during the south West monsoon and it falls in the rain shed region of the Western Ghats.

**2.9.3.6 Chalakudi:** The Chalakudi River has its origin in the Annamalai hills of Western Ghats. It is formed by the confluence of five streams namely the Parambikulam, the Kuriarkutty, the Sholayar, the Karappara and the Anakayam. The river has a length of 130 km. The total drainage area of the river is 1,704 sq km of which 1404 sq. Km lies in Kerala and the rest in Tamil Nadu. Good rainfall and humid atmosphere are felt throughout the year. The climate along the coastal area of this basin is generally hot with high humidity

**2.9.3.7 Periyar:** The Periyar River is 244 km in length and the longest river of Kerala and drains an area of 5,398 sq km. It rises at the forest land Sivagiri peak 80 km south of Devikulam at an elevation of 2,438m above msl and traverses the steep mountainous terrain before it is joined by the Mullaiyar, 16 km downstream. The river then turns west and continues to flow in the direction for about 16 km in a sandy bed. After a winding course of about 13 km, the river reaches Vandiperiyar and passes through a second narrow gorge below which the Perumthura joins it. Further down, it is joined by six tributaries of which the important tributary Edmala joins the Periyar. Passing Malayattur and thereafter taking a meandering course, the river reaches Alwaye where it divides itself into two branches. The upper branch joins the Chalakudi River at Punthenvelikara and then expands into a broad sheet of water at Munambham. The other branch taking a southerly course is broken up into a number of small channels, which fall into the Vembanad Lake as Varapuzha.

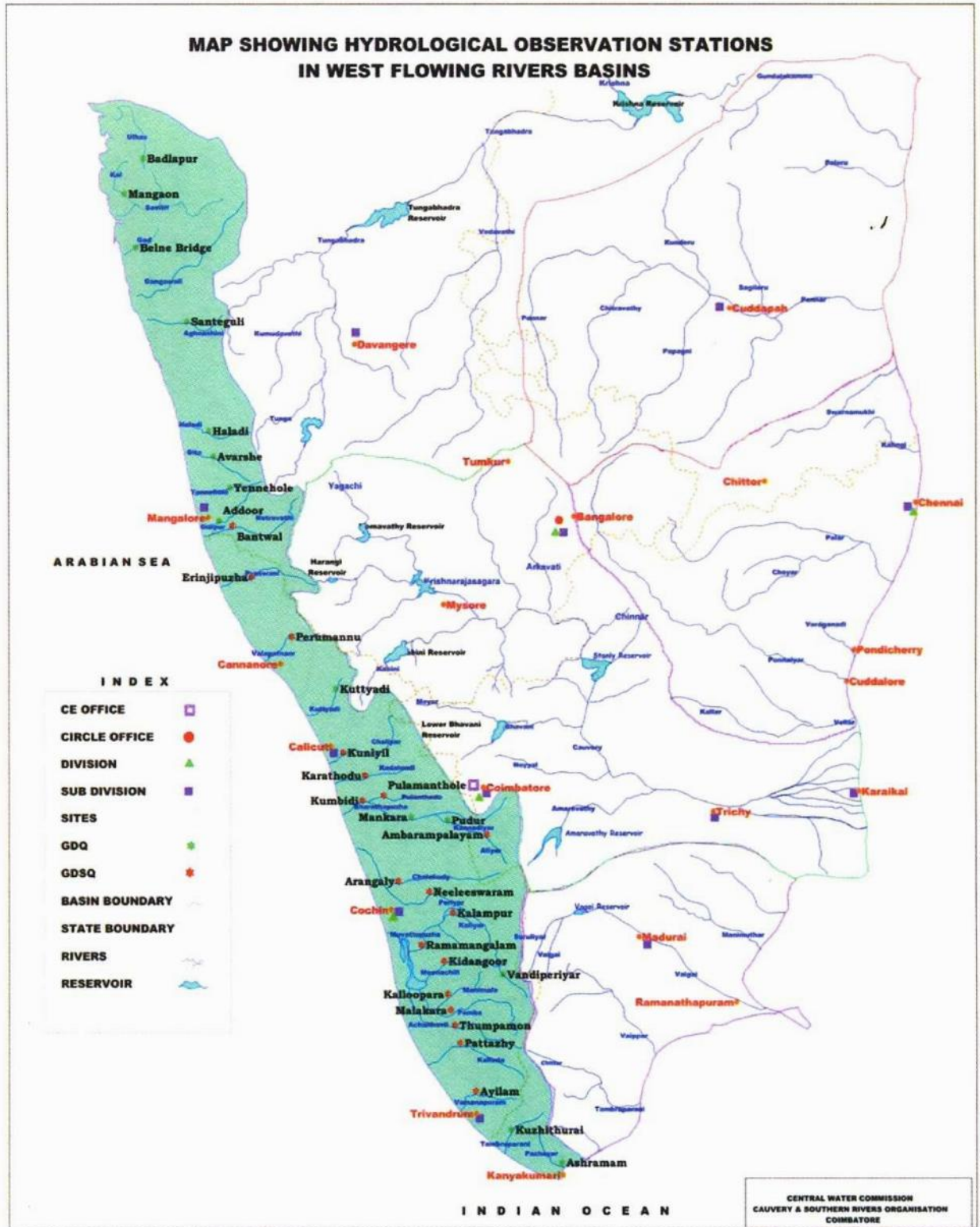
**2.9.3.8 Pamba:** The Pamba, 176 km in length, is the third longest river in Kerala. It is formed by the confluence of the Pamba Aar, Kaki Aar, Arudhai Aar, Kakkad Aar and Kall Aar. The Pamba Aar rises in the Peermedu Plateau at an elevation of 1,670m. The Kaki Aar, which forms the major tributary of the Pamba River, is a much larger stream at the beginning than the main river. The Pamba River, after receiving the Kaki Aar, flows in a Westerly direction till the Arudhai Aar joins it. At Narayanamuzhi, it turns and follows a south-eastern direction until the Kakkad Aar joins it. Beyond the confluence, the river flows in a southerly direction

up to Vadasserikkara where it is joined by the Kall Aar, which has its origin in the Valanjakkatti Malai. The catchment area of the river is 2,235 sq km. At Pandanad, the river bifurcates and one branch taking a western course. The Manimala joins the Pamba in its Neereturapuram branch. The river thereafter flows northwards and falls into the Vembanad Lake through several branches. The basin experiences good rainfall, moderate temperature and humid atmosphere. The south west and north east monsoon have great influence over the climatic condition of the basin.

**2.9.3.9 Kallada:** The Kallada River is formed by the three rivers i.e. Kulathupuzha, Chendurni and Kalthuruthy joining together near Parappan. The river has its origin in Papanasam range south of Kulathupuzha in Quilon district of Kerala State at an altitude of 900m above msl. The river has a length of 121 km and drains an area of 1,699 sq km before confluence with the Ashtamudilake. The basin experiences good rainfall and humid atmosphere throughout the year. The climate along the coastal region of this basin is generally hot with high humidity.

**2.9.4 Irrigation Projects:** The Anjunem in the sub-basin of Mandovi, Kal in the sub-basin of Kal, Swarna Dam in the sub-basin of Swarna, Kattampally in the sub-basin of Valapatanam, Malampuzha Reservoir, Tirumurthi and Aliayar in the sub-basin of Bharathapuzha, Chalakudi River Diversion Scheme, Sholayar H.E.S & Peringilkuthu Left Bank Scheme in the Sub\_basin of Chalakudi, Periyarvalley Project, Edamalayar & Idukky Hydrel Project are in the Sub-basin of Periyar, Pamba Hydrel Project in the Sub-Basin of Pamba, Kalada Irrigation Project in the Sub-basin of Kalada are the major projects in the catchment areas of the river basin.

**2.9.5 Hydrological Sites:** There are 32 Water Quality observation stations in the basin. Sediment observations are made at 18 of these stations. In addition, there are five gauge discharge observation stations in the basin (as per 2011-12 data).



## 2.10 Tapi Basin

**2.10.1 Location:** The Tapi River is the second largest westward draining interstate river basin. It covers a large area in the State of Maharashtra besides areas in the states of Madhya Pradesh and Gujarat. The Tapi Basin is the northern-most basin of the Deccan plateau and is situated between latitudes  $20^{\circ} 05' N$  to  $22^{\circ} 03' N$  and longitudes of  $72^{\circ} 38' E$  and  $78^{\circ} 17' E$ . The Satpura range forms its northern boundary whereas the Ajanta and Satmala hills form its southern extremity. Mahadeo hills form its eastern boundary. The basin finds its outlet in the Arabian Sea in the west. Bounded on the three sides by the hill ranges, the river Tapi, along with its tributaries, more or less flows over the plains of Vidharbha, Khandesh and Gujarat. The Tapi River drains an area of 65,145 sq km out of which nearly 80 percent lies in Maharashtra state.

**2.10.2** The Tapi river originates near Multai in Betul district at an elevation of 752m above msl. The total length of this west flowing river from its origin to its out fall into the sea is 724 km. For the first 282 km the river flows in Madhya Pradesh, out of which 54 km forms the common boundary with Maharashtra State. It flows for 228 km in Maharashtra before entering Gujarat. Traversing a length of 214 km in Gujarat, the Tapi River joins Arabian Sea in the Gulf of Cambay after flowing past the Surat city. The river receives tidal influence for a length of about 20 km upstream from the mouth.

**2.10.3** The Tapi river receives several tributaries on both the banks. There are 14 major tributaries having a length more than 50 km. On the right bank, 4 tributaries namely the Vaki, Gomai, Arunavati and Aner join the Tapi River. On the left bank, 10 important tributaries namely the Nesu, Arunavati, Buray, Panjhra, Bori, Girna, Waghur, Purna, Mona and Sipna drain into the main channel. The drainage system on the left bank of the Tapi river is, therefore, more extensive as compared to the right bank area.

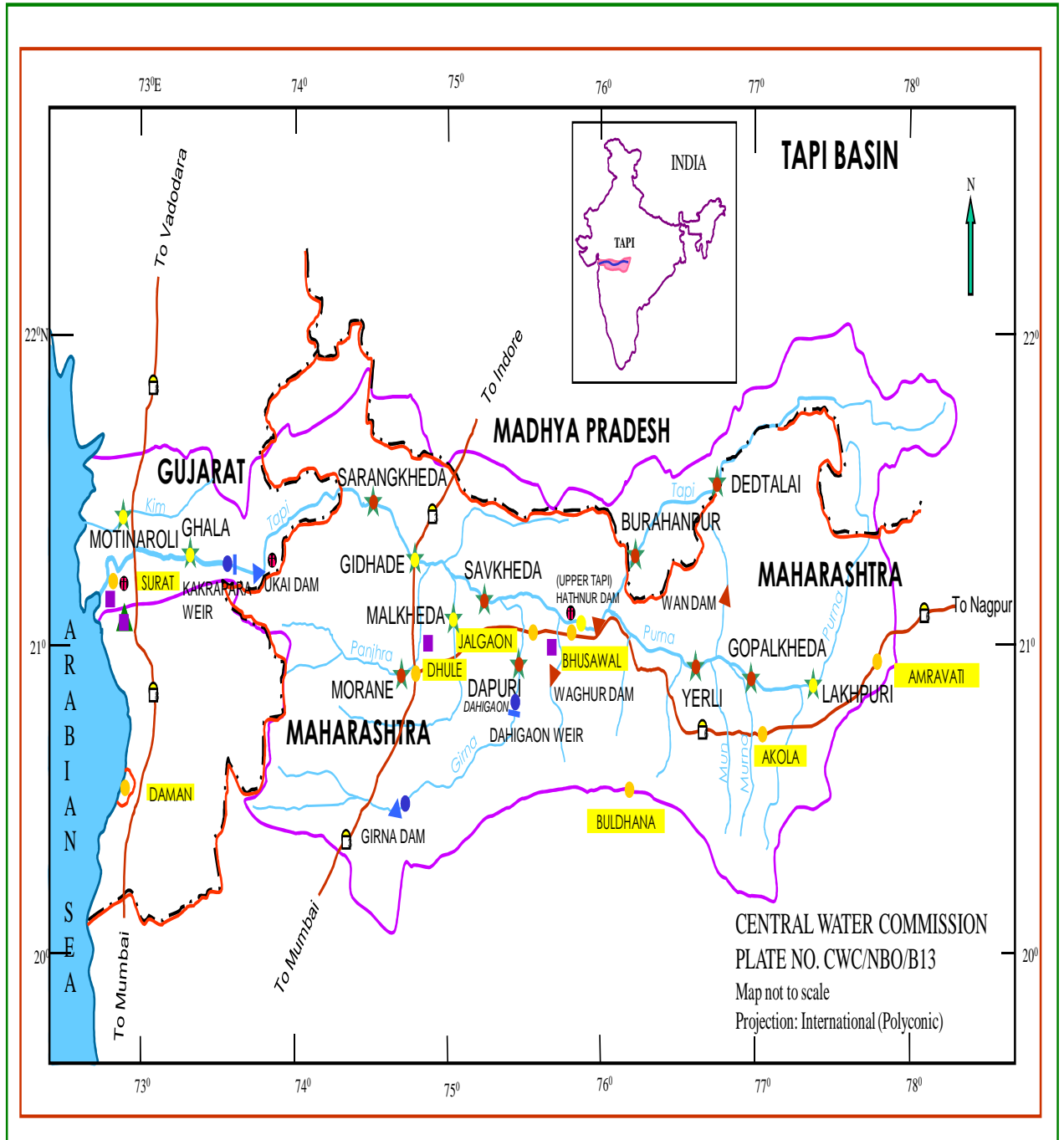
**2.10.4** The Purna and the Girna, the two important left bank tributaries together account for nearly 45 percent of the total catchment area of the Tapi River. The Purna is the principal tributary of the Tapi River originating in Betul district in Gawilgarh hills of the Satpura range, mostly drains the three districts Amravati, Akola and Buldhana of Vidharbha Region. The Girna, another major tributary, rises in the Western Ghats and drains Nasik and Jalgaon districts of Maharashtra. The south-west monsoon sets in by the middle of June and withdraws by mid October. About 90% of total rainfall is received during the monsoon months, of which 50% is received during July and August.

**2.10.5 Irrigation Projects:** The Ukai Dam, Kate Purna, Nalganga, Girna and Kakrapar Weir are the major projects in the catchment areas of the river basin.

**2.10.6 Urban Centres:** Surat is the most important city in the area. Other cities are Amravati, Akola, and Jalgaon.

**2.10.7 Industries:** Important industries in the basin are Paper Mills and Sugar Mills. Other industries are Cotton Spinning Mills, Dal, Oil & Wood cutting Mills.

**2.10.8 Hydrological Sites:** There are 24 stations in total in the basin out of which 3 sites are exclusively for Water Quality along with gauge, discharge and Sedimentation observations (as per 2011-12 data).



For International / State boundaries and Coast lines refer to Survey of India maps

## 2.11 Narmada basin

**2.11.1 Location:** The Narmada is the largest west flowing and fifth largest river of India. It drains an area of 98,796 sq km out of which nearly 87% lies in Madhya Pradesh besides some areas in the states of Maharashtra and Gujarat. The Narmada basin lies between east longitudes  $72^{\circ} 32'$  to  $81^{\circ} 45'$  and north latitudes  $21^{\circ} 20'$  to  $23^{\circ} 45'$ . It flows through Deccan trap in between Vindhya and Satpura ranges of hills before flowing into the Gulf of Cambay in the Arabian Sea.

**2.11.2** The Narmada originates from a Kund (spring) at an elevation of 1057 m at Amarkantak in the Maikal hill in Shahdol district of Madhya Pradesh and flows through Madhya Pradesh, Maharashtra and Gujarat between Vindhya and Satpura hill ranges before falling into the Gulf of Cambay in the Arabian Sea, about 10 km north of Bharuch district of Gujarat. The total length of this west flowing river from its origin to its outfall into the Sea is 1,312 km. For the first 1,079 km, it runs in Madhya Pradesh and thereafter it forms the common boundary between Madhya Pradesh and Maharashtra for 35 km, and Maharashtra and Gujarat for 39 km. In Gujarat State, it stretches for 159 km. There are 41 important tributaries to the Narmada River. Significant among them are Burhner, Banjar, Hiran, Tawa, Chhota Tawa, Orsang and Kundi which are major tributaries having catchment area of more than 3,500 sq km. The remaining tributaries are having catchment areas ranging from 500 to 2,500 sq km. Temperature of Narmada basin is like any other part of Central India. In general, the upper Narmada basin records lower temperature as compared to middle basin.

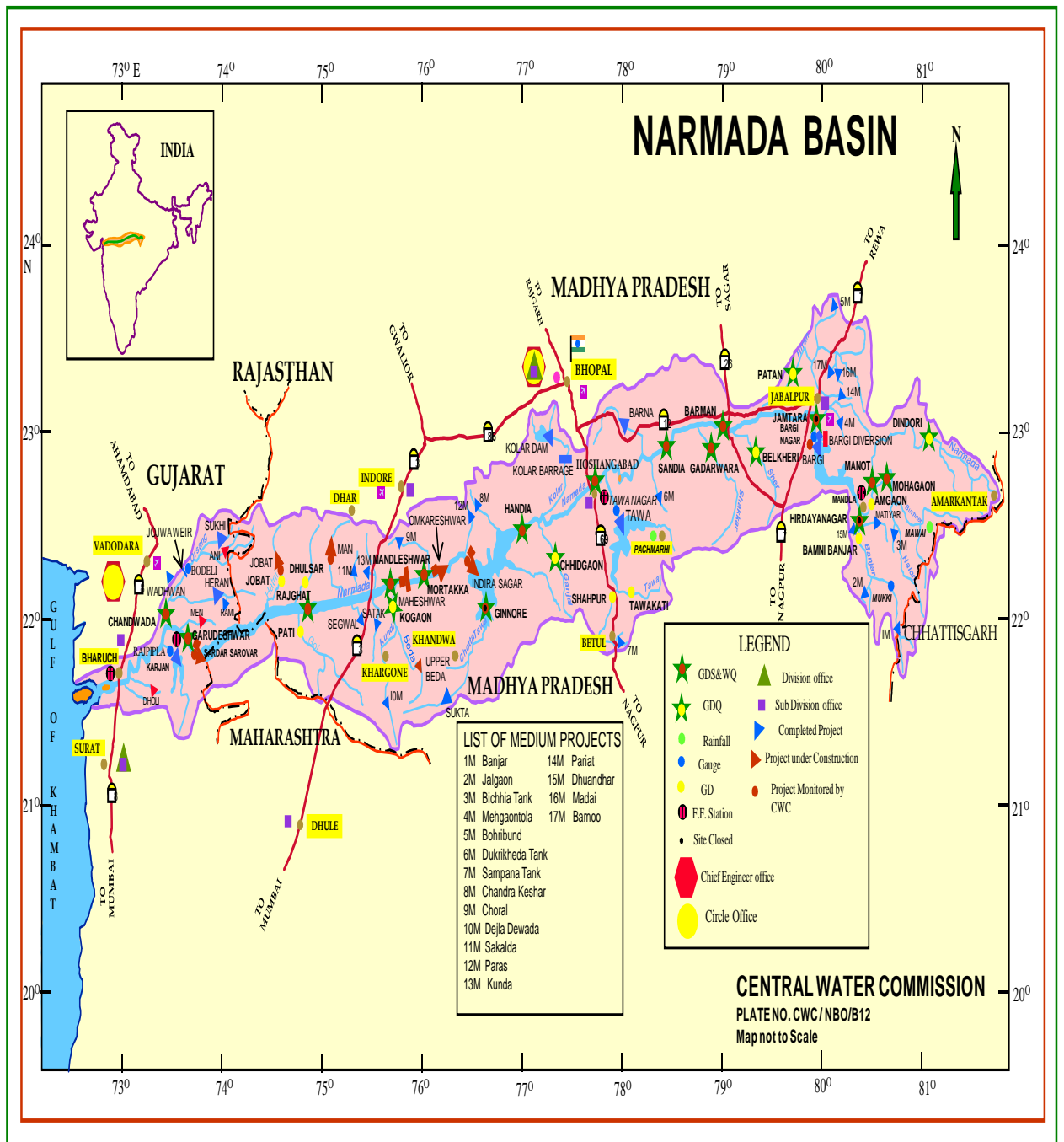
**2.11.3 Irrigation Projects:** Karjan, Sardar Sarover, Jobat, Man, Upper Beda, Maheshwar, Indira Sagar, Sukta, Kolar, Tawa, Barna, Bargi, Matiyari are the major projects in the catchment areas of the river basin.

**2.11.4 Urban Centres:** Jabalpur town is the main city in this basin. The second largest urban pocket in the Narmada Basin is Bharuch of Gujarat. Other urbanized centers are Khandawa of Madhya Pradesh.

**2.11.5 Industries:** There are few large scale and medium scale industries in the area. But as compared with other basins, industrialization is thin in this area.

**2.11.6 Minerals:** Important minerals found in the basin are Bauxite, Clay, coal, dolomite, graphite, iron ore, manganese, talc & limestone, etc.

**2.11.7 Hydrological Sites:** There are total 19 HO sites in the basin out of which 18 are for recording observations on Water Quality along with gauge and discharge. Sediment observations are made at 11 of these stations (as per 2011-12 data).



For International / State boundaries and Coast Line refer to Survey of India Maps

## 2.12 Mahi, Sabarmati, Luni and other West Flowing River Basins

**2.12.1** West flowing river basins consist of number of rivers namely Mahi, Sabarmati, Luni and other small river basins, excluding those of Narmada & Tapi basins. The salient features of major 8 basins are explained below.

**2.12.1.1 Mahi:** The Mahi River is one of the major west flowing inter-state river of India, draining into the Gulf of Khambat. The basin is bounded on the North and the North - West by Aravalli hills, on the East by the ridge separating it from the Chambal Basin, on the South by the Vindhyas and on the West by the gulf of Khambat. The river Mahi originates on the Northern slope of Vindhyas at latitude  $22^{\circ} 35'$  N and longitude  $74^{\circ} 58'$  E near the village of Sardarpur in the Dhar District of Madhya Pradesh at an elevation of 500m above msl. Its length is 583 kms and it traverses through states of Madhya Pradesh, Rajasthan and Gujarat. The river Mahi drains an area of 34,842 sq km. Initially the river flows Northwards through Dhar and Jhabua districts of M.P. and then turns left and passes through the Ratlam district of M.P., then turning to North - West, it enters the Banswara district of Rajasthan and flows in South-West directions and thereafter enters the Panchmahal district of Gujarat state. Then the river continues to flow in the same direction through Kheda district of Gujarat and finally falls into Gulf of Khambat in Arabian Sea. The Mahi Bajaj Sagar, Kadana Reservoir, Wanakbori Weir, Panam, Bhadar, Jakhm and Somkamlamba are the major projects in the catchment areas of the Mahi sub-basin. The basin contains two climatic regions, the northern part of the basin comprises sub tropical wet climate (generally basin area occupied by Rajasthan). The major part of the basin comprises tropical wet climate, caused mainly due to existence of Vindhyas and the Western Ghats. The temperature of the basin varies from  $3^{\circ}$  to  $47^{\circ}$ C. The average rainfall in the Mahi basin is 785 mm.

**2.12.1.2 Sabarmati:** The Sabarmati River is one of the major West flowing inter-state rivers in India, draining into the Gulf of Khambat. The basin is bounded by Aravalli hills in the North and North-east. The ridge separating it from basins of minor streams and draining into Rann of Kutchh and Gulf of Khambat in West and by Gulf of Khambat in South. It is triangular in shape with the main river as the base and the source of the Watrak as the apex point. It originates in the Aravalli hills at latitude  $24^{\circ} 40'$  N and longitude  $73^{\circ} 20'$  E in the Rajasthan State at an elevation of 762m above msl. The river Sabarmati drains an area of 21,674 sq km with a total length of 371 kms. The Sabarmati River, with its origin in Rajasthan, flows generally in south west direction. It enters the Gujarat State and passes through the plains and continues to flow in the same direction and joins the Gulf of Khambat in the Arabian Sea. The Dharoi Dam, Watrak, Meshwo, Sabarmati, Moti fatewati and Hathmati are the major projects in the catchment areas of Sabarmati sub-basin. The basin contains two climatic regions, the northern part of the basin comprises sub tropical wet climate (generally basin area occupied by Gujarat). The major part of the basin comprises tropical wet climate, caused mainly due to existence of Aravalli and the Western Ghats. The temperature of the basin varies from  $2^{\circ}$  to  $45^{\circ}$ C. The average rainfall in the Sabarmati basin is about 787.5 mm.

**2.12.1.3 Luni:** The Luni is the only significant river basin in Western Rajasthan which forms the bulk of arid zone. Luni originates from Western slopes of the Aravalli ranges at an elevation of 772m above msl near Ajmer flowing in South West direction and traversing a course of 511 km in Rajasthan before it finally flows into the Rann of Kutchh. Its total catchment 32879 sq km area falls in Rajasthan. Luni basin is situated in between  $24^{\circ} 11'$  to  $26^{\circ} 43'$  North latitude and  $70^{\circ} 37'$  to  $74^{\circ} 39'$  East longitude approximately. The peculiarity of this



river is that it tends to increase its width rather than deepening the bed because the banks are of soils which are easily erodable whereas beds are of sand. The floods develop and disappear so rapidly that they have no time to scour the bed. The Aravalli ranges forms its East boundary whereas main course of river in Barmer district itself forms North boundary and mostly Banas and initial reach of Chambal River form its Southern boundary. Luni receives all the main tributaries on its left bank except one i.e. Jojari (Mithri) on the right bank. Luni receives ten tributaries namely Lilari, Guhiya, Bandi (Hemawas), Sukri (Hemawas), Sukri, Mithri, Jawai, Khari Bandi, Sukri Bandi and Sugi. Hence the drainage on the left bank of Luni is, therefore, more extensive than on Right Bank. The Luni drains an area of 32,879 sq Km in Rajasthan State only. The rainfall in the basin is erratic and its distribution is uneven in the catchment. The temperature of the basin ranges from 3<sup>0</sup> to 47<sup>0</sup>C.

**2.12.1.4 Banas:** The river Banas originates from Aravalli hills and descends in a South-Western direction through Rajasthan state and travels through Banaskantha and Mehsana district of Gujarat before it drains into little Rann of Kutchh. The Banas basin is the Northern basin and is situated between 23<sup>0</sup> 30' & 24<sup>0</sup> 55' north latitudes and 71<sup>0</sup> 15' to 73<sup>0</sup> 15' east longitudes approximately. Saraswati and Luni basins form the Southern and Northern boundaries of this basin. The Aravalli hills form its eastern extremity. The Banas drains an area of 8,674 sq km out of which nearly 37.69% lies in Rajasthan state and remaining 62.31% falls in Gujarat state. The Banas River rises near Pindwara of Sirohi district of Rajasthan at an elevation of 372.51m above msl. Little Rann of Kutchh is the outfall of Banas river. Sipu is the only right bank tributary of Banas River which drains into the main channel. There are 6 tributaries on the left bank of Banas River namely the Batria, the Sukli, the Sewaran, the Suket, the Balaram and the Khari which drain into the main channel. Hence the draining system on the left bank of the Banas River is more extensive as compared to the right bank area. The Sipu and the Khari are the two important right and left bank tributaries which together drain nearly 37% of the total catchment area of Banas. The Sipu Dam, Swarupgunj and Dantiwada Dam are the major projects in the catchment areas of Banas sub-basin.

**2.12.1.5 Shetrunji:** The Shetrunji is one of the major rivers of Saurashtra. The Shetrunji basin is the Eastern most basin of Saurashtra and is situated in between 21<sup>0</sup> 00' to 21<sup>0</sup> 47' North latitude and 70<sup>0</sup> 50' to 72<sup>0</sup> 10' East longitude. The river Shetrunji originates at Chachai hills in Gir forest of Junagarh district at an elevation of 380m above msl and flows towards East direction till its confluence with Gulf of Khambat near Santhrapur port. The river Shetrunji fertile the Amerli and Bhavanagar districts and a small area of Junagarh district of Saurashtra. The Shetrunji drains an area of 5,514 sq km out of which more than 50% is in Amerli district. The total length of the river from its origin to the outfall into the Gulf of Khambat is 182 km. This river receives tidal influence for a length of 5 km from mouth. The Shetrunji receives several tributaries on both banks. There are 9 tributaries having lengths more than 15 km out of which Safara, Shel, Khari and Talaji are the 4 tributaries on the right bank of Shetrunji and the remaining 5 tributaries namely Stali, Thebu, Gagadia, Rajwal and Kharo are on left bank. The drainage system on left bank of Shetrunji is more extensive as compared to the right bank area. The Stali, Theli and Gagaria are important tributaries feeding from left bank of Shetrunji and drain nearly 34% of total catchment area of river Shetrunji. The Shetrunji Irrigation Scheme is the only major project in the catchment areas of the river basin.

**2.12.1.6 Bhadar:** Bhadar is one of the major rivers of Saurashtra and it drains about 1/7<sup>th</sup> of the area of Saurashtra. The Bhadar basin is the South Western basin and situated between 21<sup>0</sup> 25' to 22<sup>0</sup> 10' North latitude and 69<sup>0</sup> 45' to 71<sup>0</sup> 20' East longitude. The river Bhadar originates

at an elevation of 261 m above msl in Vaddi about 26 km North-West of Jasdan in Rajkot district and flows towards South upto Jasdan village and then turns towards South-West upto village Jetpur and finally changes its direction towards West till its confluence with Arabian sea at Navibandar (Porbandar). The Bhadar River, from Jetpur to Porbandar, fertiles Rajkot, Jamnagar, Amreli and Junagadh district of Saurashtra. The river drains an area of 7,094 sq km out of which 706 sq km is in hill and the rest in plain regions of Saurashtra. The total length of this South West flowing river from its origin to its outfall into the sea is 198 km. For the first 150 km, the river flows in Rajkot district and the rest of 48 km in Junagarh district. The river receives tidal influence for a length of about 26 km from mouth in Junagadh district. The river Bhadar receives several tributaries on both the banks. There are 9 major tributaries having a length of more than 25 km out of which 6 tributaries namely Gondali, Chapparwadi, Phopal, Utawali, Moj and Venu are feeding from right and the remaining 3 tributaries namely Vasavadi, Surwa and Galolia from left. The drainage system on the right bank of river Bhadar is more extensive as compared to the left bank. The Bhadar Irrigation Scheme is the only major project in the catchment areas of the river basin.

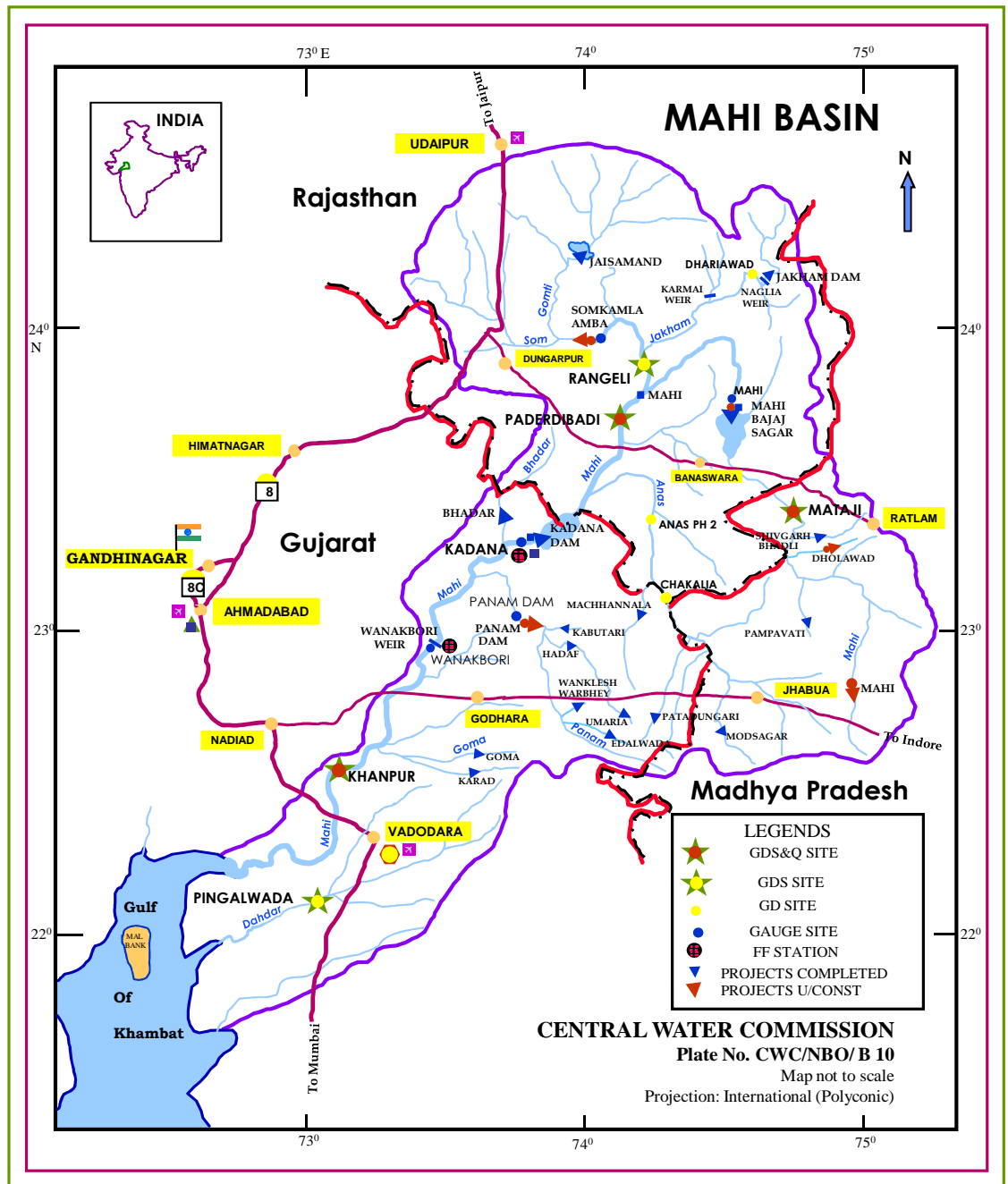
**2.12.1.7 Machhu:** The Machhu River originates from hilly ranges of Jasdan Sardar and Mandva in Rajkot district and Chotila in Surendranagar district and flows in north westerly direction along the district boundary of Surendranagar and Rajkot upto village Beti and then flows mostly towards north in Rajkot district and finally disappears near Malia in the little Rann of Kachchh. The Catchment area of the basin is 2515 sq km. The complete catchment area is located between  $22^{\circ} 10'$  to  $23^{\circ} 10'$  north latitude and  $70^{\circ} 40'$  to  $71^{\circ} 15'$  east longitude. The main tributaries of this river are Beti, Asoi, Machhori and Maha, together account for nearly 42.52% of the total catchment area of Machhu.

**2.12.1.8 Rupen:** The Rupen River originates from taranga hill ranges near Kheralu taluka of Mehsana district of Gujarat at an elevation of 180 m above m.s.l and descends in south western direction and travels through Mehsana district before it drains into little Rann of Kachchh. The Rupen basin is a northern basin of Gujarat and is situated between  $23^{\circ} 25'$  to  $24^{\circ} 00'$  north latitude and  $71^{\circ} 30'$  to  $72^{\circ} 46'$  east longitude approx. The total drainage area of Rupen river is 2,500 sq km. The important tributaries of Rupen are Pushpavati and Khari. Owing to topographical characteristics the climate is variable in the basin.

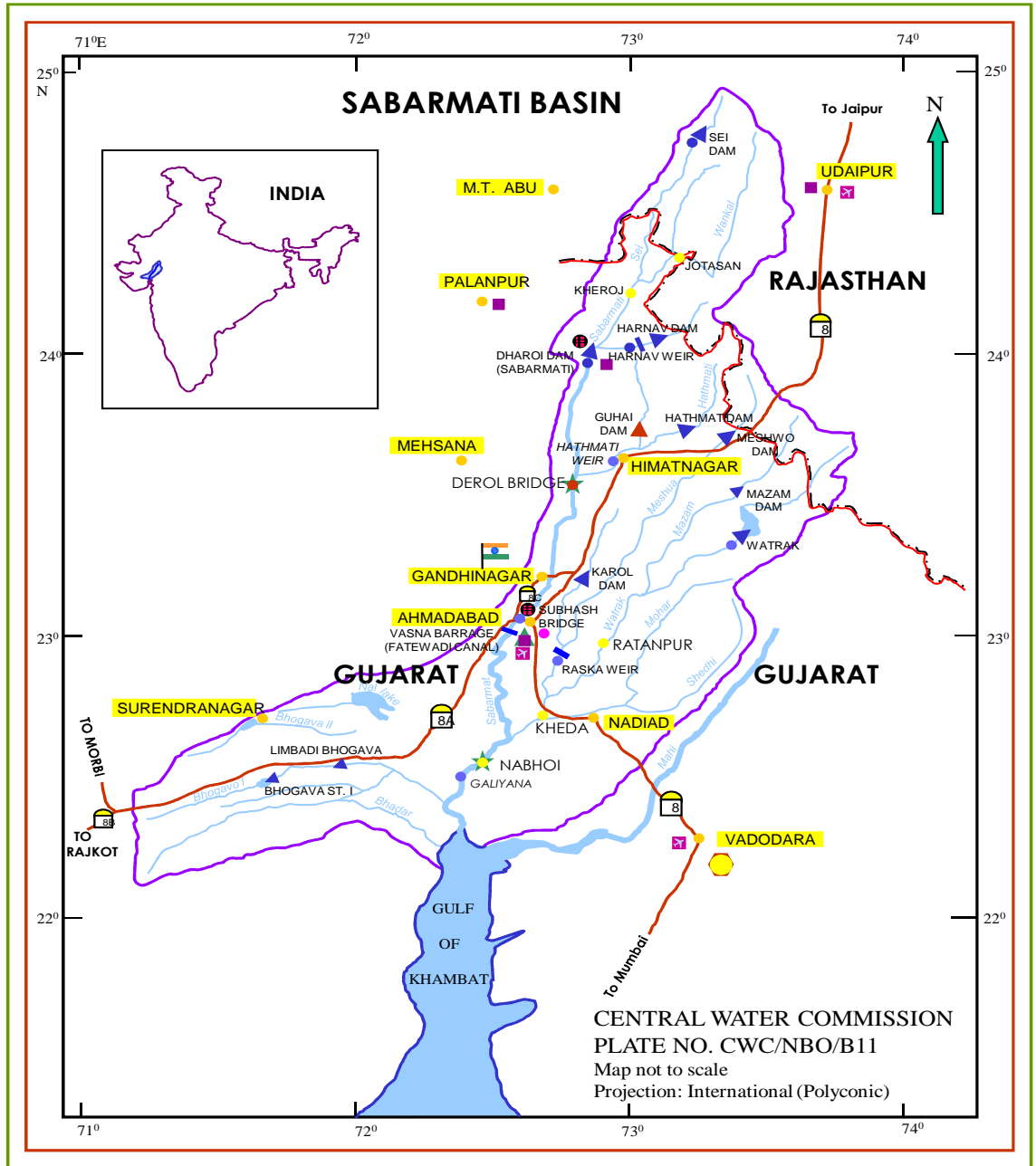
**2.12.2 Urban Centre:** Ahmedabad & Vadodara are two important cities on west flowing rivers basin.

**2.12.3 Industries:** There are important industries of Engg Handicraft, Stonework, cement, chemical, Liquor, Sugar, Tex and wools etc.

**2.12.4 Hydrological Sites:** There are in all 22 sites in the basin out of which 11 gauge, discharge and Water Quality. Sediment observations are made at 7 of these stations. However, gauge discharge observations are made at all stations in the basin (as per 2011-12 data).



For International / State boundaries and Coast line refer to Survey of India maps



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# Chapter 3

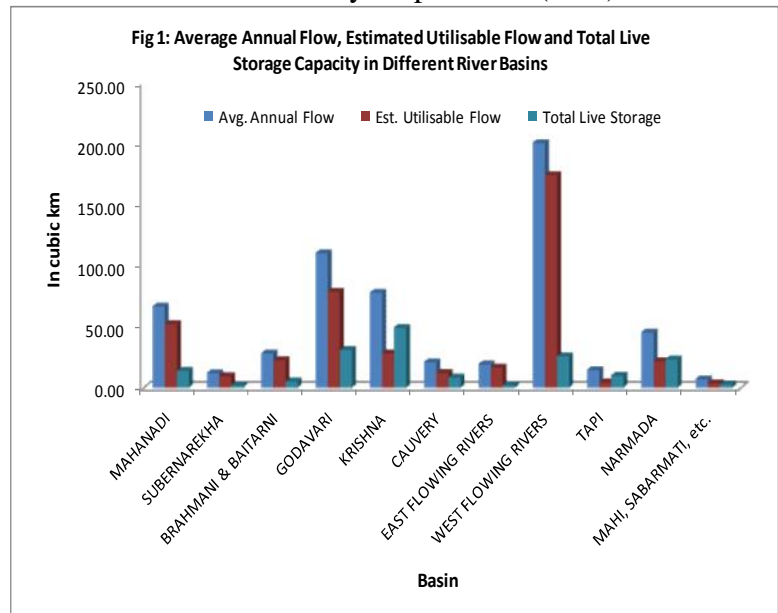
## Water and Related Statistics

**3.0** This chapter presents some important characteristics relating to non-classified river basins of the country. These characteristics are physical features and geo-climatic conditions of the river basins and other features like storage capacity, soil characterises, major and medium irrigation projects and flow of water, etc.

### 3.1 Surface Water Storage

**3.1.1** In India, a total storage capacity of 253.4 BCM has so far been created. Besides, storages of 51 BCM are under construction and storages of 109.7 BCM are under consideration. Therefore expected storage capacity after completion of planned projects would be 414.1 BCM against total availability of 1869.35 BCM of water in the river basins of this country.

**3.1.2** Live storage capacities in respect of different river basins along with average annual flow in cubic kilometer are given in Table 1. Among the non-classified basins the Krishna basin leads in term of storage capacity (49.55 BCM) followed by Godavari basin (31.33 BCM) and Narmada basin (23.60 BCM). Pennar basin leads (76%) in terms of storage capacity planned as percentage of average annual flow followed by Tapi basin (71%) which even otherwise has requirement for higher storage capacity as it covers the semi desert areas of Madhya Pradesh, Maharashtra & Gujarat. The West Flowing Rivers of Kutch, Shaurashtra including Luni, Krishna, Narmada and Brahmani & Baitarni basins exceed 50% capacity of their respective average annual flow. The storage percentage is, however, less than 25% in few basins viz. EFR from Mahanadi to Godavari and Krishna to Pennar, WFR from Tapi to Tadri and WFR from Tadri to



Kanyakumari and hence there is a scope for increasing storage potential, particularly, for those basins for which the annual average flow is higher. The total storage capacity created as percentage of average annual flow of the basins is less than 25%, which may be increased to solve the scarcity of water up to some extent. This publication presents data on average annual runoff at terminal sites of all basins with catchment area upto the site.

## 3.2 Drainage/catchment area and population distribution.

**3.2.1** The salient features presented in Table 2 include drainage area and average annual flow of water in columns 4 and 15. The Godavari basin has the highest drainage area of 312812 sq km followed by Krishna basin with drainage area of 258948 sq km and Mahanadi basin with drainage area of 141600 sq km. The river basins of Rushikulya (7700 sq km), Vamsadhara (10830 sq km), Sarada (2665 sq km) and Nagavali (9510 sq km) together have the total drainage area of 30705 sq km. The basins of Mahanadi, Godavari and Krishna constitute more than 50% of the drainage area of the total drainage area of the twelve non-classified basins.

**3.2.3** The average annual potential / average annual runoff in non-classified river basins during 2011-12 is maximum at 85.95 BCM in Godavari river basin followed by 43.42 BCM at Mahanadi and 22.04 BCM at Krishna basin. The run off at terminal site is, however, maximum at Polavaram in Godavari 307.80 BCM, followed by 251.36 BCM in Krishna at Vijaywada, 66.24 BCM at Musiri in Cauvery and 45.23 BCM in Mahanadi Basin at Tikrapara. The site wise distribution is given in Table 2.

## 3.3 Hydrological Observation sites

**3.3.1** Table 3 gives the distribution of hydrological observation sites by types of sites and non-classified river basin. Observations on water discharges, volume of sediments deposited on the flow areas & examinations of water qualities are made at different water releasing points of the river basins. Geographical locations of observation sites, types of experiments done on those sites and dates of commencement of experiments are also given for understanding distribution of waters on participating States. There are 48 such sites on Godavari basin out of 333 sites and 46 sites in Mahanadi basin during 2011-12. Rushikulaya & other small three rivers altogether have only 12 observation centers.

## 3.4 Peak Water Level

**3.4.1** The historical observations over a long reference period on peak water level at different terminal sites along with latitude, longitude, stage record, drainage area are presented by site in Table 4. However, a uniform reference period could not be used as the dates of inception of the sites are different. It covers a period of 1964 to 2011. The peak water level varies widely from basin to basin and also within sites of a basin. The highest water level of 909.885 m is observed in the terminal site “Thimmanahalli” of Cauvery basin on 14.08.2008 while the lowest water level of 3.24 m is also found in the same basin against the terminal site “Gopurajapuram” on 8.11.2005.

### 3.4.2 Basin wise description is as follows:

**3.4.2.1 Mahanadi Basin:** There are 19 observation sites in the basin for which information is given. The reference period varies site to site starting from 1971 to 2011. The maximum drainage area 1, 24,450 sq km is covered by Tikrapara site in the basin while Mahendragarh site covers minimum drainage area i.e. 1100 sq km. The maximum stage of peak water i.e. 420.44 m is observed at Mahendragarh site on 12.07.1990 during the reference period 21.06.1987 to 31.05.2011. On the other hand, Tikrapara site has registered minimum peak water level i.e. 73.20 m on 19.07.2001.

**3.4.2.2 Subarnarekha, Burhabalang & Baitarni:** This basin contains the information in respect of 11 sites and there is a vast variation in peak water level which varies from 378.9 m to 8.9 m.

**3.4.2.3 Brahmani Basin:** 7 observation sites have been reported in the basin and Jaraikela is the oldest site established on 1.8.1972. Gaug/Discharge observations are being recorded since then. Maximum Peak water i.e. 378.625 m was reported at Tilga on 28.08.1987 during the reference period April, 1978 to May, 2011.

**3.4.2.4 Rushikulya, Vamsadhara, Sarda & Nagavali:** There are five sites reported in the basin and only three sites are recording the Gauge/Discharge, Sedimentation and Water Quality figures at different intervals of time. There is no significant observation of Peak water level.

**3.4.2.5 Godavari Basin:** This is a large basin in area in respect of drainage area. It has 47 hydrological sites which are maintaining the information on observations in respect of at least two or more types of data: Gauge/Discharge, Sedimentation and Water Quality. Tekra is the oldest site in the basin and established on 15.07.1964 for collecting data on Gauge/ Discharge, Subsequently, the scope has been extended to observe data on sedimentation and water quality. Among its sites, the maximum water level was observed at Cherribeda (573.900 m) site on 04.07.2006 during the reference period June 1971 to May 2011. The Polavaram site in the basin had peak water level of the order of 28.017 m on 16.08.1986, which was the minimum peak water level as compared to other sites of the basin.

**3.4.2.6 Krishna Basin:** It has 36 sites in all for hydrological observations. In these sites, peak water level varied from 19.27 m to 650.25 m at Vijaywada and Kellodu sites respectively during the reference period 1965-2011.

**3.4.2.7 Cauvery Basin:** In Cauvery basin it is remarkable to note that four sites i.e. MH Halli, Thimmanahalli, Sakleshpur and Kudige out of 34 reported sites have registered peak water level above 800 m during the period 1974 to 2011. The peak water level has increased with the increase in the value of latitude with some exceptional cases.

**3.4.2.8 East Flowing Rivers from Mahanadi to Kanyakumari:** Most of the sites have not registered significant peak water level in the basin. Only seven sites have registered 200 m or above peak water level out of 26 sites during the reference period 1979 to 2010. The maximum peak water level was observed at Naglamadike site (549.55 m) on 12.09.1988, which is highly significant as compared to observations made at other reporting sites of the basin

**3.4.2.9 West Flowing Rivers from Kanyakumari to Tapi:** This basin has reported information in respect of 37 sites. At Vandperiyar site the water level touched 793.62 m on 27.07.2005.

**3.4.2.10 Tapi Basin:** Tapi basin has reported only 5 sites which do not have any significant peak water level during the reference period 1978 to 2011.

**3.4.2.11 Narmada Basin:** This basin contains 19 sites and has interesting fact that Dindori site which is situated at highest latitude and longitude registered the highest peak water level of the order of 669.64 m on 23.08.1991 during the reference period 1988-2011.

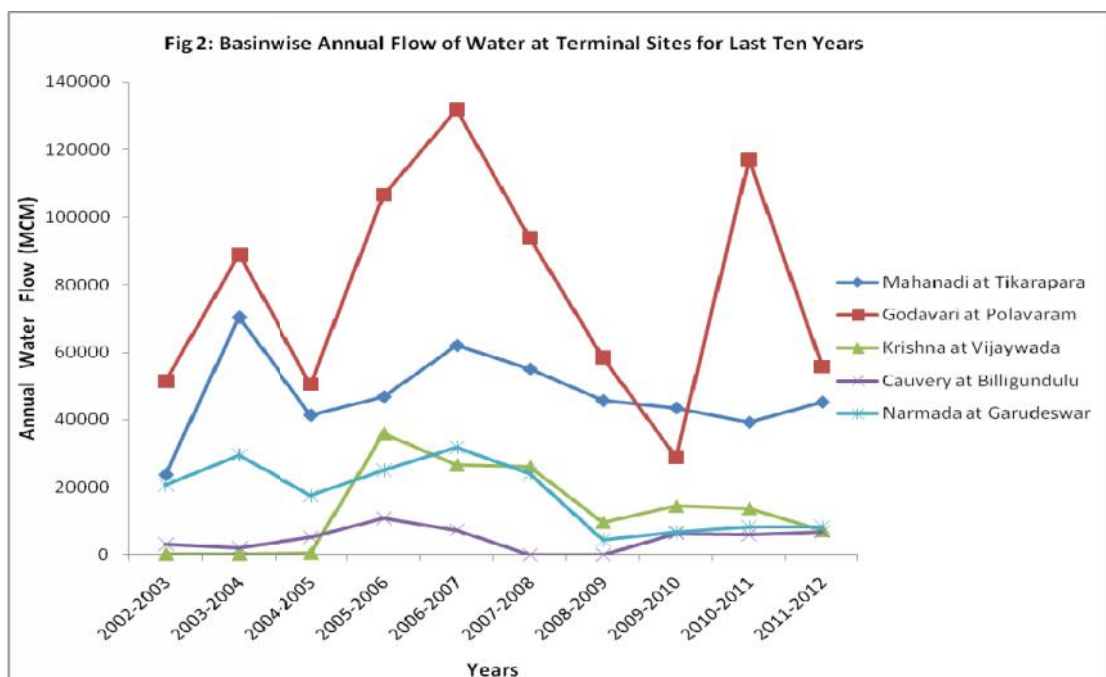
**3.4.2.12 Mahi and Sabarmati:** Ganod, Lowara, Gungan and Mahuwa are the oldest sites out of the 22 sites reported in the basin, which were established in late 1970 to make the observations of Gauge/Discharge, Sediment and Water Quality. There is not much significant peak water level reported in 22 sites except 3 to 4 sites during the reference period 1971 to 2011.

**3.4.3** The data on seasonal (Monsoon and Non-Monsoon) and annual flow of water for last ten years over sites of twelve non-classified basins are provided in Table 5. The reference period of ten years is based on the latest information available. It is natural that the flow will vary from site to site. But, the data given in the table do not reveal any trend of water flow in either season or annually in the sites.

**3.4.4** The maximum and minimum observed water levels and discharges are presented in Table 6 by sites over a long but varying reference period for which the data are available. The dates of extreme observations are spread over the years.

**3.4.5** Expectation of availability of required amount of water is of paramount importance for any plan or project in water sector for irrigation etc. With this view Table 7 has been presented. It provides dependable flow of water at 10 equal percentile levels for each site. The percentiles have been calculated taking into consideration the whole period of releases of water from the sites from the day of its opening.

**3.4.8** Monthly average flow of water per unit drainage area is presented in Table 8 over the calendar months of a long but varying reference period. The reference period has been taken separately on the basis of age of the sites. This would help in understanding expected water availability in different months of a year. It is observed that all non-classified basins except East Flowing Rivers (EFR) have reached the maximum monthly average flow per unit drainage area during the month of August, while in sites of EFR this phenomenon occurred in the months of September or October. There is a positive skewed tendency of data.





# Chapter 4

## Sedimentation statistics

**4.1** Water flow (natural or artificial) tries to scour its surface whenever it flows in a channel. Silt or gravel or even larger boulders are detached from its bed or banks. The moving water sweeps these detached particles downstream. Silting and scouring in channels is not very uncommon and must be avoided by proper designs. The full supply level of water gets reduced by scouring and causes loss of command. It may also cause damage to canal banks and foundations of irrigation structures. Silting interferes with the proper functioning of a channel as the channel section gets reduced by silt, thereby reducing its discharging capacity.

**4.2** Development and construction of projects formulated by harnessing the available water resources during last three to four decades has ushered in an era of prosperity. Development and construction of projects has been instrumental in bringing the Green Revolution that has essentially made India to achieve self-sufficiency in food grains. However, these projects are seriously threatened by sedimentation due to the silt carried by various rivers and streams up to the point of their interception. Sediment is also threatening denudation of forests.

**4.3** The sediment in a canal is a burden to be borne by the flowing water and is, therefore, designated as sediment load. The sediment may move in water either as bed load or as suspended load. Bed load is that in which the sediment moves along the bed with occasional jumps into the main river. While the suspended load is one in which the material is maintained in suspension due to the turbulence of the water flow.

**4.4** Sediment is one of the major obstructions on the flow line or channel of water and unmanageable quantity of it shorten longevity of channels. Moreover, it causes soil-erosion. Therefore, study of sediments and nature of its deposits on downstream are very important for preparation of any water supply projects. Sound database on sediments are essential tools for policy making and planning purposes.

**4.5** The analysis of suspended sediment is carried out for three different grades of sediments, namely, coarse sediment, having particles with diameter above 0.2 mm, medium sediment with diameter ranging from 0.075 to 0.2 mm and fine sediment with diameter less than 0.075 mm.

**4.6** The water sample from each group is passed through 100/72 mesh sieve (B.S.S). The residue on the sieve is washed with clear water several times, transferred to a crucible and its oven dry weight is measured. This gives the coarse sediment from which the sediment intensity in gm/litre for the group is worked out.

**4.7** After the removal of coarse sediment by filtration and washings, the residual contains the medium and fine sediment which is passed through 200 mesh sieve (B.S.S). Sediment particles retained on the sieve are medium sediment and part of the fine sediment. So, the residue in the sieve is thoroughly washed with clear water several times, transferred to a crucible and its oven dry weight is measured. Medium grade sediment intensity in gm/litre is worked out, as is done for coarse sediment.

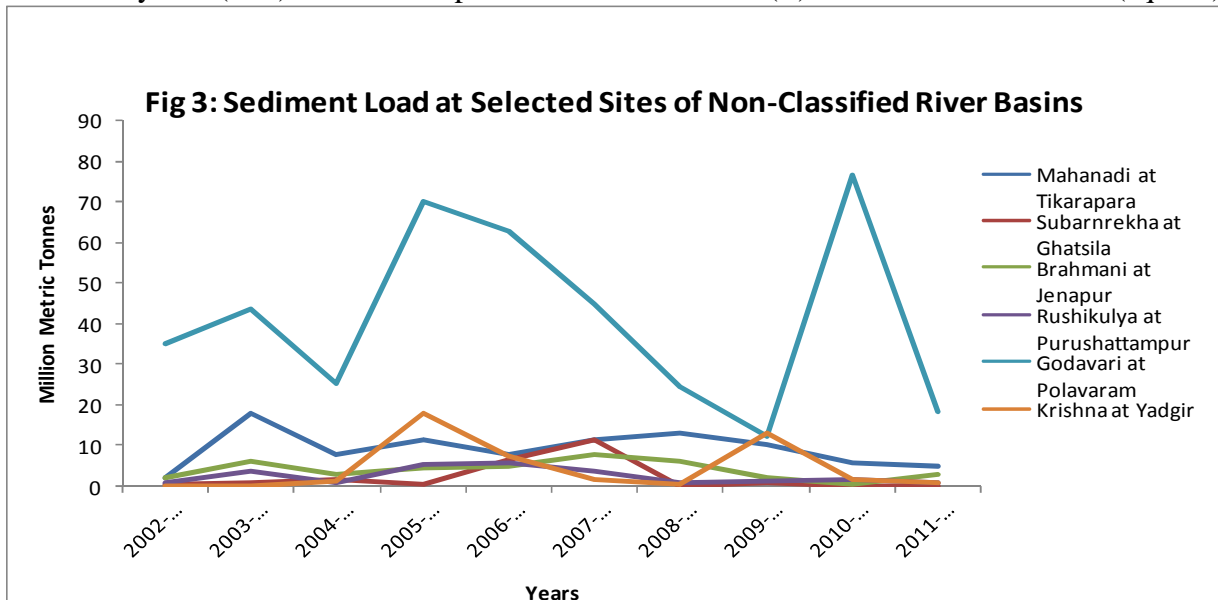
**4.8** The filtrate and washings after separation of coarse and medium grade of sediment the water contain only fine grade of sediment in suspension. The filtrate and washings obtained from all the groups are combined together in an enameled bucket and kept overnight for

settlement. About 5 to 10 ml of 10% alum solution is added to hasten the coagulation of colloidal silt. After the settlement is complete, the supernatant liquid is siphoned off carefully and the reduced volume of suspension is filtered through a dried and pre-weighted Whitman No.2 grade filter paper. Extra washings with clear water are given to remove excessive alum, if used. The filter paper along with the residue is dried to its constant weight and weighed to determine weight of the fine sediment in gm/litre. The intensity of fine silt, in gm/ litres so obtained, is the amount of the sediment for the entire cross section.

**4.9** The total sediment load of the river along the cross-section is evaluated from the coarse and medium sediment concentration obtained group-wise and the sediment for the entire cross section. In this chapter detailed information on quantity of average sediment deposits on the streams/ rivers at terminal sites are presented separately for all sites on seasonal and annual basis for last 10 years in Table 9. The frequency of sediment observation is taken daily during monsoon season and once in a week during the lean period. Data for non-observed days is interpolated from the relationship of discharge vs. sediment load prepared on the basis of observed sediment concentration and weighted mean discharge during the same year. There is no consistency in sediment load among different sites of basins. However, sediment load in monsoon season is quite high compared, as expected, to non-monsoon season.

**4.10** Sediment concentration in gm/litre (coarse, medium and fine) is recorded in the daily flow tables. The sediment load reported in the 10 daily tables indicates average sediment load. The summary of sediment load of the Ten Daily and monthly figures are given in Table 10 showing average sediment load per day. In Ten daily and monthly summary tables, sediment load is rounded off to whole integer. In Ten-daily summary tables, Ten daily average values are rounded off to nearest whole integer when more than 1000, nearest first decimal figure when it is between 100-999 and nearest two decimal figures when it is less than 100. The annual/ seasonal sediment yield in millimetre is the notional depth of soil over the catchment area equivalent to annual/ seasonal suspended sediment runoff calculated at the sediment observation station. It is computed using the relation.

$$\text{Sediment yield (mm)} = \frac{\text{total suspended sediment load (T)}}{1400 \times \text{catchment area (sq km)}}$$



# Chapter 5

## WATER QUALITY STATISTICS

**5.1** Water is a prime necessity for human survival and growth of agriculture as well as industrial development. Effective management of water resource, monitoring and control of its quality are becoming increasingly important for sustainable development and human welfare. Pollution of water and maintaining water quality at acceptable levels has become a universal phenomenon in present day context; Environmental Protection Act also includes, as one of its objectives, protection of water from pollution. Now-a-days greater emphasis is given to water quality because of concern of environmentalists. Degradation of water quality is not only caused by increasing inflow of domestic and industrial waste into water course but also from the abstraction of water from rivers rendering them dry or with meager flow leading to concentration of pollution.

**5.2** As per ISI-IS 2296-1982, the tolerance limits of parameters of all polluting factors of water in have been indicated in the Tables-11(i) to 11(v) in respect of the following five classes that have been formed according to various uses of water.

- Class A: Drinking water source without conventional treatment but after disinfection
- Class B: Outdoor bathing
- Class C: Drinking water source with conventional treatment followed by disinfection
- Class D: Fish culture and wild life propagation
- Class E: Irrigation, industrial cooling or controlled wastes or controlled waste disposal.

**5.3** Considering importance of water quality, an attempt has been made to present seasonwise and site-wise detailed information on critical absolute values that are outside the range of the tolerance limits of water-quality. These values of water quality parameters have been presented in Table 12.

**5.4** Site-wise information on maximum and minimum values of water quality parameters during the years 2010-11 and 2011-12 for reviewing the kind of water being discharged/ supplied for different purposes have been presented in Table 13.



# Chapter 6

## Land use statistics

**6.0** Land use pattern is a fairly useful indicator in understanding the environmental set up, infrastructural facilities and climatic conditions of an area. The land use pattern is an outcome of the interaction and interplay of the various physical conditions of the area. It gives not only the land coverage but also an insight into the nature of environmental degradation in the catchment area of the basins. Hence it is considered very important in the environmental study of any area. Various Government Departments for their respective administrative units such as Blocks/Tehsils/Districts mostly compile the information. But information is not available for districts/areas under different basins. In this issue land use statistics have confined to analysis of information at state and basin-wise. The basin wise land utilisation has been computed as sum total of land use for different classifications in the area of district in a particular state falling within a basin. The data on district and state-wise land use pattern as published by the Directorate of Economics and Statistics, Department of Agriculture & Co-operation, Ministry of Agriculture has been used for the purpose.

**6.1** The data has been classified into (i) forest area (ii) area not available for cultivation (iii) other uncultivated lands excluding fallow land (iv) fallow land (v) net area sown (vi) area sown more than once and (vii) total cropped area.

**6.2** The land utilization pattern by district of each basin is presented in Table 14 for the non-classified river basins. These basins cover 127174 thousand hectares reported area for land utilization of the states. The Narmada river basin has the highest total cropped area of 70% of its reporting area for land utilization followed by Mahi, Sabarmati & Others and Cauvery basins with 65% and 61% respectively. Similarly Krishna basin has highest net sown area of 48.9% of its reporting area for land utilization followed by Mahi, Sabarmati & Others basin 48.8%.

**6.3** Areas under forests have been reported highest in East Flowing River Basin. However it can be seen that around 17% of areas of all basins together are covered under other uncultivated lands including fallow land. Among these basins the Krishna basin has the highest of 48.9% net area sown of its reporting area for land utilization.

**6.4** The land use classification reported during 2010-11 and 2011-12 as per Ministry of Agriculture for the State is adopted for the catchment area of twelve non-classified river basins. The district-wise area under catchment of the basin is reported and land use under forest coverage, not available for cultivation, other uncultivated land, fallow land and net area shown under the river basin have been indicated under land use statistics. Gross Area Irrigated and net area irrigated within the river basins by source such as canals, tanks, wells and other sources are presented in table 15 and table 16 respectively. In table 14, all figures pertain to whole district and not restricted to basin area. The Statements 3 to 5 present an overall picture of the twelve basins combined land use pattern, gross and net area irrigated by different sources (such as Canals, Tanks, Tube wells, etc.).

**Statement 3: Land utilization pattern (in Hectares) by river basins during 2011-12**

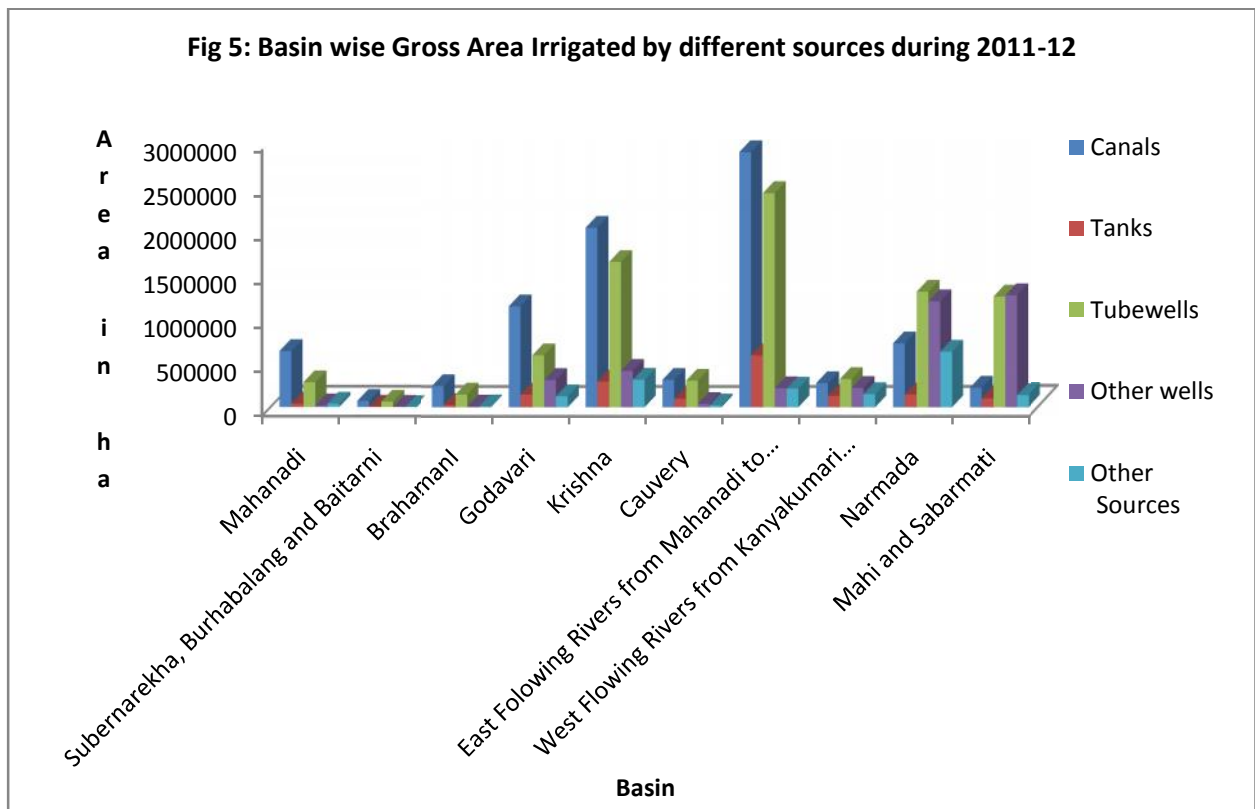
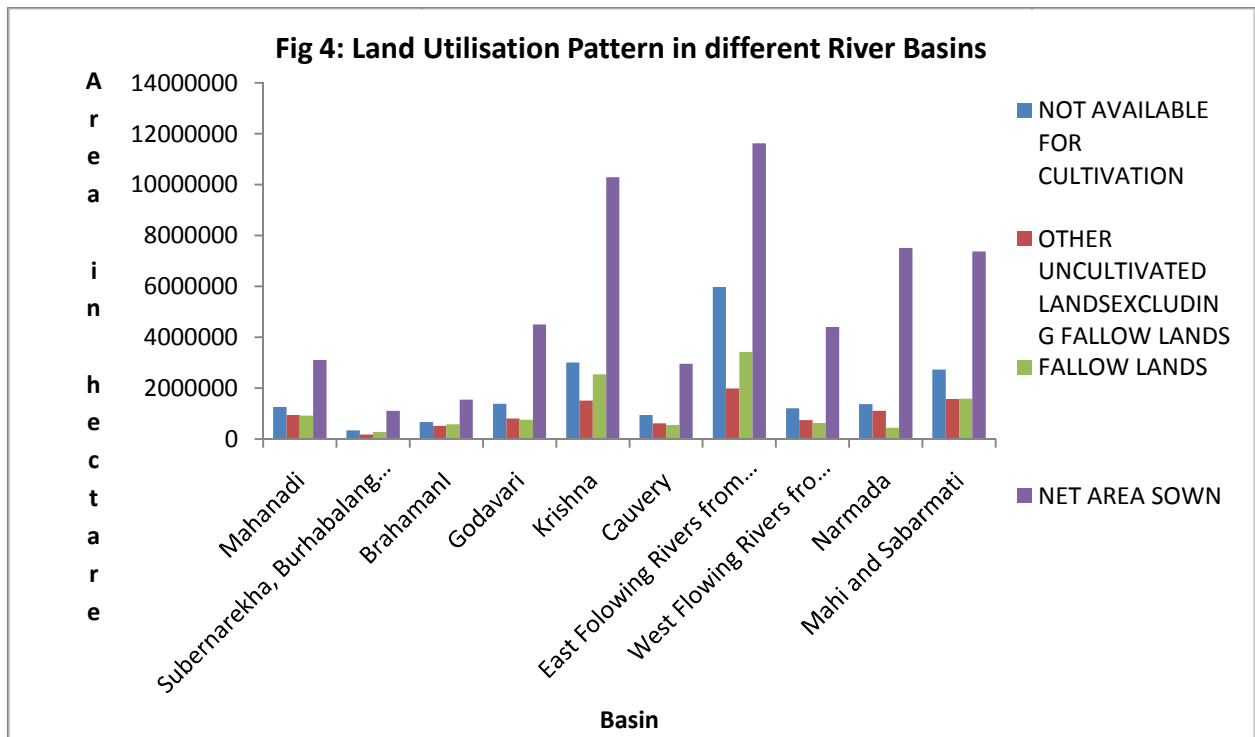
Sl. No.	Basin Name	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
			Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Mahanadi	9990493	3771689	1253051	940617	913260	3111876	539997	3651873
2	Subernarekha, Burhabalang and Baitarni	2452824	548381	337752	182294	278899	1105498	315392	1420890
3	Brahamanl	5400871	2101338	660704	514873	575471	1548485	169904	1718389
4	Rushikulya, Vamsadhra, Sarada and Nagavali	NOT AVAILABLE							
5	Godavari	11639833	4199595	1387862	802799	750327	4499250	1374536	5873786
6	Krishna	21044203	3698237	3007637	1511023	2538973	10288333	2052605	12340938
7	Cauvery	6126405	1046604	945531	613756	558580	2961934	759077	3721011
8	East Following Rivers from Mahanadi to Kanyakumari	29671952	6672254	5970860	1987490	3422148	11619200	2187185	13806385
9	West Flowing Rivers from Kanyakumari to Tapi	9954470	2966637	1208884	740753	631139	4407057	1243921	5650978
10	Tapi	NOT AVAILABLE							
11	Narmada	15801466	5377936	1372204	1110578	435751	7504997	3488903	10993900
12	Mahi and Sabarmati	15092170	1840361	2725560	1568501	1590592	7367156	2412384	9779616
GRAND TOTAL		127174687	32223032	18870045	9972684	11695140	54413786	14543904	68957766

**Statement 4 : Gross Area Irrigated (in Hectares) by Sources by river basin during 2011-12**

Sl. No	Basin Name	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
		Government	Private			Tube wells	Other wells		
1	2	3	4	5	6	7	8	9	10
1	Mahanadi	556561	75325	631886	38474	279545	18510	38101	1006516
2	Subernarekha, Burhabalang and Baitarni	43617	24829	68446	4085	60820	3344	0	136695
3	Brahmani	196670	41750	238420	24180	143173	7191	9635	422599
4	Rushikulya, Vamsadhra, Sarada and Nagavali	NOT AVAILABLE							
5	Godavari	1091757	46351	1138108	141829	585959	307359	123450	2296705
6	Krishna	2024817	0	2024817	289749	1639724	410303	310094	4674687
7	Cauvery	308468	0	308468	95637	299032	36951	19916	760004
8	East Following Rivers from Mahanadi to Kanyakumari	2785652	93131	2878783	584915	2416170	214590	210047	6304505
9	West Flowing Rivers from Kanyakumari to Tapi	271435	0	271435	129576	318411	217809	147664	1084895
10	Tapi	NOT AVAILABLE							
11	Narmada	720299	0	720299	143382	1303956	1195911	626809	3990357
12	Mahi and Sabarmati	220381	0	220381	100211	1249396	1264374	136765	2971127
GRAND TOTAL		8219657	281386	8501043	1552038	8296186	3676342	1622481	23648090

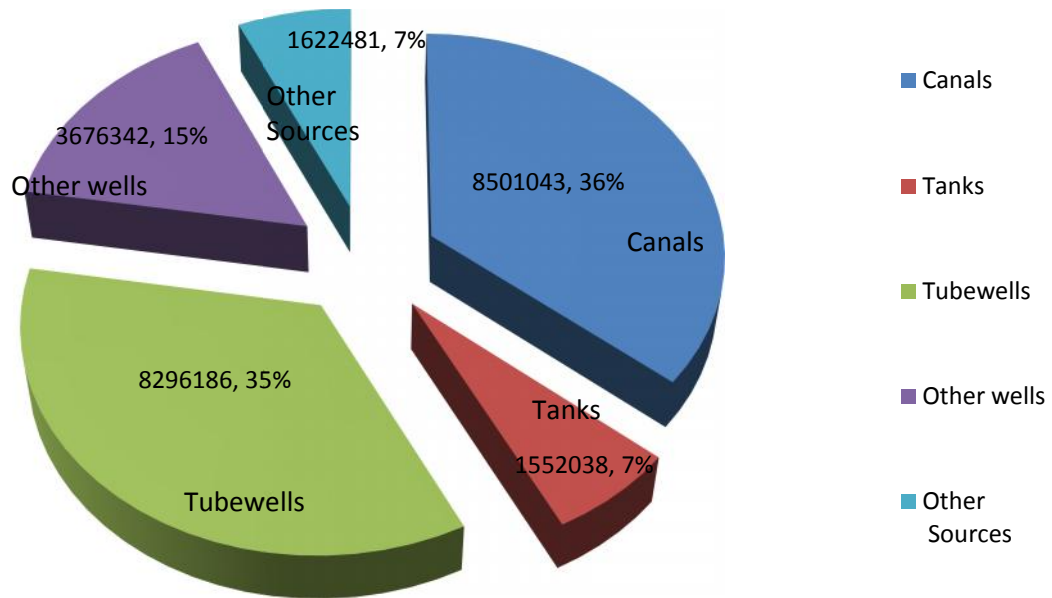
**Statement 5 : Net area irrigated(in Hectares) by Sources by river basin during 2011-12**

Sl. No	Basin Name	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
		Government	Private			Tube wells	Other wells		
1	2	3	4	5	6	7	8	9	10
1	Mahanadi	265266	121	265387	25726	178109	11420	355704	836346
2	Subernarekha, Burhabalang and Baitarni	0	0	0	0	0	0	126509	126509
3	Brahmani	17979	21	18000	4661	31845	665	295448	350619
4	Rushikulya, Vamsadhra, Sarada and Nagavali	NOT AVAILABLE							
5	Godavari	760883	0	760883	125159	389262	290401	253461	1819166
6	Krishna	1695492	0	1695492	265773	1271398	362357	255748	3850768
7	Cauvery	538841	1167	540008	223227	345611	448174	69549	1626569
8	East Following Rivers from Mahanadi to Kanyakumari	2412015	237	2412252	728141	1838304	606192	503735	6088624
9	West Flowing Rivers from Kanyakumari to Tapi	316049	1639	317688	167949	318482	405904	234115	1444138
10	Tapi	NOT AVAILABLE							
11	Narmada	668323	0	668323	136011	1231947	1149634	600166	3786081
12	Mahi and Sabarmati	219326	0	219326	96749	989747	1145565	135353	2586740
GRAND TOTAL		6894174	3185	6897359	1773396	6594705	4420312	2829788	22515560

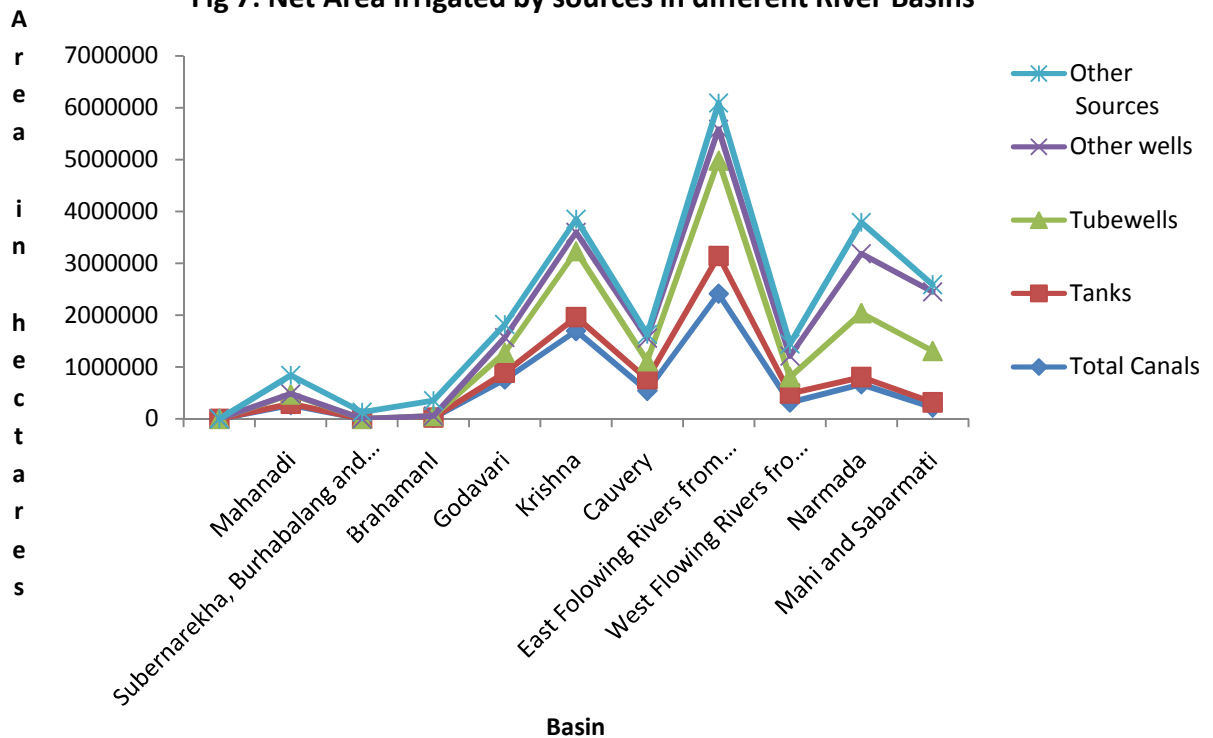




**Fig 6: Gross Area Irrigated (in hectares) by Sources in different River Basins**



**Fig 7: Net Area Irrigated by sources in different River Basins**



## **6.5 CONCEPTS & DEFINITIONS**

### **6.5.1 Terms Used In the Publication**

**6.5.1.1 Forest Area:** This includes all land classified either as forest under any legal enactment, or administered as forest, whether State-owned or private, and whether wooded or maintained as potential forest land. The area of crops raised in the forest and grazing lands or areas open for grazing within the forests remain included under the “forest area”.

**6.5.1.2 Area under Non-agricultural Uses :** This includes all land occupied by buildings, roads and railways or under water, e.g. rivers and canals, and other land put to uses other than agriculture.

**6.5.1.3 Barren and Un-culturable Land:** This includes all land covered by mountains, deserts, etc. Land which cannot be brought under cultivation except at an exorbitant cost is classified as unculturable whether such land is in isolated blocks or within cultivated holdings.

**6.5.1.4 Permanent Pasture and other Grazing Land:** This includes all grazing land whether it is permanent pasture and meadows or not. Village common grazing land is included under this heading.

**6.5.1.5 Land under Miscellaneous Tree Crops, etc.:** This includes all cultivable land which is not included in ‘Net area sown’ but is put to some agricultural uses. Land under casuring trees, thatching grasses, bamboo bushes and other groves for fuel, etc. which are not included under ‘Orchards’ are classified under this category.

**6.5.1.6 Culturable Waste Land:** This includes land available for cultivation, whether taken up or not taken up for cultivation once, but not cultivated during the last five years or more in succession including the current year for some reason or the other. Such land may be either fallow or covered with shrubs and jungles which are not put to any use. They may be accessible or inaccessible and may lie in isolated blocks or within cultivated holdings.

**6.5.1.7 Fallow Lands other than Current Fallows:** This includes all land which was taken up for cultivation but is temporarily out of cultivation for a period of not less than one year and not more than five years.

**6.5.1.8 Current Fallows:** This represents cropped area which is kept fallow during the current year.

**6.5.1.9 Net Area Sown:** This represents the total area sown with crops and orchards. Area sowed more than once in the same year is counted only once.

### **6.5.2 DEFINITION OF SOME COMMONLY USED TERMS**

**6.5.2.1 Geographical Area:** The latest figures of geographical area of the State/Union Territories are those provided by the Office of the Surveyor General of India.

**6.5.2.2 Reporting Area for Land Utilisation Statistics:** The Reporting area stands for the area for which data on land use classification of area are available. In areas where land utilization figures are based on land records, reporting area is the area according to village papers, i.e. the papers prepared by the village accountants. In some cases, the village papers may not be maintained in respect of the entire area of the State. For example, village papers are not prepared for the forest areas but the magnitude of such area is known. Also there are tracts in many States for which no village paper exists.

**6.5.2.3 Total/Gross Cropped Area:** This represents the total area sown once and/or more than once in a particular year, i.e. the area is counted as many times as there are sowings in a year. This total area is known as gross cropped area.

**6.5.2.4 Area Sown more than once:** This represents the areas on which crops are cultivated more than once during the agricultural year. This is obtained by deducting Net Area Sown from Total Cropped Area.

**6.5.2.5 Irrigated Area:** The area is assumed to be irrigated for cultivation through such sources as canals (Govt. & Private), tanks, tube-wells, other wells and other sources. It is divided into two categories:

- (i) **Net Irrigated Area:** It is the area irrigated through any source once in a year for a particular crop.
- (ii) **Total Net Un-irrigated Area:** It is the area arrived at by deducting the net irrigated area from net sown area.
- (iii) **Total/Gross Irrigated Area:** It is the total area under crops, irrigated once and/or more than once in a year. It is counted as many times as the number of times the areas are cropped and irrigated in a year.
- (iv) **Total/Gross Un-Irrigated Area:** It is the area arrived at by deducting the gross irrigated area from the gross sown area.
- (v) **Cropping Intensity:** It is the ratio of Net Area Sown to the Total Cropped Area.

**6.5.2.6 Total Cultivable Area:** This consists of net area sown, current fallows, fallow lands other than current fallows, culturable waste and land under miscellaneous tree crops.

**6.5.2.7 Total Un-Cultivable Area:** It is the area arrived at by deducting the total cultivable area from the total reported area.

**6.5.2.8 Total Cultivated Area:** This consists of net area sown and current fallows.

**6.5.2.9 Total Un-Cultivated Area:** It is the area arrived at by deducting the total cultivated area from the total reported area. Agricultural Land/Total Culturable Land: Same as cultivable area.



# **Appendix A**

## **Tables on Hydrology and Land Use Statistics in River Basins**



**Table 1 : Storage capacity by river basin**  
(Projects Having Live Storage Capacity of 10 MCM & above)

Unit: MCM

Sl. No.	Basin	Average Annual Flow	Live Storage Capacities upto July, 2007				Percentage of Likely Average Annual Flow ((Col.6+Col.7)/Col.3)*100
			Completed Project	Project Under Construction	Total	Project Under Consideration	
1	2	3	4	5	6	7	8
1	INDUS	73305.00	16285.90	282.53	16568.43	2576.39	26.12
2	a) GANGA	525023.00	42060.20	18600.18	60660.38	30083.92	17.28
	b) BRAHMAPUTRA & BARAK	585597.00	2326.92	9353.64	11680.56	41262.88	9.04
3	GODAVARI	110540.00	25124.60	6205.79	31330.39	5841.16	33.63
4	KRISHNA	78124.00	41803.98	7743.54	49547.52	1127.84	64.87
5	CAUVERY	21358.00	8597.20	269.82	8867.02	261.99	42.74
6	PENNAR	6316.00	2649.40	2170.71	4820.11		76.32
7	EFR FROM MAHANADI TO GODAVARI AND KRISHNA TO PENNAR	22520.00	1601.44	1424.97	3026.41	945.29	17.64
8	EFR B/W PENNAR AND KANYAKUMARI	16458.00	1838.41	68.49	1906.90	-	-
9	MAHANADI	66879.00	12334.80	1873.00	14207.80	10094.20	36.34
10	BRAHMANI & BATTARNI	28477.00	4648.09	875.60	5523.69	8721.19	50.02
11	SUBERNAREKHA	12368.00	672.02	1650.19	2322.21	1380.50	29.94
12	SABARMATI	3809.00	1306.77	60.77	1367.54	99.33	38.51
13	MAHI	11020.00	4722.60	261.43	4984.03	11.81	45.33
14	WFR OF KUTCH, SAURASHTRA INCLUDING LUNI	15098.00	4726.92	797.23	5524.15	2849.06	55.46
15	NARMADA	45639.00	16979.50	6625.10	23604.60	465.73	52.74
16	TAPI	14879.00	9408.37	847.42	10255.79	286.92	70.86
17	WFR FROM TAPI TO TADRI	87411.00	11268.03	3464.38	14732.41	81.69	16.95
18	WFR FROM TADRI TO KANYAKUMARI	113532.00	10236.16	1317.54	11553.70	1453.31	11.46
19	AREA OF INLAND DRAINAGE OF RAJASTHAN	-	-	-	0.00	-	-
20	MINOR RIVER BASINS DRAINING INTO MYANMAR AND BENGALADESH	31000.00	312.00		312.00	1.47	1.01
21	MEDIUM PROJECTS EACH HAVING A CAPACITY OF LESS THAN 10 MCM FOR WHICH BASIN WISE BREAKUP IS NOT AVAILABLE.	-	6241.00	-	-	-	-
<b>GRAND TOTAL IN MCM</b>		<b>1869353.00</b>	<b>225144.31</b>	<b>63892.33</b>	<b>289036.64</b>	<b>107544.68</b>	<b>21.21</b>
<b>GRAND TOTAL IN BCM</b>		<b>1869.35</b>	<b>225.14</b>	<b>63.89</b>	<b>289.04</b>	<b>107.54</b>	<b>21.21</b>
<b>As per latest assessment up to August, 2012 in BCM</b>		*	<b>253.388</b>	<b>50.959</b>	<b>304.347</b>	<b>109.673</b>	-

Source : WM Directorate, Central Water Commission.

NOTE: Under column No. 4 only completed projects in the River Basins (Sl. No. 1 to 20) having Live Storage more than 10 MCM are included.

As per latest assessment up to August,2012 in BCM\* Basin-wise bifercated figures not available as per WM Directorate, CWC.

BCM: BILLION CUBIC METRE  
MCM: MILLION CUBIC METRE

EFR: East Flowing Rivers  
WFR: West Flowing Rivers

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
1	<b>Mahanadi</b> Mahanadi Rises from Pharsiya village near Nagri Town in Raipur Distt. of Chhattisgarh at an elevation of 442 m. Length 851 Km.	Madhya Pradesh Chhattishgarh Orissa Jharkhand Maharashtra	130 74970 65600 650 250	Mahanadi Paii Seonath Jonk Hasdeo Mand Ib Ong Tel	48230 3503 30761 3673 9803 5237 12447 5128 22818	19-20 to 23-25	80-30 to 86-50	G=20 GD=3 GDQ=1 GDSQ=16 RF=6	13 to 48.8	1400	Monthly range 360 in Summer
		<b>Total</b>	<b>141600</b>	<b>Total</b>	<b>141600</b>						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	<b>Mahanadi</b>	Iron Ores, Coal, Lime stone, Quartzite, Copper Ores, Silver, Lead, Mica, Bauxite, Galena & Graphite	Iron Steel Copper Cement Paper and Aluminium	39296 (2010-2011) Tikarapara (124450)	Black Red Yellow Brownish red to Yellowish red Dark Gray Coastal alluvial	Hirakud Tandula Hasdeo Bango Dam Mand Diversion Project Ib Diversion Scheme Sunder Dam Barupa Barrage Mahanadi Main Canal Kharang Tank Manairi Tank, Tairi Kodar Mahandi Delta Ong Diversion Salaki	8141.00 312.07 7901.21 - - 4700.00 - - - - - 160.23	5892.00 302.09 - - - 4440.00 - - - - - 148.91	14195.00 310.00 2532.71 111.62 199.00 65.69 2300.84 - - - -

Source : Water Year Book (June 2010 - May 2011) Mahanadi Basin.

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	<b>Mahanadi</b> Mahanadi Rises from Pharsiya village near Nagri Town in Raipur Distt. of Chhattisgarh at an elevation of 442 m. Length 851 Km.	Madhya Pradesh		Mahanadi Paiari	48230 3503	19-20	80-30	G =20	13 to 48.8	1400	Monthly
		Chhattishgarh	130 74970	Seonath Jonk	30761 3673	23-35	86-50	GD = 3 GDQ =1			Range 40 in Winter to 360 in Summer.
		Orissa	65600	Hasdeo	9803			GDSQ=16			
		Jharkhand	650	Mand	5237			RF = 6			
		Maharashtra	250	Ib	12447						
				Ong	5128						
				Tel	22818						
		Total	141600	Total	141600						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2	<b>Subernarekha, Burhabalang and Baitarni</b>										
2.1	<b>Subernarekha</b> Rises from Nagri village in Ranchi Distt. of Jharkhand at an elevation of 600 m. Length 395 Km.	Jharkhand Orissa West Bangal	13590 3201 2160	Subernarekha Kanchi Karkari Kharkai Raru Garra Dulang Total	7383 1096 1341 6611 680 640 1200 18951	21-33 23-32	85-09 87.27	G=8 GD=2 GDQ=1 GDSQ=6 RF=1	9 to 32	1800	-
2.2	<b>Burhabalang</b> Rises near Bishaldanga, Mayur Bhanj Distt. of Orissa at an elevation of 800 m. Length 125 Km.	Orissa	4800			21-22 22-20	86-20 87.05		08 to 49	1800	-
		Total	4800								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2	<b>Subernarekha, Burhablang and Baitarni</b>								
2.1	Subernarekha (water withdrawals during 1997-99)	Coal Iron Ore Bauxite Copper Chromium Gold Vanadium Lime Stone Dolomite Asbestos Chinaclay Talc and Building Stone	Tobacco Products, Cement, Asbestos, Sheets, Ceramics, Glass, Coaches & Locomotive , Automobiles, Agricultural Equipment, Wires & Cables, Iron & Steel Machinery, Metal Tubes & conduits, Copper & Brass, Chemical Acids & Caustics, Fertilizer, Soaps	1856 (2010-2011) Gatshila (14176)	Gravelly Sandy Loams Alluvium & Black Clays Laterite Red etc.	Kanchi Irrigation Scheme	-	-	-
2.2	<b>Burhabalang</b> (water withdrawals during 1997-99)	Iron ore, China Clay, Quartz, Soap stone & Lime stone found in limited areas.	NIL	3656 (2006 to 2007) Govindpur (4495)	Red & Yellow Soil Laterite Soil Alluvial Soil	-	-	-	-

Source : Water Year Book (June 2010 - May 2011) Subernarekha, Burhablang & Baitarni.

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temprature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2	<b>Subernarekha, Burhabalang and Baitarni</b>										
2.1	<b>Subernarekha</b> Rises from Nagri village in Ranchi Distt. of Jharkhand at an elevation of 600 m. Length 395 Km	Jharkhand Orissa West Bangal	13590 3201 2160	Subernarekha Kanchi Karkari Kharkai Raru Garru Dulang Total	7383 1096 1341 6611 680 640 1200 18951	21-33 to 23-32	85-09 to 87-27	G=8 GD=2 GDQ=1 GDSQ=6 RF=1	9 to 32.4	1800	-
2.2	<b>Burhabalang</b> Rises near Bishaldanga, Mayur Bhanj Distt. of Orissa at an elevation of 800 m. Length 125 m.	Orissa	4800	Total	4800	21-22 to 22-20	86-20 to 87-05		08 to 49	1800	-
		Total	4800								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2	<b>Subernarekha, Burhabalang and Baitarni</b>			10278	Gravelly Sandy Loams	Kanchi Irrigation Scheme	-	-	-
2.1	<b>Subernarekha-</b>  (water withdrawals during 1997-99)	Coal, Iron Ores, Bauxite, Copper Chromium Gold, Vanadium Lime stone, Dolomite Asbestos China Clay, Talc and Building Stone  Iron ore, China Clay, Quartz, Soap stone & Lime stone found in limited areas.	Tobacco Products, Cement, Asbestos  Sheets, Ceramics, Glass, Coaches &  Locomotive , Automobiles, Agricultural Equipment, Wires & Cables, Iron & Steel Machinery, Metal Tubes & conduits, Copper & Brass, Chemical Acids & Caustics, Fertilizer, Soaps	(2011-2012)  Ghatshila  (13876)	Alluvium & Black Clays  Laterite Red etc.				
2.2	<b>Burhabalang</b> (water withdrawals during 1997-99)		NIL	3656  (2011-2012) Govindpur (4364)	Red & Yellow Soil Laterite Soil Alluvial Soil	-	-	-	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012)Subarnarekha, Burhabalang & Baitarni Basin (Data by CD).

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2.3	<b>Baitarni</b> Rises in the hill ranges of Keonjhar Distt. of Orissa near Manka-rancho village at an elevation of 900 m. Length 355 Km.	Jharkhand Orissa	736 10246	Salindi Kusai Orarai Kangira Deo Kanjhari Sita Kusal Others	1793 870 821 458 723 498 505 531 4112	20-35 to 22-15	85-10 to 87-03		12 to 38	1450	-
		Total	10982	Total	10982						
3	<b>Brahmani (South Koel)</b> Rises from Nagri village in Ranchi Distt. of Jharkhand at an elevation of 600 m. Length 799 Km.	Jharkhand Orissa Chhatisgarh	15769 22364 900	Brahmani Karo Sankh Tikra	26831 2741 6933 2528	20-28 to 23-35	83-52 to 87-03	G=1 GD=1 GDQ=4 GDSQ=5	10 to 43	1460	Average Monthly Evaporation varies from 18 to 135
		Total	39033	Total	39033						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.3	<b>Baitarni</b>	Iron Ore, Copper, Chromite, Asbestos, Manganese, Atomic Minerals, China Clay & Soap Stone	Ferro - Manganese Plant Sponge Iron Plant	1307 (2010-2011) Anandpur (8570)	Red & Yellow Laterite  Alluvial	Akhuapada Kanupur Irrigation System Salandi Baitarni System Anandpur Barrage	-  242.65	-  184.15	451.46 581.09
3	<b>Brahmani</b>	Iron Ore, Copper, Chromite, Coal, Manganese, Lime stone, Dolomite, Lead, Fire-Clay, Bauxite & China-Clay	Steel Plants Cement Aluminium Explosive Chemical Machine Tools Fertilizer Plant	5405 (2010-2011) Jenapur (33955)	Red & Yellow Mixed Red & Black Red Sandy Red Loamy & Coastal Alluvium		-	-	-

Source : Water Year Book (June 2010 - May 2011) Baitarni and Brahmani.

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
2.3	<b>Baitarani</b> Rises in the hill ranges of Keonjhar Distt. of Orissa near Manka-rancho village at an elevation of 900 m. Length 355 Km	Jharkhand Orissa	736 10246	Salindi Kusai Orarai Kangira Deo Kanjhari Sita Kusal Others	1793 870 821 458 723 498 505 531 4112	20-35 to 22-15	85-10 to 87-03		12 to 38	1450	-
		Total	10982	Total	10982						
3	<b>Brahmani (South Koel)</b> Rises from Nagri village in Ranchi Distt. of Jharkhand at an elevation of 600 m. Length 799 Km.	Jharkhand Orissa Chhatisgarh	1576 22364 900	Brahman Karo Sankh Tikra Total	26831 2741 6933 2528 39033	20-28 to 23-35 10982	83-52 to 87-03	G=1 GD=1 Q=3 GQ=1 GDSQ=5	10 to 43	1460	Average Monthly Evaporation varies from 18 to 135

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2.3	<b>Baitarani</b>	Iron Ore,	Ferro - Manganese Plant	5474	Red & Yellow	Akhuapada	-	-	451.46
		Copper,	Sponge Iron Plant	(2011-2012)	Laterite	Kanupur Irrigation Project			
		Chromite, Asbestos, Manganese, Atomic Minerals, China Clay & Soap Stone		Anandpur (6808)	Alluvial	Salandi Baitarni System Anandpur Barrage	242.65	184.15	581.09
3	<b>Brahmani</b>	Lime stone,	Steel Plants Cement Aluminium Explosive Chemical	14810	Red & Yellow Mixed				
		Dolomite, Lead, Fire-Clay, Bauxite & China-Clay	Machine Tools Fertilizer Plant	(2011-2012)	Red & Black Red				
				Jenapur (21915)	Sandy Red Loamy & Coastal Alluvium				

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012)Baitarniand Brahmani Basin.(Data by CD).

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
4	<b>Rushikulya, Vamsadhara, Sarada &amp; Nagavali</b>										
4.1	<b>Rushikulya</b> Rises from Matarbarhi village of Kandhamal Distt. of Orissa at an elevation of 1000 m. Length 162 Km.	Orissa	7700	Rushikulya Baghua Barhanadi Pathama Ghodapada Total	2798 736 2353 663 1150 7700	19-07 to 20-19	84-01 to 85-06	G=7 GD=2 GDSQ=3	12 to 44	1360	-
4.2	<b>Vamsadhara</b> Rises from Near Lanjigah village in Kalahandi Distt. of Orissa Length 254 Km.	Orissa Andhra Pd.	8015 2815	Vamsadhara Harbhangi (Ganguda) Sanna Nadhi Mahendranaya Chauldua Phalphalia Total	5458 1689 1276 1115 768 524 10830	18-15 to 19-55	83-20 to 84-20		12 to 43	1000 to 3000	-
4.3	<b>Sarda</b> Elevation of Origin is 1000 m. Length 122 Kms.	Andhra Pradesh	2665			17-25 to 18-17	82-32 to 83-06		18 to 42.5	816	-
4.4	<b>Nagavali</b> Rises from Near Lakhbahal village in Kalahandi Distt. of Orissa at an elevation 1300 m. Length 256 Km.	Orissa Andhra Pd.	4462 5048	Nagavali Janjhavati Suvarnamukhi Vegavathi Vottigedda Total	5704 931 1275 994 606 9510	18-10 to 19-44	82-53 to 84-05		16 to 40	622	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
4	<b>Rushikulya, Vamsadhara, Sarda &amp; Nagavali.</b>								
4.1	<b>Rushikulya</b> (water withdrawals during 1997-99)	Clay, Lime Stone, Manganese, Sand Talc, Black Sand & Grinding Material	Chemical Sugar Spining Mills	2811 (2010-2011) Purshottampur (7112)	Red & Yellow Laterite  Alluvial Saline	Rushikulya System	-	-	-
4.2	<b>Vamsadhara</b> (water withdrawals during 1997-99)	Manganese, Grayphite, Lime Stone, Bauxite, Mica & Quartz	No large scale Industries.	3138 (2010-2011) Kashi Nagar (7820)	Red & Black Red Sandy Balck Laterite Yellow		-	-	-
4.3	<b>Sarada</b> (water withdrawals during 1997-99)	Manganese Grayphite Aluminium Bauxite & Mica	Steel Plant	1750 (2010-2011) Anakapalli (2090)	Red & Coastal Sands  Laterite Alluvial Forest		-	-	-
4.4	<b>Nagavali</b> (water withdrawals during 1997-99)	Manganese Grayphite Lime Stone Bauxite & Mica	There is no large scale Industries.	5907 (2010-2011) Srikakulam (9500)	Coastel Sand Red Mixed Laterite Forest	Thotapally Narayan Puram Jaiyavathi	- - -	- - -	189.73 79.97 113.27

Source : Water Year Book (June 2010 - May 2011) Rushikulya, Vamsadhara, Sarda & Nagavali.

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b° )	Longitude ( x°-y° )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
4	<b>Rushikulya, Vamsadhara, Sarada &amp; Nagavali</b>										
4.1	<b>Rushikulya</b>  Rises from Matarbarhi village of Kandhamal Distt. of Orissa at an elevation of 1000 m. Length 162 Km.	Orissa	7700	Rushikulya Baghua Barhanadi Pathama Ghodapada <b>Total</b>	2798 736 2353 663 1150 <b>7700</b>	19-07 to 20-19	84-01 to 85-06	G=7 GD=2 GDSQ=3	12 to 44	1360	-
4.2	<b>Vamsadhara</b> Rises from Near Lanjigah village in Kalahandi	Orissa Andhra Pradesh	8015 2815	Vamsadhara Harbhangi (Ganguda)Sanna Nadhi Mahendhrathanaya Chauldua Phalnhalia <b>Total</b>	5458 1689 1276 1115 768 524 10830	18-15 to 19-55	83-20 to 84-20		12 to 43	1400	-
4.3	Distt. of Orissa Length 254 Km.	Orissa Andhra Pradesh <b>Total</b>	2665  2665			17-25 to 18-17	82-32 to 83-06		18 to 42.5	1000	-
4.4	<b>Sarda</b> Elevation of Origin is 1000 m. Length 122 Kms. <b>Nagavali</b> Rises from Near Lakhbahal village inKalahandi Distt. Of Orissa at an elevation 1300 m. Length 256 Km.	Orissa Andhra Pradesh <b>Total</b>	4462 5048 9510	Nagavali Janjhavati Suvarnamukhi Vegavathi others	5704 931 1275 994 606 9510	18-10 to 19-44	82-53 to 84-05		16 to 40	1000	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
4	<b>Rushikulya, Vamsadhara, Sarada &amp; Nagavali</b>								
4.1	<b>Rushikulya</b> (water withdrawals during 1997-99)	Clay, Lime Stone, Manganese, Sand Talc, Black Sand & Grinding Material	Chemical Sugar  Spining Mills	1022 (2011-2012)  Purushottampur (7112)	Red & Yellow Laterite  Alluvial Salimne	Rushikulya System	-	-	-
4.2	<b>Vamsadhara</b> (water withdrawals during 1997-99)	Manganese, Grayphite, Lime Stone, Bauxite, Mica & Quartz	No large scale Industries.	1955	Red & Black		-	-	-
4.3	<b>Sarda</b> (water withdrawals during 1997-99)	Manganese Grayphite Aluminium Bauxite & Mica, Quartz, Fire Clay	Steel Plant	(2011-2012) Kashi Nagar (7820)  873	Red Sandy Black Laterite Yellow				
4.4	<b>Nagavali</b> (water withdrawals during 1997-99)	Manganese Grayphite Lime Stone Bauxite & Mica, Quartz	There is no large scale Industries.	(2011-2012) Anakapalli (2090) 1724 (2011-2012)  Srikakulam (9500)	Red & Coastal Sands Laterite Alluvial Forest  Coastal Sand Red Mixed Laterite Forest	Thotapally Narayan Puram Jaiyavathi	- - -	- - -	189.73 79.97 113.27

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012)Rushikulya, Vamsadhara, Sarada & Nagavali Basin.(Data by CD).

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5.	<b>Godavari</b> Godavari Rises in the western Ghat near Thriambak hills in the Nasik distt. of Maharashtra at an elevation of 1067 m. Length 1465 Km.	Andhra Pradesh Karnataka Madhya Pd. Maharashtra Orissa Chhatisgarh	73198 4380 31280 152027 17830 34097	Godavari Pravara Purna Manjira Maner Pranhita Indravathi Sabari Pen Ganga Wardha	33502 6537 15579 30844 13106 61093 41665 20427 23898 24087	16-16 to 22-36	73-26 to 83-07	GD=12 GDQ=19 GDSQ=16	15 to 40	600 to 3000	Mean daily evaporation varies from about 5 mm near coastal region to 16.6 mm in uper region.
		Total	312812		312812						

(Contd.)





**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5.	<b>Godavari</b> Godavari Rises in the western Ghat near Thriambak hills in the Nasik distt. of Maharashtra at an elevation of 1067 m. Length 1465 Km.	Andhra Pradesh Karnataka Madhya Pd. Maharashtra Orissa Chhatisgarh	73201 4405 31160 152199 17752 34095	Godavari (Upper) Godavari (Middle) Godavari (Lower) Pravara Purna Manjira Maner Pranhita Indravathi Sabari Pen Ganga Wardha	33502 17205 24869 6537 15579 30844 13106 61093 41665 20427 23898 24087	16-16 to 22-36	73-26 to 83-07	GD=14 GDQ=18 GDSQ=16	15 to39	1000 to 3000	Mean daily evaporation varies from about 5 mm near coastal region to 16.6 mm in uper region.
		Total	312812		312812						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b ' )	Longitude ( x°-y ' )		Temprature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
6.	<b>Krishna</b> Rises from near Mahabaleshwar about 64 Km. from Arabian Sea at an elevation of 1337 m. Length 1401 Km.	Andhra Prd Maharashtra Karnataka	76252 69425 113271	Ghatprabha Malaprabha Bhima Tungabhadra Musi Palleru Muneru koyna Panchganga Dudhganga Dindi Peddavagu Halia Others	8829 11549 70614 71417 11212 3263 10409 4890 2575 2350 3490 2343 3780 52227	13-7 to 19-25	73-21 to 81-09	GDQ =24 GDSQ =12	15 to 39	784	- - - - - - - - - - - - - - -
		Total	258948	Total	258948						-

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**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	<b>Krishna</b> Rises from near Mahabaleshwar about 64 Km. from Arabian Sea at an elevation of 1337 m. Length 1401 Km.	Maharashtra Karnataka Andhra Pradesh Total	69425 11271 76252 258948	1) Koyna 2) Varna 3) Panchganga 4) Dudhganga 5) Ghataprabha 6) Don 7) Malaprabha 8) Bhima 9) Tungabhadra 10) Swarnamukhi 11) Dindi 12) Peddavagu 13) Halia 14) Musi 15) Paleru 16) Munneru 17) Main Krishna	4890 1948 2575 2350 8829 2486 11549 70614 71417 2585 3490 2343 3780 11212 3263 10409 258948	13° 07' N to 19° 25' N	73° 21' E to 81° 09' E	GDQ=24 GDSQ=12	- - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -

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**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	<b>Krishna</b> Mahabaleshwar Western Ghats Altitude: 1337 M Lenth: 1401 Km.	Gold Bauxite Limestone Iron ore Manganese Quartz Copper Redoxide Soapstone	Textiles Sugar Chemical Cement Automobile Engineering Nuclear	Site: Vijayawada Av. Annual flow 22043 Catchment area 251360 sq. km.	- - - - - - - - - - - - - -	1) Radhanagari 2) Ghod 3) Khadakwasla 4) Vir Dam 5) Koyna 6) Bhadra 7) Tungabhadra 8) Almatti 9) Narayanpur 10) P.D. Jurala 11) Musi 12) Srisailam 13) Nagarjuna Sagar 14) Prakasam Barrage	236.8 216.3 85.9 278.5 2797.5 2023 3764 1196 1066 338.1 136.9 8722 11560 87	219.9 170.7 62.6 265.8 2677.7 1635 3700 843 863 192.7 130.3 7164 5733 65	- - - - - - - - - - - - - -

Source : Krishna Basin, Daily Stage-Discharge Data (Vol. I) (June 2011 - May 2012).

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
7.	<b>Cauvery</b> Originate at Talakavasi in Georg Distt. of Karnataka at an elevation of 1341 m. Length 800 Kms.	Karnataka Tamil Nadu Kerala Pondicherry  Total	34273 43856 2866 160  81155			10-05 to 13-30	75-30 to 79-45	GDQ=8 GDQ&RF=11 GDSQ&RF=15	20 TO 30	500 to 3800	Annual 2500

(Contd.)



**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
7.	<b>Cauvery</b> (water withdrawals during 1996-99)	Stone Mining	Paper Mills Sugar Mills Chemical Factory Cotton Mills	5755 (2010-2011) Musiri (66243)	Black Cotton Red Laterite Alluvial Forest Mixed	Krishnaraja Sagar Hemavathi Mattur Bhawani Sagar Reservoir Kabini Kattalai Cauvery Anicut Channel Cauvery Delta System Kalingrajan Anicut System Kodiveri Anicut System Lower Coleroon Anicut System Anicut System	1400.35 1050.62 2708.79 928.80 552.74	1275.69 1012.60 2646.77 907.80 453.06	- - - - -

Source : Water Year Book (June 2010 - May 2011)Cauvery.

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
7.	<b>Cauvery</b> Originate at Talakavasi in Georg Distt. of Karnataka at an elevation of 1341 m. Length 800 Kms.	Karnataka Tamil Nadu Kerala Pondicherry	34273 43856 2866 160	Harangi Hemavati Lakshmana Tirtha Kabani Shimsha Arkavathi Bhawani Amravathi others	717 5410 1690 7040 8469 4150 6154 8380 39145	10-05 to 13-30	75-30 to 79-45	GDQ=9 GDQ&RF=10 GDSQ&RF=15	20 TO 30	500 to 3800	Annual 1500 to 2500
		Total	81155	Total	81155						

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics				
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
7.	<b>Cauvery</b> (water withdrawals during 1996-99)	Stone Mining	Paper Mills Sugar Mills Chemical Factory Cotton Mills	8327 (2011-2012) Musiri (66243)	Black Cotton Red Laterite Alluvial Forest Mixed	Krishnaraja Sagar Hemavathi Mattur Bhawani Sagar Reservoir Musi Project Naga- Arjun-Sagar Sri Sailam Prakashan Barrage Kurnool Cuddaph Canal Krishna Barrage Neera Left Bank Canal Vijay nagar Channelss Vani Vilas Sagar Tungabhadra High level Tungabhadra Right Bank Lo Tulsi Neera Right Bank Canal	1400.35 1050.62 2708.79 928.80 - 11559 8716 - - - - - - - - - -	1275.69 1012.60 2646.77 907.80 - 6767 - - - - - - - - - -	- - - - - - - - - - - - - - - -

Source : Water Year Book (June 2011 - May 2012)Cauvery.

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.	<b>East Flowing Rivers from Mahandi to Kanyakumari</b>										
8.1	<b>Gundlakama</b> Rises near Iskagudem Village in Kurnool Distt. of Andhra Pd. at an elevation of 600 m. Length 220 Km.	Andhra Pd.	8494	Kandleru		15-38	78-47	GDQ=2 GDQ&RF=16 GDSQ=1 GDSQ&RF=7	-	-	-
	Total		8494								
8.2	<b>Paleru</b> Rises from near Gogulapalle Village in Nellore Distt. of Andhra Pradesh at an elevation of 900 m. Length 348 Km.	Andhra Pd.	2483			15-17	79-13		-	-	-
	Total		2483								
8.3	<b>Pennar</b> Rises from Chennakesava Hills of Nandidurg range in Karnataka Length 597 Km.	Karnataka Andhra Pd.	6937 48276	Jayamangali Chitravathi Kunderu Papagini Sagileru Cheyyeru Others Total	1282 5908 8057 7423 3077 7325 22141 55213	13-16 to 15-52	77-04 to 80-10		15.2 to 40.9	508 to 988	-
	Total		55213	Total	55213						

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.	<b>East Flowing Rivers from Mahandi to Kanyakumari</b>								
8.1	<b>Gundlakamma</b>			1470 (2010-2011) Marella N.A.			-	-	-
8.2	<b>Paleru</b>			N.A.			-	-	-
8.3	<b>Pennar</b>	Guvalacheruvu Quartzite, Vempallydolomite, Lime Stone		1521  (2010-2011) Nellore 50800	Red, Black, Sandy	Somashila	2093.00	-	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b° )	Longitude ( x°-y° )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.4	<b>Swarnamukhi</b> Rises from Pakada village in Chittur Distt. of Andhra Pd. at an elevation of 300 m. Length 130 Km.	Andhra Pd.  Total	3225  3225			13-28	79-09		22.5 to 32	762 to 1270	-
8.5	<b>Kalingi</b> Rises near Kalahasti in Andhra Pradesh Length 76 Km.	Andhra Pd.  Total	5927  5927	Kalleru	-	-	-		-	-	-
8.6	<b>Palar</b> Rises beyond Talag- rore village in Kolar Distt. of Karnataka at an elevation of 900 m Length 348 Km.	Karnataka Andhra Pd. Tamil Nadu  Total	3044 4681 10146  17871	Poini Cheyyar Others	2400 1953 13518  17871	12-39 to 12-54	78-32 to 79-56		22.5 to 32.5	762 to 1270	-
8.7	<b>Ponniar (Dakshinna Pinakini)</b> Rises near Hongashenhalli Village in Kolar Distt. of Karnataka at an elevation of 900m. Length 396 Km.	Karnataka Andhra Pradesh Tamil Nadu  Total	3530 210 12279  16019			11-45 to 13-30	77-33 to 79-47		25 to 30	762 to 1270	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.4	<b>Swarnamukhi</b>			92 (2010-2011) Naidupeta (2650)			-	-	-
8.5	<b>Kalingi</b>			92 (2010-2011) Sullurpet (5927)			-	-	-
8.6	<b>Palar</b>			175 (2010-2011) Chengalpattu (16230)			-	-	-
8.7	<b>Ponnar</b>	Lime Stone, Sand Stone, Quartzite		394 (2010-2011) Villupuram (12900)		Krishnagiri  Sathanur Reservoir	66.10  228.91	-	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-2011**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.8	<b>Vellar</b> Rises near village Tumba in Chottori Hills of Eastern Ghats in Salem Distt. of Tamil Nadu at an elevation of 900 m. Length 210 Kms	Tamil Nadu	8922				-		-	-	-
		Total	8922								
8.9	<b>Vaigai</b> Rises in Western slopes of Varusha- nadu Hills near Kottaimalai in Madurai Distt. of Tamil Nadu at an elevation of 1200 m. Length 258 Km.	Tamil Nadu	7741	Mangalar Suruliyar Varahanadi Others	375 1210 380 5776	9-17 to 09-32	77-23		25 to 35	635 to 1270	-
		Total	7741	Total	7741						

(Contd.)



**Table : 2 : Salient Features of Different River Basins**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.8	<b>Vellar</b>			1042 (2010-2011) Kudalaiyathur (7890)			-	-	-
8.9	<b>Vaigai</b>			66 (2010-2011) Parmakudi (6796)		Vaigai Reservoir	194.78	-	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
8.10	<b>Vaippar</b> Rises on the Eastern slopes of the Varushandu Hill ranges of Western ghat near Sivagiri in Thirunelveli Distt. in Tamil Nadu at an elevation of 900 m. Length 125 Km.	Tamil Nadu	5069	Arjunanadhi Vijayanadhi		-	-		-	-	-
		Total	5069								
8.11	<b>Tambraparani</b> Rises on Eastern slopes of Westernghat near Alwarkurichi village in Thirunelveli Distt. of Tamil Nadu at an elevation of 1400 m. Length 130 Km.	Tamil Nadu	5482	Chittar		8 - 46	77 - 15		-	-	-
		Total	5482								
8.12	<b>Varahanadi</b> originated from northern parts of Pakkammalai Hills at an elevation of 566 m past of Gingee Taluk. Length 78.5 Km.	Tamil Nadu	2564								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.10	<b>Vaipar</b>			0 (Dry Bed)			-	-	-
8.11	<b>Tambraparani</b>			17 (2010-2011) Irukkankudi (3721)			-	-	-
8.12	<b>Varahanadi</b>			346 (2010-2011) Murappandu (4380)	Granulite Magnetitequartzite Charnockite		-	-	-
				338 (2010-2011) Kumarapalayam (2208)					

Source : Water Year Book (June 2010 - May 2011) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

Note : N.A. : Not available.

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.	<b>East Flowing Rivers from Mahandi to Kanyakumari</b>										
8.1	<b>Gundlakama</b> Rises near Iskagudem Village in Kurnool Distt. of Andhra Pd. at an elevation of 600 m. Length 220 Km.	Andhra Pd.	8494	Kandleru	7681	15-38	78-47	GDQ=2 GDSQ=1 GDQ&RF=16 GDSQ&RF=7	-	-	-
	Total		8494								
8.2	<b>Paleru</b> Rises from near Gogulapalle Village in Nellore Distt. of Andhra Pradesh at an elevation of 325 m. Length 104 Km.	Andhra Pd.	2483			15-17	79-13		-	-	-
	Total		2483								
8.3	<b>Pennar</b> Rises from Chennakesava Hills of Nandidurg range in Karnataka Length 597 Km.	Karnataka Andhra Pd.	6937 48276	Jayamangali Chitravathi Kunderu Papagini Sagileru Cheyyeru Others	1282 5908 8057 7423 3077 7325 22141	13-16 to 15-52	77-04 to 80-10		15.2 to 40.9	508 to 988	-
	Total		55213	Total	55213						

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.	<b>East Flowing Rivers from Mahandi to Kanyakumari</b>								
8.1	<b>Gundlakamma</b>			465 (2011-2012) Marella 7681			-	-	-
8.2	<b>Paleru</b>			N.A. 155			-	-	-
8.3	<b>Pennar</b>	Guvalacheruvu Quartzite, Vempallydolomite, Lime Stone		317  (2011-2012) Nellore 50800	Red, Black, Sandy	Somashila	2093.00	-	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b° )	Longitude ( x°-y° )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
8.4	<b>Swarnamukhi</b> Rises from Pakada village in Chittur Distt. of Andhra Pd. at an elevation of 300 m. Length 130 Km.	Andhra Pd.	3225			13-28	79-09		22.5 to 32	762 to 1270	-
	Total		3225								
8.5	<b>Kalingi</b> Rises near Kalahasti in Andhra Pradesh Length 76 Km.	Andhra Pd.	5927	Kalleru	-	-	-		-	-	-
	Total		5927								
8.6	<b>Palar</b> Rises beyond Talag- rore village in Kolar Distt. of Karnataka at an elevation of 900 m Length 348 Km.	Karnataka Andhra Pd. Tamil Nadu	3044 4681 10146	Poini Cheyyar Others	2400 1953 13518	12-39 to 12-54	78-32 to 79-56		22.5 to 32.5	762 to 1270	-
	Total		17871		17871						
8.7	<b>Ponniar (Dakshinna Pinakini)</b> Rises near Hongashenhalli Village in Kolar Distt. of Karnataka at an elevation of 900m. Length 396 Km.	Karnataka Andhra Pradesh Tamil Nadu	3530 210 12279			11-45 to 13-30	77-33 to 79-47		25 to 30	762 to 1270	-
	Total		16019								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.4	<b>Swarnamukhi</b>			117 (2011-2012) Naidupeta (2650)			-	-	-
8.5	<b>Kalingi</b>			141 (2011-2012) Sullurpet (5927)			-	-	-
8.6	<b>Palar</b>			96 (2011-2012) Chengalpattu (16230)			-	-	-
8.7	<b>Ponnar</b>	Lime Stone, Sand Stone, Quartzite		119 (2011-2012) Villupuram (12900)		Krishnagiri  Sathanur Reservoir	66.10  228.91	-	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.8	<b>Vellar</b> Rises near village Tumba in Chottori Hills of Eastern Ghats in Salem Distt. of Tamil Nadu at an elevation of 900 m. Length 210 Kms	Tamil Nadu	8922				-		-	-	-
		Total	8922								
8.9	<b>Vaigai</b> Rises in Western slopes of Varusha- nadu Hills near Kottaimalai in Madurai Distt. of Tamil Nadu at an elevation of 1200 m. Length 258 Km.	Tamil Nadu	7741	Mangalar Suruliyar Varahanadi Others	375 1210 380 5776	9-17 to 09-32	77-23		25 to 35	635 to 1270	-
		Total	7741	Total	7741						

(Contd.)



**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.8	<b>Vellar</b>			445 (2011-2012) Kudalaiyathur (7890)			-	-	-
8.9	<b>Vaigai</b>			26 (2011-2012) Parmakudi (6796)		Vaigai Reservoir	194.78	-	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8.10	<b>Vaippar</b> Rises on the Eastern slopes of the Varushandu Hill ranges of Western ghat near Sivagiri in Thirunelveli Distt. in Tamil Nadu at an elevation of 900 m. Length 125 Km.	Tamil Nadu	5069	Arjunanadhi Vijayanadhi		-	-		-	-	-
		Total	5069								
8.11	<b>Tambraparani</b> Rises on Eastern slopes of Westernghat near Alwarkurichi village in Thirunelveli Distt. of Tamil Nadu at an elevation of 1400 m. Length 130 Km.	Tamil Nadu	5482	Chittar		8 - 46	77 - 15		-	-	-
		Total	5482								
8.12	<b>Varahanadi</b> originated from northern parts of Pakkamalai Hills at an elevation of 566 m past of Gingee Taluk. Length 78.5 Km.	Tamil Nadu	2564			11 - 59	79 - 40				

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
8.10	<b>Vaipar</b>			6 (2011-2012) Irukkankudi (3721)			-	-	-
8.11	<b>Tambraparani</b>			359 (2011-2012) Murappandu (4380)			-	-	-
8.12	<b>Varahanadi</b>			142 (2011-2012) Kumarapalayam (2208)	Granulite Magnetitequartzite Charnockite				

Source : Water Year Book (June 2011 - May 2012) East Flowing Rivers Basin Vol.I, Stream Flow & Suspended Sediment Data.

Note : N.A. : Not available.

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b°)	Longitude ( x°-y°)		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.	<b>West Flowing Rivers from Kanyakumari to Tapi</b>										
9.1	<b>Ulhas</b> Rises from Sahyadri Hills in Raigad Distt. of Maharashtra at an elevation of 600 m. Length 122 Km.	Maharashtra	4637	Pej Bhafta Barvi Salpe Bhivapuri		18-44 to 19-42	72-45 to 73-48	GD=5 GDQ=6 GDQ&RF=8 GDSQ=9 GDSQ&RF=9	12.4 to 38.9	2943	-
	Total		4637								
9.2	<b>Kal</b> Rises from Sahyadri Hills in Raigad Distt. of Maharashtra at an elevation of 652 m. Length 40 Km.	Maharashtra	670			18-05 to 18-25	73.10 to 73.13		-	2795	-
	Total		670								
9.3	<b>Kajavi</b> Rises in the Vishal Ghat region of Sahayadri Hills. Length - N.A.	Maharashtra	315				-		-	-	-
	Total		315								
9.4	<b>Gad</b> Rises from Sahayadri Hills, ranges in Sindhudurg Distt. of Maharashtra at an elevation of 600 m. Length 66 Km.	Maharashtra	890	Kasal		16-0 to 16-20	73-30 to 74-00		-	2600	-
	Total		890								

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.	<b>West Flowing Rivers from Kanyakumari to Tapi</b>								
9.1	<b>Ulahas</b>			2271 (2010-2011) Badlapur (785)			-	-	-
9.2	<b>Kal</b>			982 (2010-2011) Mangaon (259)	Kal		-	-	-
9.3	<b>Kajavi</b>			1418 (2010-2011) Anjanari (315)	Sandy mixed with Gravel.		-	-	-
9.4	<b>Gad</b>			2100 (2010-2011) Belne Bridge (605)			-	-	-

Contd/...

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.5	<b>Mandovi</b> Rises in the Jamboti Ghat in Karnataka at an elevation of 600 m Length 62 Km.	Goa	1550	Sarang Mahainada Udel		15-15 to 15-40	73-15 to 73-45		9.3 to 42.6	3484	-
	Total		1550								
9.6	<b>Agnashini</b> Rises from Western Ghat of Karnataka at an elevation 676 m. Length 117 Km.	Karnataka	1350			-	-		20 to 32.7	2028 to 5465	-
	Total		1350								
9.7	<b>Haladi (Varahi)</b> Rises near Someswara in the reserved forest of Karnataka at an elevation of 870 m. Length 70 Km.	Karnataka	781			-	-		21.7 to 32.4	5516	-
	Total		781								
9.8	<b>Swarna (Yennehole)</b> Rises from Western Ghat of Dakshin Kannada Distt. Length 61 Km.	Karnataka		Kaudhole		-	-		21.7 to 32.4	4436	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.5	<b>Mandovi</b>			3308 (2010-2011) Ganjim (880)		Anjunem	-	-	-
9.6	<b>Agnashini</b>			2698 (2010-2011) Santeguli (1090)			-	-	-
9.7	<b>Haladi</b>			1958 (2010-2011) Haladi (583)			-	-	-
9.8	<b>Swarna</b>			1437 (2010-2011) Yennehole (327)		Proposed Dam Site	370.95	108.65	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.9	<b>Netravati</b> Rises between Kudermukh of Ballalaryan Durga in Dakshina Kannada Distt. of Karnataka at an elevation of 1000 m. Length 103 Km.	Karnataka	3657	Kumaradhara		-	75-20		16 to 42	2002 to 5277	-
		Total	3657								
9.10	<b>Payaswani</b> Originate from Pattighat reserved forest in Coorg Distt. of Karnataka at an elevation of 1350 m. Length 105 Km.	Karnataka	581			-	-		-	-	-
		Kerala	957								
		Total	1538								
9.11	<b>Valapatanam</b> Rises from South of Ammatti Village in the Distt. of Coorg of Karnatak at an elevation of 900 m. Length 101 Km.	Karnataka	546			12-13	75-52		22 to 32.9	2369 to 4268	-
		Kerala	1321								
		Total	1867								

(Contd.)



**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.9	<b>Netravathi</b>			11966 (2010-2011) Bantwal (3184)			-	-	-
9.10	<b>Payaswani</b>			2353 (2010-2011) Erinjipuzha (957)			-	-	-
9.11	<b>Valapatanam</b>			3247 (2010-2011) Perumannu (1070)		Kattampally	-	-	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.12	<b>Chaliyar (Beyepore)</b> Rises from Elambalari Hills in Kerala State at an elevation of 2067 m. Length 169 Km.	Kerala Tamil Nadu	2545 388	Cherupuzha Vadapurampuzha Iringipuzha Chaliyarpuzha		-	-		25.8 to 29.4	1289 to 5042	-
		Total	2933								
9.13	<b>Kadalundi(Karpuzha/Oruvanpurampuzha)</b> Rises from East of Karuvarkkundu Village in Calicut Distt. in Kerala at an elevation of 900 m. Length 130 Km.	Kerala	1112			11-18	76-15		25.8 to 29.4	1289 to 5042	-
		Total	1112								
9.14	<b>Bharathapuzha (Ponnani/Aliyar/Kannadipuzha)</b> Rises in the Eastern slopes of Anamalai Hills of Western Ghat in Tamil Nadu at an elevation of 2250 m. Length 209 Km.	Tamil Nadu Kerala	1786 4400	Palar Kalpathipuzha Gayathripuzha Pulanthode		10-26 to 11-13	75-53 to 77-13		22.2 to 37.4	2000 to 3000	-
		Total	6186								
9.15	<b>Chalakudi</b> Rises from Anamalai Hills of Western Ghat Length 130 Km.	Kerala Tamil Nadu	1404 300			-	-		25.9 to 28.7	1494 to 4588	-
		Total	1704								

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.12	<b>Chaliyar (Beypore)</b>			3870 (2010-2011) Kuniyil (1876)			-	-	-
9.13	<b>Kadalundi</b>			1282 (2010-2011) Karathodu (750)			-	-	-
9.14	<b>Bharathapuzha</b>			2594 (2010-2011) Kumbidi (5755)		Malampuzha Res. Tirumurthi Aliayar	-	226.96	-
9.15	<b>Chalakudi</b>			1614 (2010-2011) Arangaly (1342)		Chalakudi River Diversion Scheme Sholayar H.E.S. Peringilkuthu Left Bank Scheme	-	-	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.16	<b>Periyar</b> Rises at the forest Sivagiri Peak 80 Km. South of Devikulam at an elevation of 2438 m. Length 244 Km.	Kerala Tamil Nadu	5284 114	Edamala		-	-		25.9 to 28.7	Good Rainfall Max.8656	-
		Total	5398								
9.17	<b>Muvattupuzha</b> Rises from the East of Erattupetta village in Distt. Of Kottayam in Kerala State at an elevation of 1200 m Length 121 Km.	Kerala	1554	Thodupuzha Aar Kaliyar Kothmangalam Aar		9.43	76-53		25.9 to 28.7	2779 to 4526	-
		Total	1554								
9.18	<b>Meenachil River</b> in the Distt. Kottayam of Originate at East of Errattupata Kerala State at an evaluation 900 m. Length 78 Km.	Kerala	1272	Kadapuzha Aar Karipadthode Trikovil Aar Poonzan Aar		9-40	76-52		26.2 to 29.4	2420 to 4686	-
		Total	1272								
9.19	<b>Pamba</b> Rises in the Peermedu Plateau at an elevation 1670 m. Length 176 Km.	Kerala	2235	Kaki Aar		-	-		22.6 to 32.7	2276 to 4275	-
		Total	2235								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.16	<b>Periyar</b>			7509 (2010-2011) Neeleshwaram (4234)			-	-	-
9.17	<b>Morathupuzha</b>			5745 (2010-2011) Ramamangalam (1208)			-	-	-
9.18	<b>Meenachil</b>			2003 (2010-2011) Kidangoor (615)			-	-	-
9.19	<b>Pamba</b>			4578 (2010-2011) Malakkara (1713)			-	-	-

(Contd.)

Table No.1.2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.20	<b>Achankovil</b> Rises from South of the Devermalai in the Quillon Distt. of Kerala State at an elevation of 1500 m. Length 128 Km.	Kerala	1484			09-10	77-15		26.1 to 29.1	2520	-
		Total	1484								
9.21	<b>Kallada</b> Rises in Papanasam range South of Kulathupuzha in Quillon Distt. of Kerala State at an elevation of 900 m. Length 121 Km.	Kerala	1699			-	-		26.1 to 29.1	2225 to 4038	-
		Total	1699								
9.22	<b>Vamanapuram</b> Originates in the Chemunji Motai at an elevation of 1860 m. Length 88 Km.	Kerala	687			-	-		26.2 to 28.8	1836 to 4651	-
		Total	687								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.20	<b>Achankovil</b>			1400 (2010-2011) Thumpamon (810)			-	-	-
9.21	<b>Kalada</b>			2473 (2010-2011) Pattazhy (1210)		Kalada Irrigation Project	-	-	-
9.22	<b>Vamanapuram</b>			1014 (2010-2011) Ayilam (540)			-	-	-

Source : Water Year Book (June 2010 - May 2011) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b°)	Longitude ( x°-y°)		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.	<b>West Flowing Rivers from Kanyakumari to Tapi</b>										
9.1	<b>Ulhas</b> Rises from Sahyadri Hills in Raigad Distt. of Maharashtra at an elevation of 600 m. Length 122 Km.	Maharashtra	4637	Pej Bhafta Barvi Salpe Bhivapuri		18-44 to 19-42	72-45 to 73-48	GD=5 GDQ=6 GDQ&RF=8 GDSQ=9 GDSQ&RF=9	12.4 to 38.9	2943	-
	Total		4637								
9.2	<b>Kal</b> Rises from Sahyadri Hills in Raigad Distt. of Maharashtra at an elevation of 652 m. Length 40 Km.	Maharashtra	670			18-05 to 18-25	73.10 to 73.13		-	2795	-
	Total		670								
9.3	<b>Kajavi</b> Rises in the Vishal Ghat region of Sahayadri Hills. Length - N.A.	Maharashtra	315				-		-	-	-
	Total		315								
9.4	<b>Gad</b> Rises from Sahayadri Hills, ranges in Sindhudurg Distt. of Maharashtra at an elevation of 600 m. Length 66 Km.	Maharashtra	890	Kasal		16-0 to 16-20	73-30 to 74-00		-	2600	-
	Total		890								

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.	<b>West Flowing Rivers from Kanyakumari to Tapi</b>								
9.1	<b>Ulahas</b>			2865 (2011-2012) Badlapur (785)			-	-	-
9.2	<b>Kal</b>			634 (2011-2012) Mangaon (259)	Kal		-	-	-
9.3	<b>Kajavi</b>			1500 (2011-2012) Anjanari (315)	Sandy mixed with Gravel.		-	-	-
9.4	<b>Gad</b>			2105 (2011-2012) Belne Bridge (605)			-	-	-

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Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.5	<b>Mandovi</b> Rises in the Jamboti Ghat in Karnataka at an elevation of 600 m Length 62 Km.	Goa	1550	Sarang Mahainada Udel		15-15 to 15-40	73-15 to 73-45		9.3 to 42.6	3484	-
	Total		1550								
9.6	<b>Agnashini</b> Rises from Western Ghat of Karnataka at an elevation 676 m. Length 117 Km.	Karnataka	1350			-	-		20 to 32.7	2028 to 5465	-
	Total		1350								
9.7	<b>Haladi (Varahi)</b> Rises near Someswara in the reserved forest of Karnataka at an elevation of 870 m. Length 70 Km.	Karnataka	781			-	-		21.7 to 32.4	5516	-
	Total		781								
9.8	<b>Swarna (Yennehole)</b> Rises from Western Ghat of Dakshin Kannada Distt. Length 61 Km.	Karnataka	165	Kaudhole		-	-		21.7 to 32.4	4436	-
	Total		165								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.5	<b>Mandovi</b>			5207 (2011-2012) Ganjim (880)		Anjunem	-	-	-
9.6	<b>Agnashini</b>			3364 (2011-2012) Santeguli (1090)			-	-	-
9.7	<b>Haladi</b>			2502 (2011-2012) Haladi (583)			-	-	-
9.8	<b>Swarna</b>			1719 (2011-2012) Yennehole (327)		Proposed Dam Site	370.95	108.65	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b´ )	Longitude ( x°-y´ )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
9.9	<b>Netravati</b> Rises between Kudermukh of Ballalaryan Durga in Dakshina Kannada Distt. of Karnataka at an elevation of 1000 m. Length 103 Km.	Karnataka	3657	Kumaradhara		-	75-20		16 to 42	2002 to 5277	-
		Total	3657								
9.10	<b>Payaswani</b> Originate from Pattighat reserved forest in Coorg Distt. of Karnataka at an elevation of 1350 m. Length 105 Km.	Karnataka Kerala	581 957			-	-		-	-	-
		Total	1538								
9.11	<b>Valapatanam</b> Rises from South of Ammatti Village in the Distt. of Coorg of Karnatak at an elevation of 900 m. Length 101 Km.	Karnataka Kerala	546 1321			12-13	75-52		22 to 32.9	2369 to 4268	-
		Total	1867								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.9	<b>Netravathi</b>			12152 (2011-2012) Bantwal (3184)			-	-	-
9.10	<b>Payaswani</b>			2782 (2011-2012) Erinjipuzha (957)			-	-	-
9.11	<b>Valapatanam</b>			4074 (2011-2012) Perumannu (1070)		Kattampally	-	-	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b° )	Longitude ( x°-y° )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.12	<b>Chaliyar (Beylore)</b> Rises from Elambalari Hills in Kerala State at an elevation of 2067 m. Length 169 Km.	Kerala Tamil Nadu	2545 388	Cherupuzha Vadapurampuzha Iringipuzha Chaliyarpuzha		-	-		25.8 to 29.4	1289 to 5042	-
		Total	2933								
9.13	<b>Kadalundi(Karpuzha/Oruvanpurampuzha)</b> Rises from East of Karuvarkundu Village in Calicut Distt. in Kerala at an elevation of 900 m. Length 130 Km.	Kerala	1112			11-18	76-15		25.8 to 29.4	1289 to 5042	-
		Total	1112								
9.14	<b>Bharathapuzha (Ponnani/Aliyar/Kannadipuzha)</b> Rises in the Eastern slopes of Anamalai Hills of Western Ghat in Tamil Nadu at an elevation of 2250 m. Length 209 Km.	Tamil Nadu Kerala	1786 4400	Palar Kalpathipuzha Gayathripuzha Pulanthode		10-26 to 11-13	75-53 to 77-13		22.2 to 37.4	2000 to 3000	-
		Total	6186								
9.15	<b>Chalakudi</b> Rises from Anamalai Hills of Western Ghat Length 130 Km.	Kerala Tamil Nadu	1404 300			-	-		25.9 to 28.7	1494 to 4588	-
		Total	1704								

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.12	<b>Chaliyar (Beypore)</b>			5105 (2011-2012) Kuniyil (1876)			-	-	-
9.13	<b>Kadalundi</b>			1437 (2011-2012) Karathodu (750)			-	-	-
9.14	<b>Bharathapuzha</b>			5741 (2011-2012) Kumbidi (5755)		Malampuzha Res. Tirumurthi Aliayar	228.40	226.96	-
9.15	<b>Chalakudi</b>			2037 (2011-2012) Arangaly (1342)		Chalakudi River Diversion Scheme Sholayar H.E.S. Peringilkuthu Left Bank Scheme	443.5	299.5	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.16	<b>Periyar</b> Rises at the forest Sivagiri Peak 80 Km. South of Devikulam at an elevation of 2438 m. Length 244 Km.	Kerala Tamil Nadu	5284 114	Edamala		-	-		25.9 to 28.7	Good Rainfall Max.8656	-
		Total	5398								
9.17	<b>Muvattupuzha</b> Rises from the East of Erattupetta village in Distt. Of Kottayam in Kerala State at an elevation of 1200 m Length 121 Km.	Kerala	1554	Thodupuzha Aar Kaliyar Kothmangalam Aar		9.43	76-53		25.9 to 28.7	2779 to 4526	-
		Total	1554								
9.18	<b>Meenachil River</b> in the Distt. Kottayam of Originate at East of Errattupata Kerala State at an evaluation 900 m. Length 78 Km.	Kerala	1272	Kadapuzha Aar Karipadthode Trikovil Aar Poonzan Aar		9-40	76-52		26.2 to 29.4	2420 to 4686	-
		Total	1272								
9.19	<b>Pamba</b> Rises in the Peermedu Plateau at an elevation 1670 m. Length 176 Km.	Kerala	2235	Kaki Aar		-	-		22.6 to 32.7	2276 to 4275	-
		Total	2235								

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.16	<b>Periyar</b>			7489 (2011-2012) Neeleshwaram (4234)		Periyarvalley Project Edamalayar Idukky Hydel Project	453.50 1089.8 1996.30	299.35 1017.8 1489.50	- 1824.00 2027.90
9.17	<b>Morathupuzha</b>			5627 (2011-2012) Ramamangalam (1208)			-	-	-
9.18	<b>Meenachil</b>			1715 (2011-2012) Kidangoor (615)			-	-	-
9.19	<b>Pamba</b>			3593 (2011-2012) Malakkara (1713)		Pamba Hydel Project	487.30	471.68	1046.80

(Contd.)

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Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b° )	Longitude ( x°-y° )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9.20	<b>Achankovil</b> Rises from South of the Devermalai in the Quillon Distt. of Kerala State at an elevation of 1500 m. Length 128 Km.	Kerala	1484			09-10	77-15		26.1 to 29.1	2520	-
		Total	1484								
9.21	<b>Kallada</b> Rises in Papanasam range South of Kulathupuzha in Quillon Distt. of Kerala State at an elevation of 900 m. Length 121 Km.	Kerala	1699			-	-		26.1 to 29.1	2225 to 4038	-
		Total	1699								
9.22	<b>Vamanapuram</b> Originates in the Chemunji Motai at an elevation of 1860 m. Length 88 Km.	Kerala	687			-	-		26.2 to 28.8	1836 to 4651	-
		Total	687								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2011-12**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
9.20	<b>Achankovil</b>			975 (2011-2012) Thumpamon (810)			-	-	-
9.21	<b>Kalada</b>			1425 (2011-2012) Pattazhy (1210)		Kalada Irrigation Project	-	-	-
9.22	<b>Vamanapuram</b>			506 2011-2012 Ayilam (540)			-	-	-

Source : Water Year Book (June 2011 - May 2012) West Flowing Rivers Basin Vol.- I, Stream Flow & Suspended Sediment Data.

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evapo-ration (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
10	<b>Tapi</b> Rises from Near Multai in Betul Distt. of Madhya Pradesh at an elevation of 752 m. Length 724 Km.	M.P. Maharashtra Gujarat	9804 51504 3837	Tapi(Main) Gomai Arunavati Buray Panjhra Bori Aner Girna Waghur Purna	22522 1148 935 1419 3257 2580 1702 10061 2592 18929	20.00 to 22.00	72.45 to 78.15	G=1 G&RF=11 RF=1 GDS&RF=1 GD&RF=1 GDSQ&RF=3	05 to 48	830	
		Total	65145	Total	65145						
11	<b>Narmada</b> Originates from Amarkantak of Shehdol Distt. of Madhya Pradesh at an elevation of 1057 m. Length 1312 Km.	Madhya Pradesh Maharashtra Gujarat	85859 1538 11399	Burhner Hiran Tawa Chhota Tawa Kundi Orsang Banjar Others	4228 4795 6338 5055 3973 3946 3282 67179	21-20 to 23-45	72-32 to 81-45	GDQ=7 GDSQ=11	7.5 to 41.9	674 to 1623	Lower Zone 12.0 to 28.0 Middle Zone 4.0 to 7.0 Upper Zone 6.0 to 10.0
		Total	98796	Total	98796						

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
10	<b>Tapi</b>	Coal	Paper Mills Sugar Mills Cotton Spinning Mills Dal Miils Oil Mills Wood Cutting Mills	7001 Sarankheda (2010-2011) (58400)	Shallow Black Medium Black Black Cotton Light Brown to Redish Brown Dark Yellow & Redish	Ukai Dam Kate Purna Nalganga Kakrapar weir Girna Hathnur Dam	8510.00 97.67 76.20 51.51 608.45 388.00	7092.00 86.35 69.32 36.51 523.55 255.00	Information power Irrigaton domestic Irrigaton & Water Supply Irrigation
11	<b>Narmada</b>	Bauxite, Clay, Coal, Dolomite , Graphite, Iron Ore Manganese Talc & Lime Stone	Therefew Large Scal & Medium Scale Industries. Industries are low as compared with other Basins.	8295 (2010-2011) Garudeshwar (87892)	Shallow Black, Medium Black, Medium Deep Black, Mixed Red & Black Sandy Laterite	Karjan Sardar Sarover Jobat Man Upper Beda Maheshwar Indira Sagar Sukta Kolar Tawa Barna Bargi Matiyari	630.00 9460.00 77.84 145.03 - - 12220.00 89.30 270.00 2310.00 539.00 3920.00 56.80	- 5760.00 70.04 127.87 - - 9750.00 78.00 265.00 2050.50 455.00 3180.00 51.12	- 488.23 52.82 114.73 - - 173.61 35.40 183.36 1337.73 263.45 383.95 26.47

Source : Water Year Book of Tapi & Narmada Basin for year 2010-2011.

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b )	Longitude ( x°-y )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
10	<b>Tapi</b> Rises from Near Multai in Betul Distt. of Madhya Pradesh at an elevation of 752 m. Length 724 Km.	M.P. Maharashtra Gujarat	9804 51504 3837	Tapi(Main) Gomai Arunavati Buray Panjhra Bori Aner Girna Waghur Purna	22522 1148 935 1419 3257 2580 1702 10061 2592 18929	20.00 to 22.00	72.45 to 78.15	G=1 RF=7 G&RF=11 GD&RF=1 GDS&RF=1 GDSQ&RF=3	05 to 48	736	.(Sarangkheda) 8.2
		Total	65145	Total	65145						
11	<b>Narmada</b> Originates from Amarkantak of Shehdol Distt. Of Madhya Pradesh at an elevation of 1057m Length 1312 Km	Madhya Pradesh Maharashtra Gujarat	85859 1538 11399	Burhner Hiran Tawa Chhota Tawa Kundi Orsang Banjar Others	4228 4795 6338 5055 3973 3946 3282 67179	21-20 to 23-45	72-32 to 81-45	GD=1 GDQ=7 GDSQ=11	7.5 to 41.9	674 to 1623	Lower Zone 12.0 to 28.0 Middle Zone 4.0 to 7.0 Upper Zone 6.0 to 10.0
		<b>Total</b>	<b>98796</b>	<b>Total</b>	<b>98796</b>						

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
10	<b>Tapi</b>	Coal	Paper Mills  Sugar Mills Cotton Spinning  Mills Dal Mills Oil Mills Wood Cutting Mills	5573 MCM Site Ghala Dis obs closed onward 31/05/2005 (Ref W YB04-05)  (1978-2004)	Shallow Black  Medium Black Black Cotton  Light Brown to Reddish Brown Dark Yellow & Reddish	Ukai Dam  Kate Purna Nalganga  Kakrapar weir Girna Hathnur Dam	8510.00  97.67 76.20  51.51 608.45 388.00	7092.00  86.35 69.32  36.51 523.55 255.00	  INFORMATION NOT  AVAILABLE
11	<b>Narmada</b>	Bauxite, Clay, Coal, Dolomite, Graphite, Iron Ore Manganese Talc & Lime Stone	Therefew Large & Medium Scale Industries. Industries are low as compared with other Basins.	8295 (2011-2012) Garudeshwar (87892)	Shallow Black, Medium Black, Medium Deep Black, Mixed Red & Black Sandy Laterite	Karjan Sardar Sarover Jobat Man Upper Beda Maheshwar Indira Sagar Sukta Kolar Tawa Barna Bargi Matiyari	630.00 9460.00 77.84 145.03 - - 12220.00 89.30 270.00 2310.00 539.00 3920.00 56.80	- 5760.00 70.04 127.87 - - 9750.00 78.00 265.00 2050.00 455.00 3180.00 51.12	- 488.23 52.82 114.73 - - 173.61 35.40 183.36 1337.73 263.45 383.95 26.47

Source : Water Year Book of Tapi & Narmada Basin for year 2011-2012.

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b´)	Longitude ( x°-y´)		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12	<b>Mahi and Sabarmati</b>										
12.1	<b>Mahi</b> Rises from Near village Sardarpur in Dhar Dist. of Madhya Pradesh at an elevation of 500 m. Length 583 Km.	Madhya Pradesh Rajasthan Gujarat	6695 16453 11694	Som Anas Panam Others	8707 5604 2470 18061	22-35	74-58	GD = 13 GDQ=6 GDSQ = 10	5 to 48.50	785	-
		Total	34842	Total	34842						
12.2	<b>Sabarmati</b> Originates in Aravali Hills in Rajasthan at an elevation of 762 m. Length 371 Km.	Rajasthan Gujarat	4124 17550	Sei Wakal Harnav Hathmati Watrak Others	946 1625 972 1526 8638 7967	24-40	73-20		4 to 45	787.5	-
		Total	21674	Total	21674						
12.3	<b>Luni</b> Western Slope of Aravali Hills near Ajmer in Rajasthan at an elevation of 772 m. Length 511 Km.	Rajasthan	32879	Guhiya & Sukri Bandi Sukari Jawai Mithri Khari Bandi Others	4126 3016 3280 2701 2637 2671 14448	24-11 to 26-43	70-37 to 74-39		5 to 47	251 - 386	-
		Total	32879	Total	32879						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12	<b>Mahi and Sabarmati</b>								
12.1	<b>Mahi</b>	Phyllites, gneisses Quartzite & Granite	Engg., Handicraft, Stonework, Cement, Chemical, Liquier, Sugar, Tex and Wools etc.	1078 (2010-2011) Khanpur (32,510)		Mahi Bajaj Sagar Kadana Res. Wanakbari Weir Somkamblamba Jakham Panam Bhadar Jaisamand	2180.00 1542.00 41.88 126.06 141.90 735.80 46.72 414.60	1712.00 1203.00 36.22 120.83 131.60 679.20 40.06 296.10	- - - - - - - -
12.2	<b>Sabarmati</b>	Phyllites, gneisses Quartzite & Granite	Engg., Handicraft, Stonework, Cement, Chemical, Liquier, Sugar, Tex and Wools etc.	1267 (2010-2011) Nabhoi (19636)		Dharoi Dam Watrak Maheswar Res. Sabarmati Moti Fatewadi Hatmati Guhai Mazam	907.88 176.90 82.00 - - 161.00 62.34 43.86	731.99 154.30 77.00 - - 153.00 57.04 36.58	- - - - - - - -
12.3	<b>Luni</b>	-	-	0 (Dry Bed) (2010-2011) Gandhav					

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12.4	<b>Banas</b> Rises from village Pindwara of Sirohi Distt. in Rajasthan at an elevation of 372.51 m. Length 266 Km.	Rajasthan	3269	Sipu	1420	23-30 to	71-15 to		7 to 44	543.6	-
		Gujarat	5405	Sukli	438	24-55	73-15				
				Khari	1391						
				Others	5425						
		Total	8674	Total	8674						
12.5	<b>Shetrunji</b> Originates at Chchai Hills in Gujarat	Gujarat	5514	Satali	651	21-00 to	70-50 to		7 to 44	604.52	-
				Theli	484	21-47	72-10				
				Galaria	754						
				Kharai	665						
				Others	2960						
	Total	5514	Total	5514							
12.6	<b>Bhadar</b> Rises from Near Vaddi village of Rajkot Distt. of Gujarat at an elevation of 261 m. Length 198 Km.	Gujarat	7094	Vasavadi	583	21-45 to	69-45 to		7 to 45	625	-
				Gondali	513	22-10	71-20				
				Venu	953						
				Others	5045						
				Total	7094	Total	7094				
12.7	<b>Machhu</b> Rises from near village Khokhara in Surendra Nagar Distt. of Gujarat at an elevation of 220 m. Length 142 Km.	Gujarat	2515	Beti	236	22-10 to	70-40 to		7 to 45	533	-
				Maha	508	23-10	71-15				
				Others	1771						
				Total	2515	Total	2515				

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12.4	<b>Banas</b>			78 (2010-2011) Kamalpur (6960)		Sipu Dam Dantiwada Dam	177.80 464.00	156.00 444.00	-
12.5	<b>Shetrunji</b>			572 (2010-2011) Lowara (3953)		Shetrunji Irrigation Scheme	350.00	309.00	-
12.6	<b>Bhadar</b>			703 (2010-2011) Ganod (6266)		Bhadar Irrigation Scheme	238.00	221	-
12.7	<b>Machhu</b>			573 (2010-2011) Gungoan (2137)		Machhu -I Machhu	72.74 100.55	70.80 90.80	-

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evapo-ration (mm)
12.8	<b>Rupen</b> Originates from Taranga Hill ranges near Kheralu taluka of Mehsana Distt. of Gujarat at an elevation of 180 m. Length 156 Km.	Gujarat	2500	Khari Pushvati Others	180 446 1874	23-25 to 24-00	71-30 to 72-46		13 to 44	81	-
		Total	2500	Total	2500						
12.9	<b>Purna</b> Rises from Satpura Hills near village Chinchu in Maharashtra Length 180 Km.	Gujarat Maharashtra	2373 58			20-41 to 21-05	72-45 to 74-00		-	-	-
		Total	2431								
12.10	<b>Ambica</b> rises from Satpura Hill range near vill. Kotambi in the Nasik Distt. Of Maharashtra Length 136 Km.	Gujarat Maharashtra	2613 102			20-31 to 20-57	72-48 to 73-52		-	-	-
		Total	2715								
12.11	<b>Vaitarna</b> Originates from Hill terrains of Maharashtra at Trimbak Distt. Nasik Length 120 Km.	Maharashtra	2019			19-25 to 20-20	72-45 to 73-35		12 to 46	2520	-
		Total	2019								

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2010-11

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12.8	<b>Rupen</b>		-	81 (2010-2011) Sapawada (2125)			-	-	-
12.9	<b>Purna</b>		Spinning & Textile Ginning & Pressing and Brick Manuf., Trap/Basalt crushing unit	926 (2010-2011) Mahuwa (1995)	Lateritic, Deep black, Coastal Alluvial		-	-	-
12.10	<b>Ambica</b>		Spinning & Textile Ginning & Pressing and Brick Manuf., Trap/Basalt crushing unit	1199 (2010-2011) Gadat (1510)	Lateritic, Deep black, Coastal Alluvial		-	-	-
12.11	<b>Vaitarna</b>		Mining of Granite Stone	3829 (2010-2011) Durvesh (2019)	Red coarse, Alluvial	Vaitarn Hyd. Elec. Project Surya Proj.	301.60 285.31	295.80 276.35	-

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C )	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12.12	<b>Dhadar</b> Originates from Pavagarh Hill of Gujarat Length 142 Km.	Gujarat	3423			21-45 to 22-45	72-30 to 73-45		8 to 39	851.70	-
		Total	3423								
12.13	<b>Damanganga</b> Originates from Sahyadri hill in Nasik Distt. of Maharashtra at an elevation of 930 m. Length 131 Km.	Maharashtra Gujarat Dadar-Nagar, Haveli & Daman	1408 495 415			19-54 to 20-28	72-50 to 73-38		8 to 46	2200	-
		Total	2318								
12.14	<b>Kim</b> Rises from Satpura Hill ranges in Bharuch Distt. of Gujarat. Length 107 Km.	Gujarat	1286			21-19 to 21-38	72-40 to 73-27		10 to 44	957.26	-
		Total	1286								

(Contd.)

**Table : 2 : Salient Features of Different River Basins during 2010-11**

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12.12	<b>Dhadar</b>		Chemical & Petroliu Production Spinning Textile, rubber and Plastic, Electrical Mechinary etc.	699 (2010-2011) Pingalwada (2400)			-	-	-
12.13	<b>Damanganga</b>			880 (2010-2011) Nanipalsan (764)	Reddish Brown Deep black, Coastal Alluvial	Madhuban Dam Damanganga	567.00	-	-
12.14	<b>Kim</b>			307 (2010-2011) Motinaroli (804)			-	-	-

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers. Basin for year 2010-2011.

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b´)	Longitude ( x°-y´)		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12	<b>Mahi and Sabarmati</b>										
12.1	<b>Mahi</b> Rises from Near village Sardarpur in Dhar Dist. of Madhya Pradesh at an elevation of 500 m. Length 583 Km.	Madhya Pradesh Rajasthan Gujarat	6695 16453 11694	Som Anas Panam Others	8707 5604 2470 18061	22-00 to 24-45	72-30 to 75-15	GD = 11 GDQ = 4 GDSQ=7	min.tem varies from 5 to 35.5 max.temp varies from 17 to 48	785	-
		Total	34842	Total	34842						
12.2	<b>Sabarmati</b> Originates in Aravali Hills in Rajasthan at an elevation of 762 m. Length 371 Km.	Rajasthan Gujarat	4124 17550	Sei Wakal Harnav Hathamati Watrak	946 1625 972 1526 8638	22-15 25-00	71-00 73-45		Min temp varies from 4 to 16 Max.Temp varies from 39 to 45	787	-
		Total	21674								
12.3	<b>Luni</b> Western Slope of Aravali Hills near Ajmer in Rajasthan at an elevation of 772 m. Length 511 Km.	Rajasthan	32879	Guhiya & Sukri Bandi Sukari Jawai Mithri Khari Bandi Others	4126 3280 2637 2671 2701 1161 16303	24-11 to 26-43	70-37 to 74-39		Min temp varies from 5 to 36 Max.Temp varies from 8 to 47	250	-
		Total	32879	Total	32879						

(Contd.)



Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12	<b>Mahi and Sabarmati</b>								
12.1	<b>Mahi</b>	Phyllites, gneisses Quartzite & Granite	Engg., Handicraft, Stonework, Cement, Chemical, Liquier, Sugar, Tex and Wools etc.	4508.04 till 2011-12 khanpur (32,510 Sq km CA	Deep and medium black alluvial soil, red-yellow	Mahi Bajaj Sagar Dam kadana Dam Panam Dam Jakham Machhan nalla Wanakbori Weir Jaisamand Hadaf kabutary Bhadar Umaria Edalwada Somkamla Amba Dam	2180 1542 735.8 141.9 37.91 41.884 414.6 32.26 9.58 46.72 13.53 11.53 126.06	1712 1203 679.2 131.6 29.16 36.224 296.1 25.02 8.07 40.06 11.67 10.5 125.83	information not available
12.2	<b>Sabarmati</b>	Phyllites, gneisses Quartzite & Granite	Engg., Handicraft, Stonework, Cement, Chemical, Liquier, Sugar, Tex and Wools etc.	1267 (2010-2011) Nabhoi (19636)	Deep and medium black alluvial soil, red-yellow	Sei Dam Dharoi Dam Hanav-II Guhai Hathamati Meshwo Mazam Watrak Dam Waidy Raska Weir Moti Fatewadi Vasna Barrage	31.34 907.88 21.67 62.34 161 82 43.86 176.9 13.6	24.16 731.99 19.97 57.04 153 77 36.58 154.3 12.3	information not available
III	<b>LUNI BASIN</b> Origin- Aravalli Hills Altitude- 772m Length -511km	details not available	details not available	239.24 till 2011-12 Gandhav (32010 sq.km)	Saline and deseart,red- yellow	Jawai Dam Jaswant Sagar Dam Hemawas Sardar Samand Banki bund	198 52.8 62.5 88 48.6	184 52.6 62.5 88 34.5	information not available

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details			
				Tributary	Area (Sq.Km)	Latitude ( a°-b' )	Longitude ( x°-y' )		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)	
												(5)
12.4	<b>Banas</b> Rises from village Pindwara of Sirohi Distt. in Rajasthan at an elevation of 372.51 m. Length 266 Km.	Rajasthan	3269	Sipu	1420	23-30 to	71-15 to		Min temp varies from 5 to 36 Max.Temp varies from 8 to 47	642	-	
Gujarat		5405	Sukli	438	24-55	73-15						
			1391	Khari								
			5425	Others								
		Total	8674	Total	8674							
12.5	<b>Shetrunji</b> Originates at Chchai Hills in Gujarat	Gujarat	5514	Satali	651	21-00 to	70-50 to		Min temp varies from 7 to 31 Max.Temp varies from 19 to 44	467	-	
				484	Theli		21-47					72-10
				754	Gagara							
				665	Kharai							
				2960	Others							
		Total	5514	Total	5514							
12.6	<b>Bhadar</b> Rises from Near Vaddi village of Rajkot Distt. of Gujarat at an elevation of 261 m. Length 198 Km.	Gujarat	7094	Vasavadi	583	21-45 to	69-45 to		Min temp varies from 7 to 29 Max.Temp varies from 26 to 45	640	-	
				513	Gondali		22-10					71-20
				953.12	Venu							
				5045	Others							
		Total	7094	Total	7094							
12.7	<b>Machhu</b> Rises from near village Khokhara in Surendra Nagar Distt. of Gujarat at an elevation of 220 m. Length 142 Km.	Gujarat	2515	Beti	236	22-10 to	70-40 to		Min temp varies from 7 to 30 Max.Temp varies from 24 to 45	508	-	
				508	Maha		23-10					71-15
				1771	Others							
				Total	2515	Total	2515					

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12.4	<b>BANAS BASIN</b> Originates - Aravalli hills Altitude-372.5m Length-2661m	details not available	details not available	337.61 till 2011-12 Kamalpur (6960 sq.km)	Alluvial saline ,red-yellow	Swaroopganj Dam Dantiwada Dam Sipu Dam	39.05 464 177.8	- 444 156	information not available
12.5	<b>SHETRUNJI BASIN</b> Originates - Chchhai hills in Gir forest Altitude - 380m Length- 182 km	details not available	details not available	274.76 till 2011-12 Lowara (3953 sq.km)	Deep and mediumblack ,alluvial	Shetrunji Irrigation Scheme	350	309	information not available
12.6	<b>BHADAR BASIN</b> Originate-Vaddi about 26km N-W of Jasdan in Rajkot District Altitude- 261 m Length-198km	details not available	details not available	456.16 till 2011-12 Ganod 6266 sq.km	Deep and mediumblack ,alluvial	Bhadar Irrigation Scheme	238	221	information not available
12.7	<b>MACHHU BASIN</b> Originate-Hills of Jasdan near village Khokhara in Chotila Taluka of Surendranagar Altitude-220m Length-142 km	details not available	details not available	181.75 till 2011-12 Gungan 2137 sq.km	Red-yellow ,alluvial	Machhu - 1 machhu-2	70.8 100.55	- -	information not available

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Name of the Basin (Origin, Altitude & Length of the River)	State	Drainage Area (Sq.Km)	Principal Tributaries & their Catchment Area		Basin Location		Number of Hydrological Observation Site	Climate Details		
				Tributary	Area (Sq.Km)	Latitude ( a°-b')	Longitude ( x°-y')		Temperature Variation (Centigrade) ( °C)	Average Annual Rainfall (mm)	Evaporation (mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
12.8	<b>Rupen</b> Originates from Taranga Hill ranges near Kheralu taluka of Mehsana Distt. of Gujarat at an elevation of 180 m. Length 156 Km.	Gujarat	2500	Khari Pushvati Others	180 446 1874	23-25 to 24-00	71-30 to 72-46		Min temp varies from 13 to 38 Max.Temp varies from 18 to 44	500	-
		Total	2500	Total	2500						

(Contd.)

Table : 2 : Salient Features of Different River Basins during 2011-12

Sl. No.	Basin Name	Principal Minerals	Major Industries	Average Annual Runoff (MCM) (at terminal Site with Catchment Area)	Soil Characteristics	Major Projects			
						Name	Gross Storage (MCM)	Live Storage (MCM)	Water withdrawal (MCM)
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12.8	<b>RUPEN BASIN</b> Originate -Taranga hills near Kheralu Tq of Mehasana District Altitude-180m Length-156km	details not available	details not available	71.65 till 2011-12 Sapawada 2125 sq.km	saline,alluvial	-	-		information not available

Source : Water Year Book of Mahi, Sabarmati and Other West Flowing Rivers, Basin for year 2011-2012.

Table 3 : Number of Hydrological Observation Sites by type of sites & Non- Classified River Basins during 2010-11

Sl. No.	Basin Name	Number and Type of Sites	
		Guage (G), Discharge(D), Water Quality(Q), Sediment(S), Rainfall(RF)	Total no. of Sites
1	2	3	4
1	<b>Mahanadi</b>	20(G), 3(GD), 1(GDQ), 16(GDSQ), 6(RF)	46
2	<b>Suberanrekha, Burhabalang &amp; Baitarni</b>	8(G), 2(GD), 1(GDQ), 6(GDSQ), 1(RF)	18
3	<b>Brahmani</b>	1(G), 1(GD), 4(GDQ), 5(GDSQ)	11
4	<b>Rushikulya,Vamsdhara,Sarada &amp; Nagavali</b>	7(G), 2(GD), 3(GDSQ)	12
5	<b>Godavari</b>	12(GD), 19(GDQ), 16(GDSQ)	47
6	<b>Krishna</b>	24(GDQ), 12(GDSQ)	36
7	<b>Cauvery</b>	8(GDQ), 11 (GDQ & RF), 15 (GDSQ & RF)	34
8	<b>East Flowing Rivers from Mahanadi to Kanyakumari</b>	2(GDQ), 16(GDQ& RF), 1(GDSQ), 7(GDSQ & RF)	26
9	<b>West Flowing Rivers from Kanyakumari to Tapi</b>	5(GD), 6(GDQ), 8(GDQ & RF), 9(GDSQ), 9(GDSQ & RF)	37
10	<b>Tapi</b>	1(G), 11(G & RF), 1(RF), 1(GDS & RF), 1(GD & RF), 3(GDSQ & RF)	18
11	<b>Narmada</b>	7(GDQ), 11(GDSQ)	18
12	<b>Mahi and Sabarmati &amp; Others</b>	13(GD), 6(GDQ), 10(GDSQ)	29

Source : Water Year Books of differernt Basins for the year 2010-2011.

\* : One site records Sediment Observation also.

Table 3 : Number of Hydrological Observation Sites by type of sites & Non- Classified River Basins during 2011-12

Sl. No.	Basin Name	Number and Type of Sites	
		Guage (G), Discharge(D), Water Quality(Q), Sediment(S), Rainfall(RF)	Total no. of Sites
1	2	3	4
1	Mahanadi	20(G), 3(GD), 1(GDQ), 16(GDSQ), 6(RF)	46
2	Suberanrekha, Burhabalang & Baitarni	8(G), 2(GD), 1(GDQ), 6(GDSQ), 1(RF)	18
3	Brahmani	1(G), 1(GD), 3(Q), 1(GQ), 5(GDSQ)	11
4	Rushikulya, Vamsdhara, Sarada & Nagavali	7(G), 2(GD), 3(GDSQ)	12
5	Godavari	14(GD), 18(GDQ), 16(GDSQ)	48
6	Krishna	24(GDQ), 12(GDSQ)	36
7	Cauvery	9(GDQ), 10(GDQ & RF), 15(GDSQ & RF)	34
8	East Flowing Rivers from Mahanadi to Kanyakumari	2(GDQ), 1(GDSQ), 16(GDQ & RF), 7(GDSQ & RF)	26
9	West Flowing Rivers from Kanyakumari to Tapi	5(GD), 6(GDQ), 8(GDQ & RF), 9(GDSQ), 9(GDSQ & RF)	37
10	Tapi	1(G), 7(RF), 11(G & RF), 1(GD & RF), 1(GDS & RF), 3(GDSQ & RF)	24
11	Narmada	1(GD), 7(GDQ), 11(GDSQ)	19
12	Mahi and Sabarmati & Others	11(GD), 4(GDQ), 7(GDSQ)	22

Source : Water Year Books of differernt Basins for the year 2011-2012.

\* : One site records Sediment Observation also.

**Table 4 : Important Historical Observations by sites and River Basin during 2010-11**

I Basin : Mahanadi											
Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge (MCM)	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Baronda	3225	20°54'45"	81°53'10"	283.000	289.330	18.09.1980	12.07.1977 to 31.05.2011	06.12.1977	29.06.1980	02.06.1980
2	Rajim	8760	20°58'25"	81°52'48"	275.000	282.680	30.08.1994	01.06.1971 to 31.05.2011	01.02.1971	04.12.1972	01.09.1972
3	Seorinarayan	48050	21°43'00"	82°35'48"	209.500	224.310	30.08.2003	01.06.1985 to 31.05.2011	09.12.1985	-	-
4	Basantpur	57780	21°43'36"	82°47'17"	206.000	219.320	20.09.1980	01.02.1971 to 31.05.2011	11.05.1971	07.04.1973	01.09.1972
5	Kotni	6990	21°14'10"	81°14'50"	268.000	279.610	12.07.1994	20.09.1977 to 31.05.2011	30.09.1978	-	-
6	Pathardih	2511	21°20'28"	81°35'38"	271.000	279.630	01.07.2007	12.06.1987 to 31.05.2011	05.06.1989	-	01.06.1995
7	Simga	30761	21°37'54"	81°41'16"	244.000	257.590	13.07.1994	29.07.1971 to 31.05.2011	09.09.1971	30.12.1972	01.09.1972
8	Andhiarkhore	2210	21°50'02"	81°36'21"	252.000	258.930	09.08.1979	27.09.1978 to 31.05.2011	29.11.1977	12.07.1980	01.06.1980
9	Ghatora	3035	22°03'24"	82°13'15"	246.000	253.500	21.07.1994	15.10.1977 to 31.05.2011	17.09.1979	01.11.2000	01.11.1991
10	Jondhra	29645	21°43'30"	82°20'50"	219.000	230.570	14.07.1994	24.06.1980 to 31.05.2011	21.07.1979	11.10.1980	02.06.1980
11	Rampur	2920	21°39'06"	82°31'10"	219.000	229.655	29.08.2003	29.01.1971 to 31.05.2011	20.02.1971	05.07.1976	15.01.1972
12	Manendragarh	1100	23°12'10"	82°13'05"	411.000	420.440	12.07.1990	21.06.1987 to 31.05.2011	21.06.1989	09.07.1993	01.10.1992
13	Bamnidhi	9730	21°53'55"	82°43'02"	223.000	228.883	22.08.1972	29.01.1971 to 31.05.2011	18.02.1971	01.05.1973	01.09.1972
14	Kurubhata	4625	21°59'15"	83°12'15"	215.000	219.960	05.08.2005	23.10.1977 to 31.05.2011	01.04.1978	22.07.1980	01.07.1980
15	Sundergarh	5870	22°06'55"	84°00'40"	214.000	222.600	23.06.1996	07.08.1977 to 31.05.2011	30.12.1977	21.07.1980	02.06.1980
16	Salebhata	4650	20°59'00"	83°32'22"	130.000	139.580	29.08.2003	23.07.1971 to 31.05.2011	12.11.1971	01.05.1973	15.09.1972
17	Kesinga	11960	20°11'51"	83°13'30"	166.000	178.500	04.07.2006	10.11.1971 to 31.05.2010	07.11.1978	22.09.2006	01.06.2001
18	Kantamal	19600	20°39'00"	83°43'55"	118.000	132.700	19.09.2008	08.08.1971 to 31.05.2011	26.08.1971	22.07.1976	01.10.1972
19	Tikarapara	124450	20°38'00"	84°37'08"	50.000	73.200	19.07.2001	13.09.1972 to 31.05.2011	28.05.1972	01.06.1973	01.12.1972

Source : Water Year Book, (June, 2010 to May, 2011) Mahanadi Basin.



**Table 4 : Important Historical Observations by sites and River Basin during 2011-12**

I Basin : Mahanadi											
Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge (MCM)	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Baronda	3225	20°54'45"	81°53'10"	283.000	289.330	18.09.1980	2011-2012	06.12.1977	29.06.1980	02.06.1980
2	Rajim	8760	20°58'25"	81°52'48"	275.000	282.680	30.08.1994	2011-2012	01.02.1971	04.12.1972	01.09.1972
3	Seorinarayan	48050	21°43'00"	82°35'48"	209.500	224.310	30.08.2003	2011-2012	09.12.1985	-	-
4	Basantpur	57780	21°43'36"	82°47'17"	206.000	219.320	20.09.1980	2011-2012	11.05.1971	07.04.1973	01.09.1972
5	Kotni	6990	21°14'10"	81°14'50"	268.000	279.610	12.07.1994	2011-2012	30.09.1978	-	-
6	Pathardih	2511	21°20'28"	81°35'38"	271.000	279.630	01.07.2007	2011-2012	05.06.1989	-	01.06.1995
7	Simga	30761	21°37'54"	81°41'16"	244.000	257.590	13.07.1994	2011-2012	09.09.1971	30.12.1972	01.09.1972
8	Andhiarkhore	2210	21°47'00"	81°36'30"	252.000	258.930	09.08.1979	2011-2012	-	12.07.1980	01.06.1980
9	Ghatora	3035	22°03'24"	82°13'15"	246.000	253.500	21.07.1994	2011-2012	17.09.1979	01.11.2000	01.11.1991
10	Jondhra	29645	21°43'30"	82°20'50"	219.000	230.570	14.07.1994	2011-2012	21.07.1979	11.10.1980	02.06.1980
11	Rampur	2920	21°39'57"	82°31'30"	219.000	229.655	29.08.2003	2011-2012	-	05.07.1976	15.01.1972
12	Manendragarh	1100	23°12'10"	82°13'05"	411.000	420.440	12.07.1990	2011-2012	21.06.1989	09.07.1993	01.10.1992
13	Bamnidhi	9730	21°53'55"	82°43'02"	223.000	228.883	22.08.1975	2011-2012	18.02.1971	01.05.1973	01.09.1972
14	Kurubhata	4625	21°59'15"	83°12'15"	215.000	220.280	18.07.1995	2011-2012	01.04.1978	22.07.1980	01.07.1980
15	Sundergarh	5870	22°06'55"	84°00'40"	214.000	222.600	23.06.1996	2011-2012	30.12.1977	21.07.1980	02.06.1980
16	Salebhata	4650	20°59'00"	83°32'22"	130.000	139.580	29.08.2003	2011-2012	-	01.05.1973	15.09.1972
17	Kesinga	11960	20°11'51"	83°13'30"	166.000	178.500	04.07.2006	2011-2012	07.11.1978	22.09.2006	01.06.2001
18	Kantamal	19600	20°39'00"	83°43'55"	118.000	132.700	19.09.2008	2011-2012	26.08.1971	22.07.1976	01.01.1972
19	Tikarapara	124450	20°38'00"	84°37'08"	50.000	73.200	19.07.2001	2011-2012	28.05.1972	01.06.1973	01.12.1972

Source : Water Year Book, (June, 2011 to May, 2012 Mahanadi Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

II Basin : Subarnarekha, Burhabalang & Baitarni

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge (MCM)	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Champua	1710	22°03'57"	85°40'56"	367.000	376.895	20.08.2007	06/2010 to 05/2011	20.07.1990	09.08.2001	08.09.2001
2	Anandpur	8570	21°12'34"	86°07'23"	28.000	40.625	19.08.1975	06/2010 to 05/2011	07.03.1972	01.06.1972	01.09.1972
3	Muri	1330	22°48'56"	86°12'47"	231.000	237.500	24.09.2006	06/2010 to 05/2011	01.11.1989	-	01.05.1991
4	Adityapur	6309	22°47'29"	86°10'06"	125.000	137.560	20.08.1975	06/2010 to 05/2011	22.11.1971	06.02.1975	01.01.1976
5	Jamshedpur	12649	22°47'00"	86°12'00"	111.000	126.255	03.09.1973	06/2010 to 05/2011	01.02.1972	27.11.1972	01.09.1972
6	Ghatsila	14176	22°34'49"	86°20'08"	72.000	85.050	17.08.1974	06/2010 to 05/2011	16.03.1971	30.12.1972	01.09.1972
7	Fekoghat	700	22°18'28"	86°55'11"	41.480	50.000	06.07.2007	06/2010 to 05/2011	18.06.1988	-	-
8	Ghatsila Road Bridge	-	-	-	-	-	-	-	-	-	01.06.1990
9	Baridhi Nala	-	-	-	-	-	-	-	-	-	01.04.1991
10	Kulpatanga	-	-	-	-	-	-	-	-	-	01.04.1991
11	NH-5 Govindapur	4495	21°32'52"	86°55'14"	0.000	8.900	31.10.1999	06/2010 to 05/2011	07.03.1992	21.03.2003	01.05.2003

Sources: Water Year Book, (June, 2010 to May, 2011) Baitarni, Subernarashtra & Burhabalang Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

II Basin : Subarnarekha, Burhabalang & Baitarni

Sl. No.	Site Name	Drainage Area (Km2)	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge (MCM)	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Champua	1710	22°03'57"	85°40'56"	367.000	378.950	23.09.2011	2011-2012	20.07.1990	09.08.2001	08.09.2001
2	Anandpur	8570	21°12'34"	86°07'23"	28.000	40.625	19.08.1975	2011-2012	07.03.1972	01.06.1972	01.09.1972
3	Muri	1330	22°48'56"	86°12'47"	231.000	237.500	24.09.2006	2011-2012	01.11.1989	-	01.05.1991
4	Adityapur	6309	22°47'29"	86°10'06"	125.000	137.560	20.08.1975	2011-2012	22.11.1971	06.02.1975	01.01.1976
5	Jamshedpur	12649	22°47'00"	86°12'00"	111.000	126.255	03.09.1973	2011-2012	01.02.1972	27.11.1972	01.09.1972
6	Ghatsila	14176	22°34'49"	86°10'06"	72.000	85.050	17.08.1974	2011-2012	16.03.1971	30.12.1972	01.09.1972
7	Fekoghat	700	22°18'28"	86°55'11"	41.480	50.000	06.07.2007	2011-2012	18.06.1988	-	-
8	Ghatsila Road Bridge	-	-	-	-	-	-	-	-	-	01.06.1990
9	Baridhi Nala	-	-	-	-	-	-	-	-	-	01.04.1991
10	Kulpatanga	-	-	-	-	-	-	-	-	-	01.04.1991
11	NH-5 Govindapur	4495	21°32'52"	86°55'14"	0.000	8.900	31.10.1999	2010-2011	07.03.1992	21.03.2003	01.05.2003

Sources: Water Year Book, (June, 2011 to May, 2012) Baitarni, Subarnarekha & Burhabalang Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

III Basin : Brahmani

Sl.	Site Name	Drainage	Latitude	Longitude	Zero of Gauge	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Tilga	3160	22°20'00"	84°30'00"	372.000	378.625	28.08.1987	06/2010 to 05/2011	15.06.1979	21.07.1980	01.06.1980
2	Jaraikelela	9160	22°19'08"	85°06'19"	185.000	194.010	06.08.1997	06/2010 to 05/2011	01.08.1972	01.06.1975	01.09.1975
3	Panposh	19448	22°16'19"	84°51'07"	170.500	179.680	22.07.2001	06/2010 to 05/2011	21.06.1996	01.08.1996	01.11.1990
4	Gomlai	21950	21°50'16"	84°56'33"	135.000	147.270	20.08.2007	06/2010 to 05/2011	21.01.1979	17.07.1980	17.07.1980
5	Jenapur	33955	20°53'23"	86°00'51"	13.000	23.475	18.08.1984	06/2010 to 05/2011	20.07.1979	09.07.1980	01.03.1980
6	Altuma	830	20°55'48"	85°31'20"	44.000	50.000	31.10.1999	06/2010 to 05/2011	25.07.1990	N.A.	N.A.
7	Tallicher	29750	20°57'00"	85°15'00"	N.A.	N.A.	N.A.	06/2010 to 05/2011	16.08.1985	16.08.1985	16.08.1985
8	Nadira	-	-	-	-	-	-	-	-	-	01.11.1990
9	Kamalanga	-	-	-	-	-	-	-	-	-	01.11.1990
10	RSP Nall	-	-	-	-	-	-	-	-	-	01.11.1990

Sources: Water Year Book, (June, 2010 to May, 2011) Brahmani Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

III Basin : Brahmani

Sl. No.	Site Name	Drainage Area	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Tilga	3160	22°20'00"	84°30'00"	372.000	378.625	28.08.1987	2011-2012	15.06.1979	21.07.1980	01.06.1980
2	Jaraikela	9160	22°19'08"	85°06'19"	185.000	193.900	06.08.1977	2011-2012	01.08.1972	01.06.1975	01.09.1975
3	Panposh	19448	22°16'19"	84°51'07"	170.500	181.440	24.09.2011	2011-2012	21.06.1996	01.08.1996	01.11.1990
4	Gomlai	21950	21°50'16"	84°56'33"	135.000	146.835	07.08.1997	2011-2012	21.01.1979	17.07.1980	17.07.1980
5	Jenapur	33955	20°53'23"	86°00'51"	13.000	23.475	18.08.1984	2011-2012	20.07.1979	09.07.1980	01.03.1980
6	Altuma	830	20°55'48"	85°31'20"	44.000	50.150	21.07.2009	2011-2012	25.07.1990	N.A.	N.A.
7	Talcher	29750	20°57'00"	85°15'00"	51.000	N.A.	N.A.	2011-2012	16.08.1985	16.08.1985	16.08.1985
8	Nadira	-	-	-	-	-	-	-	-	-	01.11.1990
9	Kamalanga	-	-	-	-	-	-	-	-	-	01.11.1990
10	RSP Nall	-	-	-	-	-	-	-	-	-	01.11.1990

Sources: Water Year Book, (June, 2011 to May, 2012) Brahmani Basin.

**Table 4 : Important Historical Observations by sites and River Basin during 2010-11**

**IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali**

Sl. No.	Site Name	Drainage Area	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Gunupur	6740	19°05'00"	83°49'00"	80.250	85.950	07.08.2007	06/2010 to 05/2011	01.06.2001	-	-
2	Kashi Nagar	7820	18°50'49"	83°57'04"	51.000	57.850	07.08.2007	06/2010 to 05/2011	28.04.1971	13.10.1972	01.09.1972
3	Purushottampur	7112	19°31'00"	84°53'00"	12.000	17.940	08.10.2003	06/2010 to 05/2011	14.06.1989	15.01.2001	08.10.2001
4	Srikakulam	9500	18°18'48"	83°53'18"	6.650	14.085	04.08.2006	06/2010 to 05/2011	25.08.1990	27.06.2001	27.06.2001
5	Ankapali	2090	17°41'00"	83°01'08"	20.400	25.200	16.11.1998	06/2010 to 05/2011	16.08.1989	-	-

Source : Water Year Book, (June, 2010 to May, 2011) Rushikulya, Vamsadhara, Sarada & Nagavali

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge (MCM)	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Gunupur	6740	19°05'00"	83°49'00"	80.250	85.950	07.08.2007	2011-2012	01.06.2001	-	-
2	Kashi Nagar	7820	18°50'49"	83°57'04"	51.000	56.303	23.09.1972	2011-2012	28.04.1971	13.10.1972	01.09.1972
3	Purushottampur	7112	19°31'00"	84°53'00"	12.000	17.940	08.10.2003	2011-2012	14.06.1989	15.01.2001	08.10.2001
4	Srikakulam	9500	18°18'48"	83°53'18"	6.650	14.085	04.08.2006	2011-2012	25.08.1990	27.06.2001	27.06.2001
5	Ankapali	2090	17°41'00"	83°01'08"	20.400	25.200	16.11.1998	2011-2012	16.08.1989	-	-

Source : Water Year Book, (June, 2011 to May, 2012) Rushikulya, Vamsadhara, Sarada & Nagavali

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

V Basin : Godavari

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Polavaram	307800	18°10'27"	81°38'53"	10.897	28.017	16.08.1986	06/2010 to 05/2011	01.01.1966	25.10.1966	25.10.1966
2	Bhadrachalam	280505	17°40'05"	80°52'47"	32.610	45.010	12.08.2008	06/2010 to 05/2011	11.07.2007	-	03.10.2006
3	Konta	19550	17°47'56"	81°23'18"	30.430	49.910	17.08.1986	06/2010 to 05/2011	28.10.1965	01.01.1968	05.05.1968
4	Potteru	1120	18°11'23"	81°47'52"	120.500	131.990	04.08.2006	06/2010 to 05/2011	20.05.1997	-	-
5	Saradaput	3047	18°36'43"	82°08'36"	225.465	239.530	04.08.2006	06/2010 to 05/2011	05.09.1970	-	-
6	Sangam	1565	17°35'50"	80°49'40"	53.000	58.250	21.09.2005	06/2010 to 05/2011	24.08.1996	-	-
7	Perur	268200	18°35'14"	80°26'10"	83.000	87.420	15.08.1986	06/2010 to 05/2011	17.09.1965	24.02.1968	24.10.1968
8	Pathagudem	40000	18°49'00"	80°21'00"	85.750	103.500	05.08.2006	06/2010 to 05/2011	20.07.1964	21.07.1965	01.01.1972
9	Tumnar	1700	19°00'30"	81°14'20"	315.007	325.977	14.06.2004	06/2010 to 05/2011	09.12.1991	-	-
10	Chindnar	17270	19°05'00"	81°18'00"	327.150	340.100	05.07.2006	06/2010 to 05/2011	07.12.1971	-	-
11	Cherribeda	890	19°38'23"	81°29'07"	564.400	573.900	04.07.2006	06/2010 to 05/2011	13.11.1996	-	-
12	Amabal	1968	19°17'00"	81°47'20"	534.000	542.450	05.07.2006	06/2010 to 05/2011	30.10.1993	-	-
13	Sonarpal	1523	19°16'00"	81°52'00"	534.356	542.570	04.07.2006	06/2010 to 05/2011	05.12.1991	-	-
14	Jagdapur	7380	19°06'30"	82°01'30"	544.595	544.551	15.08.1986	06/2010 to 05/2011	21.09.1965	21.09.1965	01.12.1979
15	Kosagumda	1635	19°16'37"	82°14'00"	547.000	556.150	20.08.2001	06/2010 to 05/2011	13.11.1996	-	-
16	Murthahandi	N.A.	19°03'00"	82°17'00"	533.600	544.440	06.09.1994	06/2010 to 05/2011	01.12.1988	-	-
17	Nowrangpur	3545	19°12'00"	82°31'00"	550.716	560.636	29.07.1969	06/2010 to 05/2011	20.06.1971	21.06.1971	01.01.1972
18	Tekra	108780	18°58'42"	79°56'49"	95.090	114.600	15.08.1986	06/2010 to 05/2011	15.07.1964	01.07.1965	15.06.1966
19	Bhatpalli	3100	19°19'50"	79°30'14"	156.000	168.500	02.10.1988	06/2010 to 05/2011	01.10.1986	07.10.1988	04.01.1988
20	Sirpur	47500	19°33'41"	79°36'48"	148.500	161.950	08.08.2006	06/2010 to 05/2011	01.02.1968	-	-
21	Bamni	46020	19°48'53"	79°22'46"	157.970	176.320	15.08.1986	06/2010 to 05/2011	16.10.1965	13.12.1965	03.06.1966

Contd/...



Table 4 : Important Historical Observations by sites and River Basin during 2010-11

V Basin : Godavari

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
22	P.G.Bridge	18441	19°49'03"	78°34'40"	198.630	217.920	07.08.2006	06/2010 to 05/2011	21.07.1965	19.10.1965	31.05.1966
23	Mangrul	2500	20°11'19"	77°59'12"	279.375	290.375	26.08.2002	06/2010 to 05/2011	09.11.1992	-	-
24	Kanhargaon	3515	19°57'40"	77°08'53"	465.015	474.965	02.09.2002	06/2010 to 05/2011	20.07.1992	-	-
25	Nandgaon	4580	20°32'00"	78°49'33"	198.000	212.550	13.07.1994	06/2010 to 05/2011	21.07.1986	13.07.1988	01.01.1988
26	Hivra	10240	20°32'52"	78°19'30"	230.000	246.310	07.09.1994	06/2010 to 05/2011	11.08.1987	26.06.1990	16.12.1987
27	Asthi	50990	19°41'12"	79°47'13"	141.420	155.100	13.07.1994	06/2010 to 05/2011	14.07.1965	14.03.1966	01.06.1966
28	Rajoli	1900	20°11'37"	79°39'59"	229.000	239.615	14.08.1986	06/2010 to 05/2011	25.06.1986	-	-
29	Wairgarh	2600	20°25'19"	80°05'30"	208.705	215.905	07.08.2007	06/2010 to 05/2011	07.08.1992	-	-
30	Salebardi	1800	20°54'44"	79°55'40"	224.300	233.520	15.09.2005	06/2010 to 05/2011	21.06.1986	-	-
31	Satrapur	11100	21°13'00"	79°13'59"	264.300	277.610	06.09.1994	06/2010 to 05/2011	30.05.1986	01.08.1988	09.12.1987
32	RamaKona	2500	21°43'12"	78°49'27"	338.000	349.500	30.07.1991	06/2010 to 05/2011	21.11.1986	-	-
33	Rajegaon	5380	21°37'32"	80°15'14"	272.000	284.200	15.09.2005	06/2010 to 05/2011	26.07.1986	22.06.1990	15.01.1988
34	Kumhari	8070	21°53'03"	80°10'36"	289.000	304.335	18.08.2002	06/2010 to 05/2011	01.12.1986	10.09.1988	01.01.1988
35	Keolari	2970	22°22'50"	79°54'00"	425.000	440.500	21.07.1994	06/2010 to 05/2011	29.06.1987	-	-
36	Somanpally	12691	18°37'12"	79°48'12"	121.444	127.344	24.07.1989	06/2010 to 05/2011	17.03.1967	-	-
37	Mancherial	102900	18°50'08"	79°26'41"	124.316	137.846	12.08.1983	06/2010 to 05/2011	01.06.1966	01.06.1966	01.12.1979
38	Gandlapet	1360	18°49'44"	78°26'12"	312.000	317.900	30.08.1990	06/2010 to 05/2011	10.09.1986	-	31.07.1988
39	Betmogra	2105	18°42'18"	77°32'42"	347.500	356.200	16.10.2005	06/2010 to 05/2011	03.07.1997	-	15.07.1997
40	Degloor	1900	18°33'43"	77°34'59"	352.000	363.850	24.08.2000	06/2010 to 05/2011	17.07.1987	01.01.1994	15.09.1988
41	Saigaon	9960	18°04'33"	77°03'09"	542.723	554.443	17.08.1990	06/2010 to 05/2011	10.11.1967	19.07.1973	16.08.1973
42	Yelli	53630	19°02'38"	77°27'10"	334.300	354.200	07.08.2006	06/2010 to 05/2011	22.04.1978	01.06.1978	01.07.1978
43	Purna	15000	19°10'33"	77°00'50"	358.000	371.800	27.07.2005	06/2010 to 05/2011	02.09.1969	10.10.1972	01.11.1972
44	Zari	5550	19°23'43"	76°46'15"	373.000	385.710	27.07.2005	06/2010 to 05/2011	18.06.1987	-	01.08.1988
45	G.R.Bridge	33934	19°01'20"	76°43'45"	364.000	378.370	14.08.2006	06/2010 to 05/2011	19.06.1976	01.07.1976	01.07.1976
46	Dhalegaon	30840	19°13'13"	76°21'52"	386.575	399.855	13.08.2006	06/2010 to 05/2011	16.08.1964	11.07.1971	01.07.1972
47	Pachegaon	5800	19°32'07"	74°50'01"	475.000	481.580	26.08.1997	06/2010 to 05/2011	23.07.1983	-	-

Source : Water Year Book, (June, 2010 to May, 2011) Godavari Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

V Basin : Godavari											
Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Polavaram	307800	17°15'07"	81°38'53"	10.897	28.017	16.08.1986	2011-2012	01.01.1966	25.10.1966	25.10.1966
2	Bhadrachalam	280505	17°40'05"	80°52'47"	32.610	45.010	12.08.2008	2011-2012	11.07.2007		03.10.2006
3	Konta	19550	17°47'56"	81°23'18"	30.430	49.910	17.08.1986	2011-2012	28.10.1965	01.01.1968	05.05.1968
4	Potteru	1120	18°11'23"	81°47'52"	120.500	131.990	04.08.2006	2011-2012	20.05.1997	-	-
5	Saradaput	3047	18°36'43"	82°08'36"	225.465	239.530	04.08.2006	2011-2012	05.09.1970	-	-
6	Sangam	1565	17°35'50"	80°49'40"	53.000	58.250	21.09.2005	2011-2012	24.08.1996	-	-
7	Perur	268200	18°35'14"	80°26'10"	83.000	87.420	15.08.1986	2011-2012	17.09.1965	24.02.1968	24.10.1968
8	Pathagudem	40000	18°49'00"	80°21'00"	85.750	103.500	05.08.2006	2011-2012	20.07.1964	21.07.1965	01.01.1972
9	Tumnar	1700	19°00'30"	81°14'20"	315.007	325.977	14.06.2004	2011-2012	09.12.1991	-	-
10	Chindnar	17270	19°05'00"	81°18'00"	327.150	340.100	05.07.2006	2011-2012	07.12.1971	-	-
11	Cherribeda	890	19°38'23"	81°29'07"	564.400	573.900	04.07.2006	2011-2012	13.11.1996	-	-
12	Amabal	1968	19°17'00"	81°47'20"	534.000	542.450	05.07.2006	2011-2012	30.10.1993	-	-
13	Sonarpal	1523	19°16'00"	81°52'00"	534.356	542.570	04.07.2006	2011-2012	05.12.1991	-	-
14	Jagdapur	7380	19°06'30"	82°01'30"	544.595	544.551	15.08.1986	2011-2012	21.09.1965	21.09.1965	01.12.1979
15	Kosagumda	1635	19°16'37"	82°14'00"	547.000	556.150	20.08.2001	2011-2012	13.11.1996	-	-
16	Murthahandi	N.A.	19°03'00"	82°17'00"	533.600	545.090	06.08.2010	2011-2012	01.12.1988	-	-
17	Nowrangpur	3545	19°12'00"	82°31'00"	550.716	560.636	29.07.1969	2011-2012	20.06.1971	21.06.1971	01.01.1972
18	Tekra	108780	18°58'42"	79°56'49"	95.090	114.600	15.08.1986	2011-2012	15.07.1964	01.07.1965	15.06.1966
19	Bhatpalli	3100	19°19'50"	79°30'14"	156.000	168.500	02.10.1988	2011-2012	01.10.1986	07.10.1988	04.01.1988
20	Sirpur	47500	19°33'41"	79°36'48"	148.500	161.950	08.08.2006	2011-2012	01.02.1968	-	-
21	Bamni	46020	19°48'53"	79°22'46"	157.970	176.320	15.08.1986	2011-2012	16.10.1965	13.12.1965	03.06.1966

Contd/.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

V Basin : Godavari											
Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Year of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
22	P.G.Bridge	18441	19°49'03"	78°34'40"	198.630	217.920	07.08.2006	2011-2012	21.07.1965	19.10.1965	31.05.1966
23	Mangrul	2500	20°11'19"	77°59'12"	279.375	290.375	26.08.2002	2011-2012	09.11.1992	-	-
24	Kanhargaon	3515	19°57'40"	77°08'53"	465.015	474.965	02.09.2002	2011-2012	20.07.1992	-	-
25	Nandgaon	4580	20°32'00"	78°49'33"	198.000	212.550	13.07.1994	2011-2012	21.07.1986	13.07.1988	01.01.1988
26	Hivra	10240	20°32'52"	78°19'30"	230.000	246.310	07.09.1994	2011-2012	11.08.1987	26.06.1990	16.12.1987
27	Asthi	50990	19°41'12"	79°47'13"	141.420	155.100	13.07.1994	2011-2012	14.07.1965	14.03.1966	01.06.1966
28	Rajoli	1900	20°11'37"	79°39'59"	229.000	239.615	14.08.1986	2011-2012	25.06.1986	-	-
29	Wairgarh	2600	20°25'19"	80°05'30"	208.705	215.905	07.08.2007	2011-2012	07.08.1992	-	-
30	Salebardi	1800	20°54'44"	79°55'40"	224.300	233.520	15.09.2005	2011-2012	21.06.1986	-	-
31	Satrapur	11100	21°13'00"	79°13'59"	264.300	277.610	06.09.1994	2011-2012	30.05.1986	01.08.1988	09.12.1987
32	RamaKona	2500	21°43'12"	78°49'27"	338.000	349.500	30.07.1991	2011-2012	21.11.1986	-	-
33	Rajegaon	5380	21°37'32"	80°15'14"	272.000	284.200	15.09.2005	2011-2012	26.07.1986	22.06.1990	15.01.1988
34	Kumhari	8070	21°53'03"	80°10'36"	289.000	304.335	18.08.2002	2011-2012	01.12.1986	10.09.1988	01.01.1988
35	Keolari	2970	22°22'50"	79°54'00"	425.000	440.500	21.07.1994	2011-2012	29.06.1987	-	-
36	Somanpally	12691	18°37'12"	79°48'12"	121.444	127.344	24.07.1989	2011-2012	17.03.1967	-	-
37	Mancherial	102900	18°50'08"	79°26'41"	124.316	137.846	12.08.1983	2011-2012	01.06.1966	01.06.1966	01.12.1979
38	Gandlapet	1360	18°49'44"	78°26'12"	312.000	317.900	30.08.1990	2011-2012	10.09.1986	-	31.07.1988
39	Betmogra	2105	18°42'18"	77°32'42"	347.500	356.200	16.10.2005	2011-2012	03.07.1997	-	15.07.1997
40	Degloor	1900	18°33'43"	77°34'59"	352.000	363.850	24.08.2000	2011-2012	17.07.1987	01.01.1994	15.09.1988
41	Saigaon	9960	18°04'33"	77°03'09"	542.723	554.443	17.08.1990	2011-2012	10.11.1967	19.07.1973	16.08.1973
42	Yelli	53630	19°02'38"	77°27'10"	334.300	354.200	07.08.2006	2011-2012	22.04.1978	01.06.1978	01.07.1978
43	Purna	15000	19°10'33"	77°00'50"	358.000	371.800	27.07.2005	2011-2012	02.09.1969	10.10.1972	01.11.1972
44	Zari	5550	19°23'43"	76°46'15"	373.000	385.710	27.07.2005	2011-2012	18.06.1987	-	01.08.1988
45	G.R.Bridge	33934	19°01'20"	76°43'45"	364.000	378.370	14.08.2006	2011-2012	19.06.1976	01.07.1976	01.07.1976
46	Dhalegaon	30840	19°13'13"	76°21'52"	386.575	399.855	13.08.2006	2011-2012	16.08.1964	11.07.1971	01.07.1972
47	Pachegaon	5800	19°32'07"	74°50'01"	475.000	481.580	26.08.1997	2011-2012	23.07.1983	-	-

Source : Water Year Book, (June, 2011 to May, 2012) Godavari Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

VI Basin : Krishna

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Vijayawada	251360	16°30'04"	80°37'30"	8.690	19.272	06.10.2009	06/2010 to 05/2011	01.06.1965	01.02.1965	01.01.1972
2	Keesara	9854	16°42'53"	80°19'13"	28.585	36.810	20.05.1969	06/2010 to 05/2011	01.06.1965	02.07.1965	01.01.1972
3	Madhira	1850	16°55'05"	80°21'32"	44.500	50.820	21.09.2005	06/2010 to 05/2011	07.06.1984	-	01.06.1992
4	Wadenapally	235544	16°47'39"	80°04'23"	22.054	42.484	05.10.2009	06/2010 to 05/2011	10.12.1964	01.12.1966	01.01.1972
5	Dameracherla	11501	16°44'21"	79°40'11"	56.000	62.500	05.10.2009	06/2010 to 05/2011	27.07.1968	-	01.01.1980
6	Halia	3100	16°47'25"	79°20'19"	129.000	133.507	22.09.1991	06/2010 to 05/2011	11.07.1984	-	01.06.1992
7	Bawapuram	67180	15°52'57"	77°57'26"	271.825	281.585	02.10.2009	06/2010 to 05/2011	01.04.1964	01.06.1965	01.01.1972
8	Mantralayam	60630	15°56'43"	77°25'38"	308.340	318.770	02.10.2009	06/2010 to 05/2011	01.06.1972	26.07.1977	01.08.1977
9	T.Ramapuram	23500	15°39'40"	76°57'56"	349.368	355.948	02.10.2009	06/2010 to 05/2011	01.12.1965	-	01.01.1980
10	Kelloodu	4320	13°45'00"	76°20'00"	647.750	649.220	03.11.2006	06/2010 to 05/2011	11.07.1990	-	01.07.1994
11	Hoovinahole	2585	13°58'57"	76°45'06"	93.500	95.820	06.09.2008	06/2010 to 05/2011	02.10.2001	-	01.06.2008
12	Marol	4901	14°56'20"	75°37'05"	508.831	517.459	18.11.1992	06/2010 to 05/2011	01.02.1966	16.09.1972	01.02.1973
13	Hariahalli	14582	14°49'50"	75°40'33"	507.436	518.109	18.11.1992	06/2010 to 05/2011	01.12.1966	01.11.1972	01.11.1972
14	Byaladahalli	2300	14°26'00"	75°46'47"	530.400	537.430	17.11.1992	06/2010 to 05/2011	11.06.1985	10.12.1997	02.06.1986
15	Kuppelur	1850	14°30'00"	75°37'45"	533.400	541.840	08.08.2007	06/2010 to 05/2011	24.07.1990	-	01.07.1994
16	Honnali	7075	14°14'18"	75°39'30"	533.900	546.400	16.07.1994	06/2010 to 05/2011	01.06.1980	15.09.1995	02.06.1986
17	Shimoga	2831	13°56'08"	75°34'41"	558.330	564.760	03.08.1982	06/2010 to 05/2011	22.01.1972	14.09.1972	01.01.1973
18	Holehonnur	2990	13°58'33"	75°41'06"	552.750	96.390	14.08.2008	06/2010 to 05/2011	01.07.2003	-	01.07.2003
19	Yadgir	69863	16°44'15"	77°07'31"	350.503	361.873	07.09.1969	06/2010 to 05/2011	01.06.1965	01.06.1965	01.01.1972
20	Malkhed	7650	17°12'12"	77°09'23"	390.000	398.270	15.10.1998	06/2010 to 05/2011	15.08.1990	08.09.1992	01.06.1992
21	Wadakbal	12092	17°32'03"	75°53'06"	418.883	428.538	29.09.1989	06/2010 to 05/2011	06.08.1964	01.06.1965	01.09.1972
22	Takli	33916	17°24'51"	75°50'52"	410.778	423.653	12.08.2006	06/2010 to 05/2011	10.08.1965	01.12.1966	01.09.1972
23	Narsingpur	22856	17°58'17"	75°08'21"	448.243	462.383	10.08.2006	06/2010 to 05/2011	22.02.1966	-	-
24	Sarati	7200	17°54'43"	75°00'27"	468.128	476.089	02.08.1976	06/2010 to 05/2011	16.08.1965	01.06.1966	01.09.1972
25	Phulgaon	2205	18°40'01"	74°00'08"	537.000	91.475	27.07.2005	06/2010 to 05/2011	21.07.1992	-	02.08.1993
26	Huvinhedgi	55150	16°29'25"	76°55'23"	342.240	357.840	02.10.2009	06/2010 to 05/2011	01.02.1976	01.06.1976	01.02.1976
27	Talikot	2486	16°29'01"	76°17'03"	496.000	56.520	01.10.2009	06/2010 to 05/2011	21.09.1995	-	-
28	Cholachagudda	9373	15°52'43"	75°43'16"	522.500	536.610	02.10.2009	06/2010 to 05/2011	01.06.1982	01.06.1982	01.06.1982
29	Gokakfalls	2770	16°11'24"	74°47'29"	536.004	546.514	16.07.1994	06/2010 to 05/2011	14.07.1971	-	-
30	Sadalga	2322	16°33'44"	74°31'42"	526.160	538.950	29.06.1983	06/2010 to 05/2011	24.06.1969	-	-
31	Terwad	2425	16°40'31"	74°34'30"	520.000	540.390	06.08.2005	06/2010 to 05/2011	22.08.1979	-	-
32	kurundwad	15190	16°41'01"	74°36'11"	519.455	539.750	06.08.2005	06/2010 to 05/2011	01.06.1972	06.08.2003	01.07.2003
33	Arjunwad	12660	16°46'51"	74°37'59"	523.225	543.680	05.08.2005	06/2010 to 05/2011	12.01.1969	-	-
34	Samdoli	1948	16°51'18"	74°29'50"	529.594	546.324	05.08.2005	06/2010 to 05/2011	01.12.1966	-	-
35	Karad	5462	17°17'40"	74°11'25"	549.962	566.075	30.07.2006	06/2010 to 05/2011	21.06.1965	22.06.1965	01.09.1972
36	Warunji	1890	17°16'20"	74°09'54"	550.937	566.937	30.07.2006	06/2010 to 05/2011	01.01.1966	01.06.1974	01.06.1974

Sources: Water Year Book , (June, 2010 to May, 2011) Krishna Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

VI Basin : Krishna

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Vijayawada	251360	16°30'04"	80°37'30"	8.690	19.272	06.10.2009	2011 - 2012	24.03.1964	01.02.1965	01.01.1972
2	Keesara	9854	16°42'53"	80°19'13"	28.585	36.810	20.05.1969	2011 - 2012	26.06.1964	02.07.1965	01.01.1972
3	Madhira	1850	16°55'05"	80°21'32"	44.500	50.820	21.09.2005	2011 - 2012	07.06.1984	-	01.06.1992
4	Wadenapally	235544	16°47'39"	80°04'23"	22.054	42.484	05.10.2009	2011 - 2012	10.12.1965	01.12.1966	01.01.1972
5	Dameracherla	11501	16°44'21"	79°40'11"	56.000	62.500	05.10.2009	2011 - 2012	27.07.1968	-	01.01.1980
6	Halia	3100	16°47'25"	79°20'19"	129.000	133.507	22.09.1991	2011 - 2012	11.07.1984	-	01.06.1992
7	Bawapuram	67180	15°52'57"	77°57'26"	271.825	281.585	02.10.2009	2011 - 2012	01.04.1964	01.06.1965	01.01.1972
8	Mantralayam	60630	15°56'43"	77°25'38"	308.340	318.770	02.10.2009	2011 - 2012	01.06.1972	26.07.1977	01.08.1977
9	T.Ramapuram	23500	15°39'40"	76°57'56"	349.368	355.948	02.10.2009	2011 - 2012	23.08.1964	-	01.01.1980
10	Kellodu	4320	13°45'00"	76°20'00"	647.750	650.250	13.11.2010	2011 - 2012	11.07.1990	-	01.07.1994
11	Hoovinahole	2585	13°58'57"	76°45'06"	93.500	95.820	06.09.2008	2011 - 2012	02.10.2001	-	01.06.2008
12	Marol	4901	14°56'20"	75°37'05"	508.831	517.459	18.11.1992	2011 - 2012	01.02.1966	16.09.1972	01.02.1973
13	Haralahalli	14582	14°49'50"	75°40'33"	507.436	518.109	18.11.1992	2011 - 2012	01.12.1966	01.11.1972	01.11.1972
14	Byladahalli	2300	14°26'00"	75°46'47"	530.400	537.430	17.11.1992	2011 - 2012	11.06.1985	10.12.1997	02.06.1986
15	Kuppelur	1850	14°30'00"	75°37'45"	533.400	541.840	08.08.2007	2011 - 2012	24.07.1990	-	01.07.1994
16	Honnali	7075	14°14'18"	75°39'30"	533.900	546.400	16.07.1994	2011 - 2012	01.06.1980	15.09.1995	02.06.1986
17	Shimoga	2831	13°56'08"	75°34'41"	558.330	564.760	03.08.1982	2011 - 2012	22.01.1972	14.09.1972	01.01.1973
18	Holehonnur	2990	13°58'33"	75°41'06"	552.750	559.570	05.10.2010	2011 - 2012	01.07.2003	-	01.07.2003
19	Yadgir	69863	16°44'15"	77°07'31"	350.503	361.873	07.09.1969	2011 - 2012	11.11.1964	01.06.1965	01.01.1972
20	Malkhed	7650	17°12'12"	77°09'23"	390.000	398.270	15.10.1998	2011 - 2012	15.08.1990	08.09.1992	01.06.1992
21	Wadakbal	12092	17°32'03"	75°53'06"	418.883	428.538	29.09.1989	2011 - 2012	06.08.1964	01.06.1965	01.09.1972
22	Takli	33916	17°24'51"	75°50'52"	410.778	423.653	12.08.2006	2011 - 2012	01.06.1965	01.12.1966	01.09.1972
23	Narsingpur	22856	17°58'17"	75°08'21"	448.243	462.383	10.08.2006	2011 - 2012	22.02.1966	-	-
24	Sarati	7200	17°54'43"	75°00'27"	468.128	476.089	02.08.1976	2011 - 2012	01.06.1965	01.06.1966	01.09.1972
25	Phulgaon	2205	18°40'01"	74°00'08"	537.000	541.750	01.09.2010	2011 - 2012	20.06.1992	-	02.08.1993
26	Huvinhedgi	55150	16°29'25"	76°55'23"	342.240	357.840	02.10.2009	2011 - 2012	01.02.1976	01.06.1976	01.02.1976
27	Talikota	2486	16°29'01"	76°17'03"	496.000	501.215	26.08.2010	2011 - 2012	21.09.1995	-	-
28	Cholachagudda	9373	15°52'43"	75°43'16"	522.500	536.610	02.10.2009	2011 - 2012	01.06.1982	01.06.1982	01.06.1982
29	Gokakfalls	2770	16°11'24"	74°47'29"	536.004	546.514	16.07.1994	2011 - 2012	14.07.1971	-	-
30	Sadalga	2322	16°33'44"	74°31'42"	526.160	538.950	29.06.1983	2011 - 2012	24.06.1969	-	-
31	Terwad	2425	16°40'31"	74°34'30"	520.000	540.390	06.08.2005	2011 - 2012	22.08.1979	-	-
32	kurundwad	15190	16°41'01"	74°36'11"	519.455	539.750	06.08.2005	2011 - 2012	26.06.1972	06.08.2003	01.07.2003
33	Arjunwad	12660	16°46'51"	74°37'59"	523.225	543.680	05.08.2005	2011 - 2012	12.01.1969	-	-
34	Samdoli	1948	16°51'18"	74°29'50"	529.594	546.324	05.08.2005	2011 - 2012	01.12.1964	-	-
35	Karad	5462	17°17'40"	74°11'25"	549.962	566.075	30.07.2006	2011 - 2012	21.06.1965	22.06.1965	01.09.1972
36	Warunji	1890	17°16'20"	74°09'54"	550.937	566.937	30.07.2006	2011 - 2012	01.01.1966	01.06.1974	01.06.1974

Sources: Water Year Book , (June, 2011 to May, 2012) Krishna Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

VII Basin : Cauvery

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Gopurajapuram	-	10°51'00"	79°48'00"	13.000	3.240	08.11.2005	06/2010 to 05/2011	01.02.1998	-	01.10.2005
2	Annavasal	-	10°58'20"	79°45'20"	4.250	5.985	24.11.1999	06/2010 to 05/2011	01.02.1999	-	01.09.2005
3	Nallathur	-	10°59'30"	79°44'35"	0.000	5.665	28.11.2008	06/2010 to 05/2011	01.06.2006	-	01.09.2008
4	Menaangudi	-	10°56'50"	79°42'20"	4.280	7.940	10.11.1997	06/2010 to 05/2011	21.08.1996	-	01.09.2005
5	Porakudi	-	10°54'10"	79°42'30"	3.000	5.780	21.12.2007	06/2010 to 05/2011	01.02.1999	-	01.09.2005
6	Peralam	-	10°58'00"	79°39'50"	6.000	9.835	27.11.2008	06/2010 to 05/2011	01.02.1999	-	01.09.2005
7	Thengudi	-	10°55'00"	79°38'30"	5.000	9.110	11.12.1998	06/2010 to 05/2011	02.07.1997	07.11.2003	01.09.2005
8	Musiri	66243	10°56'36"	78°26'06"	82.000	86.650	25.10.2005	06/2010 to 05/2011	01.06.1972	31.03.1973	01.06.1978
9	Nallamaranpatty	9080	10°52'51"	77°59'05"	129.000	134.850	19.11.1979	06/2010 to 05/2011	23.01.1978	10.12.1978	16.08.1978
10	Elubthimangalam	3386	11°01'54"	77°53'32"	129.000	132.050	24.10.1999	06/2010 to 05/2011	07.08.1998	-	03.10.2000
11	Kodumudi	53233	11°04'52"	77°53'27"	121.570	127.830	25.10.2005	06/2010 to 05/2011	21.06.1971	11.07.1972	01.06.1978
12	Savandapur	5776	11°31'18"	77°30'36"	180.000	186.878	20.11.1979	06/2010 to 05/2011	17.07.1978	24.04.1979	02.04.1979
13	Thengumarahada	1370	11°34'20"	76°55'15"	336.650	341.075	30.10.1991	06/2010 to 05/2011	01.06.1979	01.06.2002	01.06.1979
14	Nellithurai	1475	11°17'16"	76°53'35"	301.000	307.780	14.07.1994	06/2010 to 05/2011	01.06.1979	01.07.2002	01.06.1979
15	Urachikottai	44100	11°28'40"	77°42'05"	155.000	165.830	06.07.1980	06/2010 to 05/2011	01.06.1979	04.01.2001	01.06.1979
16	Thevur	1248	11°31'38"	77°45'10"	168.000	172.530	01.12.2000	06/2010 to 05/2011	24.09.1999	-	01.10.2001
17	Sevanur	258	11°33'18"	77°42'54"	170.000	171.570	30.11.2000	06/2010 to 05/2011	20.09.1999	-	01.10.2001
18	Thoppur	362	11°56'14"	78°03'18"	320.000	325.810	24.11.2005	06/2010 to 05/2011	21.10.1999	-	01.11.2001
19	Kudlur	709	11°50'26"	77°27'50"	433.000	438.555	19.04.2001	06/2010 to 05/2011	06.03.1999	-	02.02.2001
20	Hogenakkai	1636	12°07'15"	77°47'07"	252.000	256.350	24.10.2005	06/2010 to 05/2011	05.10.1996	-	01.11.2004
21	Billigundulu	36682	12°10'48"	77°43'48"	255.000	265.560	30.07.1991	06/2010 to 05/2011	30.08.1971	01.06.1972	01.06.1978
22	T.Bekuppe	3500	12°31'00"	77°26'00"	604.000	606.700	12.07.2004	06/2010 to 05/2011	24.11.2003	-	01.12.2003
23	Bendgahalli	1900	12°00'03"	77°05'15"	631.000	634.700	22.10.2007	06/2010 to 05/2011	18.08.2005	-	01.04.2008
24	T.K.Halli	7890	12°25'00"	77°11'36"	580.000	585.925	03.10.1984	06/2010 to 05/2011	12.06.1978	01.06.1985	02.06.1979
25	Kollegal	21082	12°11'21"	77°06'00"	622.000	629.750	29.07.1991	06/2010 to 05/2011	06.02.1971	15.03.1972	01.06.1978
26	T.Narasipur	7000	12°13'48"	76°53'46"	635.000	643.187	29.07.1991	06/2010 to 05/2011	12.03.1971	20.03.1972	01.06.1978
27	Muthankera	1260	11°50'00"	76°07'00"	705.000	712.737	22.06.1992	06/2010 to 05/2011	01.06.1973	15.02.1974	01.06.1978
28	K.M.Vadi	1330	12°20'45"	76°17'18"	766.500	772.190	04.07.1980	06/2010 to 05/2011	26.06.1979	-	01.07.1979
29	Akkihebbal	5236	12°36'10"	76°24'10"	745.000	752.245	02.08.2005	06/2010 to 05/2011	23.01.2002	-	02.09.2002
30	M.H.Halli	3050	12°49'06"	76°08'00"	838.000	846.477	28.07.1991	06/2010 to 05/2011	16.10.1978	01.06.1994	01.07.1980
31	Thimmanahalli	1010	12°59'00"	76°02'21"	902.425	909.885	14.08.2008	06/2010 to 05/2011	29.06.2000	-	02.09.2002
32	Sakleshpur	617	12°57'12"	75°47'09"	882.470	892.970	16.07.2009	06/2010 to 05/2011	05.04.2002	-	02.09.2002
33	Chunchunkatte	2995	12°30'24"	76°18'03"	748.000	756.440	14.08.2008	06/2010 to 05/2011	19.07.2008	-	03.10.2008
34	Kudige	1934	12°30'09"	75°57'43"	809.000	820.410	03.07.1980	06/2010 to 05/2011	01.11.1973	01.11.1973	01.06.1978

Source : Water Year Book received from R.D. Dte., West Block-I, R.K. Puram, (June, 2010 to May, 2011) Cauvery Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

VII Basin : Cauvery

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Gopurajapuram	-	10°51'05"	79°48'00"	13.000	3.240	08.11.2005	2011-2012	01.02.1999	-	01.10.2005
2	Annavasal	-	10°58'30"	79°45'14"	4.250	5.985	24.11.1999	2011-2012	01.02.1999	-	01.09.2005
3	Nallathur	-	11°00'30"	79°45'01"	0.000	5.665	28.11.2008	2011-2012	01.06.2006	-	01.09.2008
4	Menaangudi	-	10°56'56"	79°42'14"	4.280	7.940	10.11.1997	2011-2012	21.08.1996	-	01.09.2005
5	Porakudi	-	10°54'14"	79°42'26"	3.000	6.000	31.10.2004	2011-2012	01.02.1999	-	01.09.2005
6	Peralam	-	10°57'59"	79°39'41"	6.000	9.835	27.11.2008	2011-2012	01.02.1999	-	01.09.2005
7	Thengudi	-	10°55'00"	79°38'20"	5.000	9.110	11.12.1998	2011-2012	02.07.1997	07.11.2003	01.09.2005
8	Musiri	66243	10°56'36"	78°26'06"	82.000	86.650	25.10.2005	2011-2012	01.06.1972	31.03.1973	01.06.1978
9	Nallamaranpatty	9080	10°52'51"	77°59'05"	129.000	134.850	19.11.1979	2011-2012	23.01.1978	10.12.1978	16.08.1978
10	Elubthimangalam	3386	11°01'54"	77°53'15"	129.000	132.050	24.10.1999	2011-2012	07.08.1998	-	03.10.2000
11	Kodumudi	53233	11°04'52"	77°53'25"	121.570	127.830	25.10.2005	2011-2012	21.06.1971	11.07.1972	01.06.1978
12	Savandapur	5776	11°31'17"	77°30'36"	180.000	186.878	20.11.1979	2011-2012	17.07.1978	24.04.1979	02.04.1979
13	Thengumarahada	1370	11°34'22"	76°55'09"	336.650	341.075	30.10.1991	2011-2012	01.06.1979	01.06.2002	01.06.1979
14	Nellithurai	1475	11°17'16"	76°53'28"	301.000	307.780	14.07.1994	2011-2012	01.06.1979	01.07.2002	01.06.1979
15	Urachikottai	44100	11°28'40"	77°42'00"	155.000	165.830	06.07.1980	2011-2012	01.06.1979	04.01.2001	01.06.1979
16	Thevur	1248	11°31'38"	77°45'03"	168.000	173.200	27.10.2010	2011-2012	24.09.1999	-	01.10.2001
17	Sevanur	258	11°33'07"	77°43'55"	170.000	172.380	13.10.2009	2011-2012	20.09.1999	-	01.10.2001
18	Thoppur	362	11°56'18"	78°03'26"	320.000	325.810	24.11.2005	2011-2012	21.10.1999	-	01.11.2001
19	Kudlur	709	11°50'26"	77°27'46"	433.000	438.555	19.04.2001	2011-2012	06.03.1999	-	02.02.2001
20	Hogenakkai	1636	12°07'16"	77°46'55"	252.000	256.350	24.10.2005	2011-2012	05.10.1996	-	01.11.2004
21	Billigundulu	36682	12°10'56"	77°43'26"	255.000	265.560	30.07.1991	2011-2012	30.08.1971	01.06.1972	01.06.1978
22	T.Bekuppe	3500	12°30'29"	77°25'39"	604.000	606.700	12.07.2004	2011-2012	24.11.2003	-	01.12.2003
23	Bendgahalli	1900	12°09'13"	77°04'48"	631.000	634.700	22.10.2007	2011-2012	18.08.2005	-	01.04.2008
24	T.K.Halli	7890	12°25'00"	77°11'33"	580.000	585.925	03.10.1984	2011-2012	12.06.1978	01.06.1985	02.06.1979
25	Kollegal	21082	12°11'21"	77°06'00"	622.000	629.750	29.07.1991	2011-2012	06.02.1971	15.03.1972	01.06.1978
26	T.Narasipur	7000	12°13'48"	76°53'39"	635.000	643.187	29.07.1991	2011-2012	12.03.1971	20.03.1972	01.06.1978
27	Muthankera	1260	11°48'30"	76°05'02"	705.000	712.737	22.06.1992	2011-2012	01.06.1973	15.02.1974	01.06.1978
28	K.M.Vadi	1330	12°20'46"	76°17'16"	766.500	772.190	04.07.1980	2011-2012	26.06.1979	-	01.07.1979
29	Akkihebbal	5236	12°36'10"	76°24'03"	745.000	752.245	02.08.2005	2011-2012	23.01.2002	-	02.09.2002
30	M.H.Halli	3050	12°49'08"	76°08'00"	838.000	846.477	28.07.1991	2011-2012	16.10.1978	01.06.1994	01.07.1980
31	Thimmanahalli	1010	12°58'57"	76°02'17"	902.425	909.665	16.07.2009	2011-2012	29.06.2000	-	02.09.2002
32	Sakleshpur	617	12°56'37"	75°47'37"	882.470	892.970	16.07.2009	2011-2012	05.04.2002	-	02.09.2002
33	Chunchunkatte	2995	12°30'34"	76°18'04"	748.000	757.180	19.07.2009	2011-2012	19.07.2008	-	03.10.2008
34	Kudige	1934	12°30'09"	75°57'40"	809.000	820.410	03.07.1980	2011-2012	01.11.1973	01.11.1973	01.06.1978

Source : Water Year Book received from R.D. Dte., West Block-I, R.K. Puram, (June, 2011 to May, 2012 Cauvery Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Marella	-	15°52'55"N	79°54'36"E	95.00	101.420	21.05.2010	06/2010 to 05/2011	28.06.2007	01.08.2007	01.09.2007
2	Nellore	50800	14°28'10"N	79°59'20"E	43.500	51.215	18.11.1991	06/2010 to 05/2011	28.08.1987	-	01.09.1988
3	Nandipalli	2486	14°42'50"N	79°01'20"E	95.000	102.430	19.10.1996	06/2010 to 05/2011	18.06.1990	-	01.06.1994
4	Chennur	37981	14°34'20"N	78°48'00"E	115.805	123.375	24.08.2000	06/2010 to 05/2011	13.07.1989	08.08.1989	01.09.1989
5	Kamalapuram	7187	14°34'50"N	78°40'40"E	135.650	139.200	20.10.1996	06/2010 to 05/2011	16.06.1990	-	01.06.1994
6	Alladupalli	8758	14°42'40"N	78°42'40"E	132.955	142.085	24.06.2007	06/2010 to 05/2011	21.08.1985	11.07.1996	01.07.1987
7	Singavaram	6262	14°35'50"N	78°01'00"E	256.465	260.355	12.09.1988	06/2010 to 05/2011	25.09.1979	-	15.09.1981
8	Tadapatri	12482	14°55'20"N	78°01'10"E	227.500	230.340	04.11.1975	06/2010 to 05/2011	12.12.1971	-	01.09.1979
9	Nagalamadike	5050	14°11'20"N	77°22'20"E	544.550	549.545	12.09.1988	06/2010 to 05/2011	17.07.1978	-	01.06.1980
10	Naidupeta	2650	13°56'50"N	79°53'50"E	42.000	44.340	26.11.1979	06/2010 to 05/2011	01.12.1978	-	01.12.1980
11	Sulurpet	5927	13°42'40"N	80°00'30"E	13.000	19.235	15.11.1991	06/2010 to 05/2011	05.10.1988	-	01.12.1988
12	Chengalpet	16230	12°39'00"N	79°56'50"E	26.000	29.220	14.11.1985	06/2010 to 05/2011	01.10.1978	-	01.06.1979
13	Magaral	1803	12°42'30"N	79°45'00"E	58.000	62.280	16.12.1996	06/2010 to 05/2011	25.11.1971	-	01.11.1983
14	Arcot	10174	12°54'50"N	79°20'00"E	159.000	161.047	18.11.1991	06/2010 to 05/2011	20.09.1979	-	01.06.1988
15	Avarankuppam	3300	12°41'03"N	78°32'13"E	365.275	368.450	11.09.1981	06/2010 to 05/2011	07.06.1978	-	01.08.1979
16	Kumarapalayam	2208	11°59'00"N	79°40'50"E	8.825	12.300	28.11.2008	06/2010 to 05/2011	02.11.2004	-	12.12.2005
17	Villupuram	12900	11°52'14"N	79°27'34"E	43.000	45.700	13.11.1977	06/2010 to 05/2011	09.10.1972	-	01.01.1987
18	Vazhavachanur	10780	12°03'55"N	78°58'42"E	133.000	138.782	17.11.1991	06/2010 to 05/2011	21.07.1978	19.10.2001	01.08.1978
19	Gummanur	4620	12°33'18"N	78°08'20"E	490.000	495.600	24.10.2005	06/2010 to 05/2011	20.09.1978	26.08.1981	20.09.1978
20	Kudalaiyathur	7890	11°25'20"N	79°28'20"E	41.000	48.892	05.12.1993	06/2010 to 05/2011	15.11.1989	-	01.06.1993
21	Paramakudi	6796	09°33'11"N	78°35'10"E	38.000	41.385	20.11.1979	06/2010 to 05/2011	03.11.1971	-	05.11.1989
22	Theni	1200	09°59'58"N	77°29'06"E	281.650	287.950	19.11.1979	06/2010 to 05/2011	01.06.1978	29.01.1979	15.07.1978
23	Ambasamudram	850	09°55'32"N	77°30'46"E	296.500	298.900	08.11.2009	06/2010 to 05/2011	05.01.1999	09.10.2002	01.08.1999
24	Irukkankudi	3721	09°19'26"N	77°59'25"E	46.000	51.000	14.12.1998	06/2010 to 05/2011	25.11.1989	-	01.06.1993
25	Murappanadu	4380	08°42'52"N	77°50'11"E	14.025	21.350	14.11.1992	06/2010 to 05/2011	23.11.1977	15.02.1979	15.08.1978
26	A.P.Puram	1095	08°54'04"N	77°38'55"E	63.000	67.823	14.11.1992	06/2010 to 05/2011	01.12.1979	-	01.06.1993

Source : Water Year Book, (June, 2010 to May, 2011 East Flowing Rivers Basin.



Table 4 : Important Historical Observations by sites and River Basin during 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Marella	-	15°52'55"N	79°54'36"E	95.00	101.420	21.05.2010	2011-2012	28.06.2007	01.08.2007	01.09.2007
2	Nellore	50800	14°28'10"N	79°59'20"E	43.500	51.215	18.11.1991	2011-2012	28.08.1987	-	01.09.1988
3	Nandipalli	2486	14°42'50"N	79°01'20"E	95.000	102.430	19.10.1996	2011-2012	18.06.1990	-	01.06.1994
4	Chennur	37981	14°34'20"N	78°48'00"E	115.805	123.375	24.08.2000	2011-2012	13.07.1989	08.08.1989	01.09.1989
5	Kamalapuram	7187	14°34'50"N	78°40'40"E	135.650	139.200	20.10.1996	2011-2012	16.06.1990	-	01.06.1994
6	Alladupalli	8758	14°42'40"N	78°42'40"E	132.955	142.085	24.06.2007	2011-2012	21.08.1985	11.07.1996	01.07.1987
7	Singavaram	6262	14°35'50"N	78°01'00"E	256.465	260.355	12.09.1988	2011-2012	25.09.1979	-	15.09.1981
8	Tadapatri	12482	14°55'20"N	78°01'10"E	227.500	230.340	04.11.1975	2011-2012	12.12.1971	-	01.09.1979
9	Nagalamadike	5050	14°11'20"N	77°22'20"E	544.550	549.545	12.09.1988	2011-2012	17.07.1978	-	01.06.1980
10	Naidupeta	2650	13°56'50"N	79°53'50"E	42.000	44.340	26.11.1979	2011-2012	01.12.1978	-	01.12.1980
11	Sulurpet	5927	13°42'40"N	80°00'30"E	13.000	19.235	15.11.1991	2011-2012	05.10.1988	-	01.12.1988
12	Chengalpet	16230	12°39'00"N	79°56'50"E	26.000	29.220	14.11.1985	2011-2012	01.10.1978	-	01.06.1979
13	Magaral	1803	12°42'30"N	79°45'00"E	58.000	62.280	16.12.1996	2011-2012	25.11.1971	-	01.11.1983
14	Arcot	10174	12°54'50"N	79°20'00"E	159.000	161.047	18.11.1991	2011-2012	20.09.1979	-	01.06.1988
15	Avarankuppam	3300	12°41'03"N	78°32'13"E	365.275	368.450	11.09.1981	2011-2012	07.06.1978	-	01.08.1979
16	Kumarapalayam	2208	11°59'00"N	79°40'50"E	8.825	12.300	28.11.2008	2011-2012	02.11.2004	-	12.12.2005
17	Villupuram	12900	11°52'14"N	79°27'34"E	43.000	45.700	13.11.1977	2011-2012	09.10.1972	-	01.01.1987
18	Vazhavachanur	10780	12°03'55"N	78°58'42"E	133.000	138.782	17.11.1991	2011-2012	21.07.1978	19.10.2001	01.08.1978
19	Gummanur	4620	12°33'18"N	78°08'20"E	490.000	495.600	24.10.2005	2011-2012	20.09.1978	26.08.1981	20.09.1978
20	Kudalaiyathur	7890	11°25'20"N	79°28'20"E	41.000	48.892	05.12.1993	2011-2012	15.11.1989	-	01.06.1993
21	Paramakudi	6796	09°33'11"N	78°35'10"E	38.000	41.385	20.11.1979	2011-2012	03.11.1971	-	05.11.1989
22	Theni	1200	09°59'58"N	77°29'06"E	281.650	287.950	19.11.1979	2011-2012	01.06.1978	29.01.1979	15.07.1978
23	Ambasamudram	850	09°55'32"N	77°30'46"E	296.500	298.900	08.11.2009	2011-2012	05.01.1999	09.10.2002	01.08.1999
24	Irrukkankudi	3721	09°19'26"N	77°59'25"E	46.000	51.000	14.12.1998	2011-2012	25.11.1989	-	01.06.1993
25	Murappanadu	4380	08°42'52"N	77°50'11"E	14.025	21.350	14.11.1992	2011-2012	23.11.1977	15.02.1979	15.08.1978
26	A.P.Puram	1095	08°54'04"N	77°38'55"E	63.000	67.823	14.11.1992	2011-2012	01.12.1979	-	01.06.1993

Source : Water Year Book, (June, 2011 to May, 2012 East Flowing Rivers Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi

Sl.No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude (N)	Longitude (E)	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Pen	125	18°44'12"	73°06'39"	7.000	14.730	25.07.2005	06/2010 to 05/2011	17.09.1996	-	-
2	Nagothane	420	18°31'09"	73°09'23"	2.000	12.420	16.07.1999	06/2010 to 05/2011	25.09.1996	-	-
3	Badlapur	785	19°09'44"	73°15'16"	9.017	21.097	27.07.2005	06/2010 to 05/2011	27.06.1981	-	02.07.1993
4	Mangaon	259	18°13'53"	73°17'01"	3.905	10.255	24.07.1989	06/2010 to 05/2011	27.06.1980	-	02.07.1993
5	Anjanari	315	16°56'04"	73°30'50"	11.000	18.245	26.07.2005	06/2010 to 05/2011	08.08.1991	-	-
6	Belne Bridge	605	16°13'00"	73°36'00"	8.500	17.660	12.08.2008	06/2010 to 05/2011	16.06.2000	-	03.07.2000
7	Ganjim	880	15°28'16"	74°05'58"	0.000	12.510	29.07.1982	06/2010 to 05/2011	20.01.1979	-	-
8	Collem	117	15°20'20"	74°14'55"	65.000	71.550	01.08.1985	06/2010 to 05/2011	15.12.1979	-	-
9	Santeguli	1090	14°26'00"	74°35'10"	8.000	18.090	13.07.2000	06/2010 to 05/2011	09.06.1988	-	01.09.1993
10	Haladi	583	13°34'52"	74°51'09"	-2.000	21.666	09.08.1986	06/2010 to 05/2011	30.12.1985	-	01.09.1993
11	Avershe	253	13°31'18"	74°52'48"	8.780	95.670	02.08.2005	06/2010 to 05/2011	25.06.2002	-	02.09.2002
12	Yennehole	327	13°17'35"	74°58'50"	15.000	24.650	06.07.2009	06/2010 to 05/2011	24.07.1989	-	01.09.1993
13	Addoor	688	12°55'49"	74°57'11"	-1.000	15.480	04.08.2004	06/2010 to 05/2011	17.07.2003	-	02.09.2002
14	Bantwal	3184	12°53'04"	75°02'35"	1.000	12.650	26.07.1974	06/2010 to 05/2011	01.11.1970	22.06.1972	15/06/1978
15	Erinjipuzha	957	12°29'00"	75°08'50"	9.100	18.790	18.07.1999	06/2010 to 05/2011	25.06.1985	13.06.1988	01.07.1988
16	Perumannu	1070	11°58'10"	75°35'15"	3.470	14.530	17.07.2007	06/2010 to 05/2011	26.06.1985	26.07.1986	02.06.1986
17	Kuttyadi	238	11°37'30"	75°46'00"	0.000	7.790	18.07.2009	06/2010 to 05/2011	13.03.2000	-	01.10.2002
18	Kuniyil	1876	11°14'26"	76°01'32"	0.000	12.530	18.08.1981	06/2010 to 05/2011	04.01.1979	21.01.1979	15.01.1979
19	Karathodu	750	11°03'25"	76°02'18"	2.000	93.615	09.07.1987	06/2010 to 05/2011	20.06.1986	22.06.1989	01.12.1988
20	Kumbidi	5755	10°51'00"	76°02'00"	4.000	9.610	27.06.1985	06/2010 to 05/2011	08.01.1979	24.06.1980	03.12.1979
21	Pulamanthole	940	10°53'50"	76°11'50"	84.500	90.145	09.08.1986	06/2010 to 05/2011	17.02.1986	28.08.1986	02.06.1986
22	Mankara	2775	10°45'40"	76°29'20"	45.830	50.971	14.11.1992	06/2010 to 05/2011	21.06.1985	-	02.06.1986
23	Pudur	1313	10°46'20"	76°34'30"	58.285	64.930	08.11.2009	06/2010 to 05/2011	02.09.1985	-	02.06.1986
24	Ambarampalyam	950	10°37'49"	76°56'50"	217.000	224.780	08.11.2009	06/2010 to 05/2011	09.03.1978	01.08.2002	01.08.1978
25	Arangaly	1342	10°16'50"	76°18'55"	0.000	7.580	27.06.1985	06/2010 to 05/2011	27.04.1978	08.07.1980	01.08.1978
26	Neeleswaram	4234	10°11'00"	76°30'00"	-3.000	9.750	25.06.1971	06/2010 to 05/2011	16.03.1971	26.09.1972	15.06.1978
27	Vandiperiyar	712	09°34'30"	77°05'30"	789.000	793.620	27.07.2005	06/2010 to 05/2011	07.06.2000	-	01.10.2002
28	Ramamangalam	1208	09°50'00"	76°28'00"	0.000	8.300	28.06.1985	06/2010 to 05/2011	25.04.1978	20.02.1979	15.08.1978
29	Kalampur	405	09°59'25"	76°37'50"	5.000	94.955	26.08.1987	06/2010 to 05/2011	23.06.1986	01.06.1988	01.06.1988
30	Kidangoor	615	09°40'30"	76°36'20"	-1.1840	7.900	03.08.1994	06/2010 to 05/2011	02.07.1985	01.06.1987	02.06.1986
31	Kallooppara	731	09°24'10"	76°39'00"	0.000	9.050	03.08.1994	06/2010 to 05/2011	19.06.1985	19.05.1986	02.06.1986
32	Malakkara	1713	09°19'45"	76°39'50"	-1.000	7.790	10.07.2001	06/2010 to 05/2011	19.06.1985	18.06.1986	01.07.1986
33	Thumpamon	810	09°13'40"	76°42'00"	5.000	13.735	07.11.1978	06/2010 to 05/2011	28.01.1978	23.03.1981	15.10.1978
34	Pattazhy	1210	09°04'00"	76°45'40"	3.000	13.702	15.11.1992	06/2010 to 05/2011	20.04.1978	25.09.1980	15.10.1978
35	Ayilam	540	08°42'55"	76°51'15"	0.000	10.367	10.10.1992	06/2010 to 05/2011	18.12.1978	26.12.1978	02.01.1979
36	Kuzhithurai	841	08°18'08"	77°11'19"	0.000	4.715	30.10.2006	06/2010 to 05/2011	01.11.2000	-	02.12.2002
37	Ashramam	258	08°09'30"	77°27'36"	1.000	4.855	09.11.2002	06/2010 to 05/2011	21.09.1999	-	02.12.2002

Source: Water Year Book, (June, 2010 to May, 2011) West Flowing Rivers.

Table 4 : Important Historical Observations by sites and River Basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi											
Sl.No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude (N)	Longitude (E)	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Pen	125	18°44'12"	73°06'39"	7.000	14.730	25.07.2005	2011 - 2012	17.09.1988	-	-
2	Nagothane	420	18°31'09"	73°09'23"	2.000	12.420	16.07.1999	2011 - 2012	25.09.1996	-	-
3	Badlapur	785	19°09'44"	73°15'16"	9.017	21.097	27.07.2005	2011 - 2012	27.06.1981	-	02.07.1993
4	Mangaon	259	18°13'53"	73°17'01"	3.905	10.255	24.07.1989	2011 - 2012	27.06.1980	-	02.07.1993
5	Anjanari	315	16°56'04"	73°30'50"	11.000	18.650	24.07.2010	2011 - 2012	08.08.1991	-	-
6	Belne Bridge	605	16°13'18"	73°36'40"	8.500	17.660	12.08.2008	2011 - 2012	16.06.2000	-	03.07.2000
7	Ganjim	880	15°28'16"	74°05'58"	0.000	12.510	29.07.1982	2011 - 2012	20.01.1979	-	-
8	Collem	117	15°20'20"	74°14'55"	65.000	71.550	10.08.2008	2011 - 2012	15.12.1979	-	-
9	Santeguli	1090	14°26'04"	74°35'20"	8.000	18.090	13.07.2000	2011 - 2012	09.06.1988	-	01.09.1993
10	Haladi	583	13°34'54"	74°51'28"	-2.000	21.666	09.08.1986	2011 - 2012	30.12.1985	-	01.09.1993
11	Avershe	253	13°31'17"	74°52'48"	8.780	95.670	02.08.2005	2011 - 2012	25.06.2002	-	02.09.2002
12	Yennehole	327	13°17'39"	74°58'51"	15.000	24.650	06.07.2009	2011 - 2012	24.07.1989	-	01.09.1993
13	Addoor	688	12°55'44"	74°57'14"	-1.000	15.480	04.08.2004	2011 - 2012	17.07.2003	-	02.09.2002
14	Bantwal	3184	12°52'51"	75°02'28"	1.000	12.650	26.07.1974	2011 - 2012	01.11.1970	22.06.1972	15/06/1978
15	Erinjipuzha	957	12°29'45"	75°09'25"	9.100	18.790	18.07.1999	2011 - 2012	25.06.1985	13.06.1988	01.07.1988
16	Perumannu	1070	11°58'51"	75°34'40"	3.470	14.530	17.07.2007	2011 - 2012	26.06.1985	26.07.1986	02.06.1986
17	Kuttyadi	238	11°39'30"	75°45'30"	0.000	7.790	18.07.2009	2011 - 2012	13.03.2000	-	01.10.2002
18	Kuniyil	1876	11°14'22"	76°01'24"	0.000	12.530	18.08.1981	2011 - 2012	04.01.1979	21.01.1979	15.01.1979
19	Karathodu	750	11°03'25"	76°02'22"	2.000	93.615	09.07.1987	2011 - 2012	20.06.1986	22.06.1989	01.12.1988
20	Kumbidi	5755	10°51'16"	76°01'12"	4.000	9.610	27.06.1985	2011 - 2012	08.01.1979	24.06.1980	03.12.1979
21	Pulamanthole	940	10°53'53"	76°11'31"	84.500	90.145	09.08.1986	2011 - 2012	17.02.1986	28.08.1986	02.06.1986
22	Mankara	2775	10°45'40"	76°29'10"	45.830	50.971	14.11.1992	2011 - 2012	21.06.1985	-	02.06.1986
23	Pudur	1313	10°46'39"	76°30'44"	58.285	64.930	08.11.2009	2011 - 2012	02.09.1985	-	02.06.1986
24	Ambarampalyam	950	10°37'53"	76°56'46"	217.000	224.780	08.11.2009	2011 - 2012	09.03.1978	01.08.2002	01.08.1978
25	Arangaly	1342	10°17'10"	76°19'20"	0.000	7.580	27.06.1985	2011 - 2012	27.04.1978	08.07.1980	01.08.1978
26	Neeleswaram	4234	10°11'01"	76°29'44"	-3.000	9.750	25.06.1971	2011 - 2012	16.03.1971	26.09.1972	15.06.1978
27	Vandiperiyar	712	09°34'24"	77°05'26"	789.000	793.620	27.07.2005	2011 - 2012	07.06.2000	-	01.10.2002
28	Ramamangalam	1208	09°56'37"	76°28'42"	0.000	8.300	28.06.1985	2011 - 2012	25.04.1978	20.02.1979	15.08.1978
29	Kalampur	405	09°59'26"	76°37'56"	5.000	94.955	26.08.1987	2011 - 2012	23.06.1986	01.06.1988	01.06.1988
30	Kidangoor	615	09°40'30"	76°36'10"	-1.184	7.900	03.08.1994	2011 - 2012	02.07.1985	01.06.1987	02.06.1986
31	Kallooppara	731	09°24'13"	76°39'01"	0.000	9.050	03.08.1994	2011 - 2012	19.06.1985	19.05.1986	02.06.1986
32	Malakkara	1713	09°19'57"	76°39'47"	-1.000	7.790	10.07.2001	2011 - 2012	19.06.1985	18.06.1986	01.07.1986
33	Thumpamon	810	09°13'30"	76°42'52"	5.000	13.735	07.11.1978	2011 - 2012	28.01.1978	23.03.1981	15.10.1978
34	Pattazhy	1210	09°04'22"	76°45'40"	3.000	13.702	15.11.1992	2011 - 2012	20.04.1978	25.09.1980	15.10.1978
35	Ayilam	540	08°42'54"	76°51'00"	0.000	10.367	10.10.1992	2011 - 2012	18.12.1978	26.12.1978	02.01.1979
36	Kuzhithurai	841	08°18'21"	77°11'50"	0.000	4.715	30.10.2006	2011 - 2012	01.11.2000	-	02.12.2002
37	Ashramam	258	08°09'33"	77°27'32"	1.000	4.855	09.11.2002	2011 - 2012	21.09.1999	-	02.12.2002

Source: Water Year Book, (June, 2011 to May, 2012) West Flowing Rivers from Kanyakumari to Tapi

**Table 4 : Important Historical Observations by sites and River Basin during 2010-11**

**X Basin : Tapi**

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Burhanpur	8487	21°17'12"N	76°13'18"E	213.000	239.500	29.08.1978	06/2010 to 05/2011	14.09.1972	23.12.1972	01.06.1977
2	Gopalkheda	9500	20°52'35"N	76°59'14"E	236.000	252.100	10.08.1979	06/2010 to 05/2011	17.02.1977	30.07.1979	01.08.1979
3	Yerli	16517	20°56'11"N	76°28'27"E	213.000	233.540	07.08.2006	06/2010 to 05/2011	01.03.1972	09.04.1973	01.06.1977
4	Gidhade	54750	21°17'45"N	74°48'45"E	119.000	141.650	08.08.2006	06/2010 to 05/2011	19.06.1990	-	01.09.1990
5	Sarangkheda	58400	21°25'55"N	74°31'37"E	108.000	126.000	08.08.2006	06/2010 to 05/2011	19.10.1977	13.07.1984	01.01.1980

Sources : Water Year Book, (June, 2010 to May, 2011) Tapi Basin.

**Table 4 : Important Historical Observations by sites and River Basin during 2011-12**

X **Basin : Tapi**

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Burhanpur	8487	21°17'12"	76°30'18"	213.000	239.500	08.07.2007	2011-2012	14.09.1972	23.12.1972	01.06.1977
2	Gopalkheda	9500	20°52'35"	76°59'14"	236.000	252.100	10.08.1979	2011-2012	17.02.1977	30.07.1979	01.08.1979
3	Yerli	16517	20°56'11"	76°28'27"	213.000	233.700	07.08.2006	2011-2012	01.03.1972	09.04.1973	01.06.1977
4	Gidhade	54750	21°17'45"	74°48'45"	119.000	142.950	07.08.2006	2011-2012	19.06.1990	-	01.09.1990
5	Sarangkheda	58400	21°25'55"	74°31'37"	108.000	127.080	08.08.2006	2011-2012	19.10.1977	13.07.1984	01.01.1980

Sources : Water Year Book, (June, 2011 to May, 2012) Tapi Basin.

**Table 4 : Important Historical Observations by sites and River Basin during 2010-11**

XI Basin : Narmada											
Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Chandwada	3846.0	22°01'48"	73°25'30"	18.000	33.500	07.09.1994	1994-1995	01.11.1979	01.08.1988	15.03.1990
2	Gurudeshwar	87892.0	21°53'00"	73°39'00"	10.000	39.780	07.09.1994	1994-1995	23.03.1972	21.03.1973	15.06.1977
3	Jobat	792.0	22°26'50"	74°35'10"	225.000	232.300	03.09.2002	2002-2003	09.08.2001	-	-
4	Pati	2151.0	21°56'37"	74°44'42"	187.000	195.850	05.08.2001	2001-2002	23.02.1999	-	-
5	Dhulsar	787.0	22°12'21"	74°51'7"	151.000	155.100	05.08.2004	2004-2005	15.03.1999	-	-
6	Rajghat	77674.1	22°04'32"	74°51'15"	110.000	131.510	19.08.1984	1984-1985	17.01.1972	23.06.1972	15.06.1979
7	Mandaleshwar	72809.3	22°10'18"	75°39'40"	138.000	157.290	31.08.1973	1973-1974	28.08.1971	14.04.1972	18.06.1979
8	Kogaon	3919.0	22°06'20"	75°40'48"	151.000	161.010	26.06.1979	1979-1980	28.08.1971	-	15.09.1986
9	Ginnore	4815.7	22°10'06"	76°39'42"	218.000	237.650	06.09.1994	1994-1995	21.08.1971	26.12.1972	16.07.1979
10	Mortakka	67184.0	22°13'24"	76°02'39"	153.000	169.000	26.07.1997	1997-1998	23.08.1999	-	01.01.1999
11	Handia	54027.0	22°29'23"	76°59'11"	258.000	273.580	19.08.1984	1984-1985	26.04.1977	11.12.1977	01.08.1977
12	Chhidgaon	1729.0	22°24'22"	77°18'29"	287.000	301.810	08.07.2007	2007-2008	22.12.1976	-	16.09.1986
13	Hoshangabad	44548.0	22°45'22"	77°44'3"	282.000	301.330	30.08.1973	1973-1974	16.09.1972	29.12.1972	15.07.1979
14	Tawakati	1090.0	22°10'15"	77°54'30"	361.000	371.850	30.08.2002	2002-2003	10.05.2001	-	-
15	Shapur	841.0	22°11'03"	77°53'01"	376.000	384.090	24.06.2002	2002-2003	20.06.2000	-	-
16	Sandia	33953.5	22°54'52"	78°20'51"	297.000	316.890	19.09.1999	1999-2000	18.04.1978	09.08.1978	15.09.1979
17	Gadarwara	2270.0	22°55'23"	78°47'23"	321.000	332.470	18.09.1999	1999-2000	01.02.1977	15.06.1978	16.08.1979
18	Barmanghat	26453.0	23°01'52"	79°00'56"	306.000	331.320	30.08.1973	1973-1974	20.11.1971	27.08.1972	01.06.1979
19	Belkheri	1508.0	22°55'40"	79°20'23"	340.000	359.950	21.07.1994	1994-1995	16.03.1977	-	01.09.1986
20	Patan	3950.0	23°18'40"	79°39'43"	341.500	356.080	13.09.1992	1992-1993	30.08.1979	-	01.09.1986
21	Bamni	1864.0	22°29'7"	80°22'33"	440.000	448.500	18.09.1999	1999-2000	30.11.1999	01.07.2002	01.07.2002
22	Jamtara	17157.0	23°05'12"	79°57'06"	360.000	382.000	24.08.1991	1991-1992	22.02.1972	15.07.1972	01.06.1979
23	Hirdaya Nagar	3133.0	22°32'36"	80°23'00"	436.000	445.930	17.07.1994	1994-1995	21.11.1976	26.07.1992	01.09.1986
24	Mohgaon	3919.0	22°45'58"	80°37'23"	447.000	467.300	08.08.2004	2004-2005	13.01.1977	27.08.1992	16.09.1986
25	Amgaon	9344.0	22°30'00"	80°30'00"	430.000	445.520	08.08.2004	2004-2005	07.09.2001	-	-
26	Manot	4667.0	22°44'9"	80°30'44"	442.000	459.650	18.08.1984	1984-1985	16.12.1976	09.11.1979	01.01.1980
27	Dindori	2292.0	22°56'54"	81°04'33"	660.000	669.640	23.08.1991	1991-1992	01.08.1988	-	15.03.1990

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2010 to May, 2011) Narmada Basin.

**Table 4 : Important Historical Observations by sites and River Basin during 2011-12**

**XI Basin : Narmada**

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge (m)	Stage Record		Reference Period	Date of Establishment		
						Peak Water Level (m)	Date of Occurrence		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Chandwada	3846.0	22°01'48"	73°25'30"	18.000	33.550	07.09.1994	2011 - 2012	01.11.1979	01.08.1988	15.03.1980
2	Gurudeshwar	87892.0	21°53'00"	73°39'00"	10.000	39.780	07.09.1994	2011 - 2012	23.03.1972	21.03.1973	15.06.1977
3	Pati	2151.0	21°56'37"	74°44'42"	187.000	195.850	05.08.2001	2011 - 2012	15.06.2008	-	01.07.2008
4	Dhulsar	787.0	22°12'20"	74°51'06"	151.000	155.100	05.08.2004	2011 - 2012	15.06.2008	-	01.08.2008
5	Mandaleshwar	72809.0	22°10'18"	75°39'39"	138.000	157.230	06.09.1994	2011 - 2012	28.08.1971	14.04.1972	18.06.1979
6	Kogaon	3919.0	22°06'06"	75°41'02"	151.000	161.850	03.09.2002	2011 - 2012	01.07.1978	-	15.09.1986
7	Handia	54027.0	22°29'25"	76°59'37"	258.000	273.580	19.08.1984	2011 - 2012	26.04.1977	11.12.1977	01.08.1979
8	Chhidgaon	1729.0	22°24'21"	77°18'28"	287.000	301.810	08.07.2007	2011 - 2012	22.12.1976	-	16.09.1986
9	Hoshangabad	44548.0	22°45'21"	77°43'58"	282.000	300.805	20.08.1974	2011 - 2012	16.09.1972	29.12.1972	15.07.1979
10	Sandia	33953.5	22°54'57"	78°20'51"	297.000	316.890	19.09.1999	2011 - 2012	18.04.1978	09.08.1978	15.09.1979
11	Gadarwara	2270.0	22°55'26"	78°47'20"	321.000	332.470	18.09.1999	2011 - 2012	01.02.1977	15.06.1978	16.08.1979
12	Barmanghat	26453.0	23°01'52"	79°00'56"	306.000	330.455	30.08.1973	2011 - 2012	20.11.1971	27.08.1972	01.06.1979
13	Belkheri	1508.0	22°55'40"	79°20'23"	340.000	359.950	21.07.1994	2011 - 2012	16.03.1977	-	01.09.1986
14	Patan	3950.0	23°18'42"	79°39'46"	341.500	356.800	06.07.2005	2011 - 2012	30.08.1979	-	01.09.1986
15	Bamni	1864.0	22°29'06"	80°22'58"	440.000	446.930	15.09.2005	2011 - 2012	30.11.1999	01.07.2002	01.07.2002
16	Mohgaon	3919.0	22°45'57"	80°37'22"	447.000	467.300	08.08.2004	2011 - 2012	13.01.1977	27.08.1992	16.09.1986
17	Manot	4667.0	22°44'08"	80°30'44"	442.000	459.650	18.08.1984	2011 - 2012	16.12.1976	09.11.1979	01.01.1980
18	Dindori	2292.0	22°56'53"	81°04'34"	660.000	669.640	23.08.1991	2011 - 2012	01.08.1988	-	15.03.1990
19	Bijora	14561.0	22°55'30"	79°55'30"	366.000	377.000	07.08.2005	2011 - 2012	01.06.1967	01.06.1980	-

Source : Water Year Book, (June, 2011 to May, 2012) Narmada Basin.

Table 4 : Important Historical Observations by sites and River Basin during 2010-11

XII Basin : Mahi and Sabarmati

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Khanpur	32510	22°31'55"N	73°08'27"E	8.22	26.820	12.08.2006	06/2010 to 05/2011	21.12.78	01.05.88	01.01.79
2	Chakaliya	3121	23°02'58"N	74°19'14"E	215.0	226.900	11.8.2006	06/2010 to 05/2011	13.02.91	-	-
3	Paderdibadi	16247	23°46'02"N	74°08'12"E	131.0	147.525	19.08.2006	06/2010 to 05/2011	24.06.78	21.07.80	01.07.78
4	Rangeli	8329	23°52'22"N	74°13'25"E	150.0	158.240	19.08.2006	06/2010 to 05/2011	15.07.78	-	01.07.88
5	Dhariawad	1510	24°04'43"N	74°28'02"E	203.0	209.350	11.08.2006	06/2010 to 05/2011	01.06.88	-	-
6	Mataji	3880	23°20'57"N	74°43'31"E	295.0	307.000	04.10.1988	06/2010 to 05/2011	21.07.82	21.07.82	21.07.82
7	Voutha	19636	22°38'59"N	72°32'08"E	12.0	20.660	10.07.2007	06/2010 to 05/2011	24.06.2000	-	01.01.2000
8	Kheda	7550	22°44'45"N	72°40'49"E	19.75	28.200	25.08.1990	06/2010 to 05/2011	10.07.89	-	-
9	Ratanpur(Gadvel)	2916	22°58'31"N	72°53'02"E	39.1	44.980	12.08.2006	06/2010 to 05/2011	11.07.89	-	-
10	Derol Bridge	6724	23°34'24"N	72°48'25"E	89.0	94.730	20.08.1994	06/2010 to 05/2011	01.06.91	25.09.92	15.07.92
11	Kheroj	3650	24°13'45"N	73°00'26"E	211.68	215.450	01.06.2006	06/2010 to 05/2011	22.06.92	-	-
12	Kotra(Jotasan)	1421	24°21'20"N	73°10'05"E	285.0	291.550	20.08.2006	06/2010 to 05/2011	14.06.95	-	-
13	Gandhav	32010	24°59'22"N	71°40'47"E	31.0	38.880	19.07.1979	06/2010 to 05/2011	24.06.74	-	-
14	Balotra(Jasol)	19000	25°49'19"N	72°13'23"E	102.0	106.040	09.09.1992	06/2010 to 05/2011	05.07.90	05.07.90	-
15	Kamalpur	6960	23°47'59"N	71°45'00"E	34.0	38.010	08.09.1992	06/2010 to 05/2011	25.07.71	25.08.73	01.06.77
16	Chitrasani	345	24°17'20"N	72°29'54"E	184.0	186.750	08.09.1992	06/2010 to 05/2011	01.06.90	-	15.07.88
17	Sarotry	2200	24°22'04"N	72°32'48"E	186.0	190.780	08.09.1992	06/2010 to 05/2011	01.06.90	-	-
18	Abu Road	1600	24°29'38"N	72°47'30"E	254.85	258.397	08.09.1992	06/2010 to 05/2011	01.06.90	-	01.07.88
19	Lowara	3953	21°26'36"N	71°33'42"E	56.0	66.930	09.11.1982	06/2010 to 05/2011	29.11.70	29.11.70	29.11.70
20	Ganod	6266	21°39'53"N	70°10'52"E	26.0	34.100	22.06.1983	06/2010 to 05/2011	14.11.70	07.07.73	01.07.73
21	Gungan	2137	22°57'42"N	70°45'52"E	8.0	16.000	24.06.1997	06/2010 to 05/2011	09.12.70	-	-
22	Sapawada	2125	23°32'54"N	72°00'52"E	36.65	43.000	27.06.1997	06/2010 to 05/2011	31.08.89	-	-
23	Mahuwa	1995	21°00'52"N	73°08'25"E	9.0	23.490	04.08.2004	06/2010 to 05/2011	12.11.70	18.06.73	15.06.77
24	Gadat	1510	20°51'22"N	72°59'05"E	1.5	13.010	29.06.2005	06/2010 to 05/2011	12.03.79	01.02.85	01.04.80
25	Durvesh	2019	19°42'45"N	72°55'50"E	0.0	15.220	17.09.1998	06/2010 to 05/2011	26.01.71	26.01.71	01.06.77
26	Pingalwada	2400	22°06'37"N	73°04'44"E	2.0	19.050	09.09.1994	06/2010 to 05/2011	30.06.89	-	15.03.90
27	Ozerkheda	640	20°06'01"N	73°16'16"E	80.1	90.390	03.08.2004	06/2010 to 05/2011	01.06.84	01.06.91	-
28	Nanipalsan	764	20°12'00"N	73°17'00"E	95.0	103.925	03.08.2004	06/2010 to 05/2011	01.06.91	-	-
29	Motinaroli	804	21°24'16"N	72°57'48"E	5.0	36.980	01.08.1991	06/2010 to 05/2011	17.10.90	-	01.07.91

Source: Water Year Book, (June, 2010 to May, 2011) Mahi, Sabarmati & Others West Flowing River.



Table 4 : Important Historical Observations by sites and River Basin during 2011-12

XII Basin : Mahi and Sabarmati

Sl. No.	Site Name	Drainage Area (Km <sup>2</sup> )	Latitude	Longitude	Zero of Gauge	Stage Record		Reference Period	Date of Establishment		
						Peak Water	Date of		Discharge	Sediment	Water Quality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Khanpur	32510	22°31'55"N	73°08'27"E	8.220	26.820	12.08.2006	2011-2012	21.12.1978	01.05.1988	01.01.1979
2	Chakaliya	3121	23°02'58"N	74°19'14"E	215.000	226.900	11.8.2006	2011-2012	13.02.1991	-	-
3	Paderdibadi	16247	23°46'02"N	74°08'12"E	131.000	147.525	19.08.2006	2011-2012	24.06.1978	21.07.1980	01.07.1978
4	Rangeli	8329	23°52'22"N	74°13'25"E	150.000	158.240	19.08.2006	2011-2012	15.07.1978	-	01.07.1988
5	Dhariawad	1510	24°04'43"N	74°28'02"E	203.000	209.350	11.08.2006	2011-2012	01.06.1988	-	-
6	Mataji	3880	23°20'57"N	74°43'31"E	295.000	307.000	04.10.1988	2011-2012	21.07.1982	21.07.1982	21.07.1982
7	Voutha	19636	22°38'59"N	72°32'08"E	12.000	20.660	10.07.2007	2011-2012	24.06.2000	-	01.01.2000
8	Kheda	7550	22°44'45"N	72°40'49"E	19.750	28.200	25.08.1990	2011-2012	10.07.1989	-	-
9	Ratanpur(Gadvel)	2916	22°58'31"N	72°53'02"E	39.100	44.980	12.08.2006	2011-2012	11.07.1989	-	-
10	Derol Bridge	6724	23°34'24"N	72°48'25"E	89.000	94.730	20.08.1994	2011-2012	01.06.1991	25.09.1992	15.07.1992
11	Kheroj	3650	24°13'45"N	73°00'26"E	211.680	215.450	01.06.2006	2011-2012	22.06.1992	-	-
12	Kotra(Jotasan)	1421	24°21'20"N	73°10'05"E	285.000	291.550	20.08.2006	2011-2012	14.06.1995	-	-
13	Gandhav	32010	24°59'22"N	71°40'47"E	31.000	38.880	19.07.1979	2011-2012	24.06.1974	-	-
14	Balotra(Jasol)	19000	25°49'19"N	72°13'23"E	102.000	106.040	09.09.1992	2011-2012	05.07.1990	-	-
15	Kamalpur	6960	23°47'59"N	71°45'00"E	34.000	38.010	08.09.1992	2011-2012	25.07.1971	25.08.1973	01.06.1977
16	Chitrasani	345	24°17'20"N	72°29'54"E	184.000	187.120	12.09.2011	2011-2012	01.06.1990	-	15.07.1988
17	Sarotry	2200	24°22'04"N	72°32'48"E	186.000	190.780	08.09.1992	2011-2012	01.06.1990	-	-
18	Abu Road	1600	24°29'38"N	72°47'30"E	254.850	258.397	08.09.1992	2011-2012	01.06.1990	-	01.07.1988
19	Lowara	3953	21°26'36"N	71°33'42"E	56.000	66.930	09.11.1982	2011-2012	29.11.1970	29.11.1970	29.11.1970
20	Ganod	6266	21°39'53"N	70°10'52"E	26.000	34.100	22.06.1983	2011-2012	14.11.1970	07.07.1973	01.07.1973
21	Gungan	2137	22°57'42"N	70°45'52"E	8.000	16.000	24.06.1997	2011-2012	09.12.1970	-	-
22	Sapawada	2125	23°32'54"N	72°00'52"E	36.650	43.000	27.06.1997	2011-2012	31.08.1989	-	-

Source: Water Year Book, (June, 2011 to May, 2012) Mahi, Sabarmati & Others West Flowing River.

Table 5 : Flow of Water by season site and river basin

I Basin Mahanadi			Unit : M.C.M.									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiarkhore	Monsoon	279	419	279	639	213	199	84	34	217	292
		Non-Monsoon	9	25	24	18	6	9	2	1	9	13
		Annual	288	444	303	657	219	208	87	35	227	305
2	Bamnidhi	Monsoon	2540	5998	3506	3218	2309	1993	1486	896	1328	4164
		Non-Monsoon	549	1289	904	1146	863	443	316	170	174	165
		Annual	3089	7287	4410	4364	3172	2436	1802	1066	1502	4328
3	Baronda	Monsoon	162	2593	1161	1249	1960	2871	1822	632	1853	799
		Non-Monsoon	3	25	18	15	7	8	3	2	10	1
		Annual	165	2618	1179	1264	1966	2879	1825	634	1864	800
4	Basantpur	Monsoon	7841	29465	16116	24336	22784	24210	12754	14252	19539	22030
		Non-Monsoon	505	2331	1538	1505	1386	680	739	350	486	634
		Annual	8345	31796	17655	25840	24170	24891	13493	14602	20024	22663
5	Ghatora	Monsoon	350	1047	550	954	503	645	496	224	395	1091
		Non-Monsoon	6	42	32	27	5	9	4	0	1	0
		Annual	356	1089	582	980	508	654	500	224	396	1091
6	Jondhra	Monsoon	2852	12473	6027	12552	7451	10156	3451	4280	9213	11410
		Non-Monsoon	51	257	247	164	72	161	41	38	0	0
		Annual	2903	12729	6274	12716	7523	10316	3492	4318	9213	11410
7	Kantamal	Monsoon	3501	13478	11265	7742	19861	15324	16770	10523	9036	6305
		Non-Monsoon	525	1844	1293	1576	1211	1430	1169	919	1240	319
		Annual	4025	15322	12558	9319	21072	16753	17939	11442	10276	6624

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**Table 5 : Flow of Water by season site and river basin**

I Basin Mahanadi			Unit : M.C.M.										
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
8	Kelo at Raigarh	Monsoon	547	747	722	814	391	575	843	345	271	563	
		Non-Monsoon	-	-	-	-	-	-	-	-	-	-	-
		Annual	547	747	722	814	391	575	843	345	271	563	
9	Kesinga	Monsoon	1923	10795	7525	5443	13253	11117	9315	5737	6388	4416	
		Non-Monsoon	431	1561	1099	1104	1146	1271	898	594	976	268	
		Annual	2354	12356	8624	6548	14399	12388	10213	6330	7364	4685	
10	Kotni	Monsoon	450	2887	1075	2651	2190	2712	855	413	2346	1879	
		Non-Monsoon	0	8	65	11	1	16	0	0	0	0	
		Annual	450	2895	1139	2663	2191	2728	855	413	2346	1879	
11	Kurubhata	Monsoon	1804	2824	1867	1902	1577	1766	2051	940	1211	2867	
		Non-Monsoon	68	143	191	45	37	59	49	37	53	134	
		Annual	1872	2967	2058	1946	1615	1825	2100	977	1264	3002	
12	Manendragarh	Monsoon	209	444	275	380	249	150	301	143	185	445	
		Non-Monsoon	8	19	19	43	10	3	8	6	1	2	
		Annual	216	464	294	423	259	153	309	149	186	447	
13	Parmanpur	Monsoon	1009	2528	603	1574	1691	1919	1763	658	411	1729	
		Non-Monsoon	-	-	-	-	-	-	-	-	-	-	
		Annual	1009	2528	603	1574	1691	1919	1763	658	411	1729	
14	Pathardih	Monsoon	323	1201	937	1719	1192	1125	566	739	1000	1311	
		Non-Monsoon	0	11	29	14	7	2	0	0	1	0	
		Annual	323	1212	965	1733	1198	1128	566	739	1000	1312	
15	Rajim	Monsoon	722	6152	3148	2743	4733	3998	2764	1514	3490	1982	
		N-Monsoon	25	62	51	22	17	40	25	5	42	1	
		Annual	746	6214	3199	2765	4750	4038	2789	1519	3532	1983	

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**Table 5 : Flow of Water by season site and river basin**

I Basin Mahanadi Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
16	Rampur	Monsoon	460	4345	865	987	2183	1793	1035	684	764	1249
		Non-Monsoon	39	39	24	14	3	4	0	4	7	14
		Annual	499	4384	889	1001	2186	1797	1035	688	771	1263
17	Salebhata	Monsoon	914	4890	1594	1036	3614	1723	1963	2277	1000	2112
		Non-Monsoon	11	57	34	25	22	34	15	38	8	28
		Annual	925	4946	1628	1061	3636	1757	1978	2314	1008	2140
18	Seorinarayan	Monsoon	6168	25702	15078	22160	19768	20763	10380	10394	14273	18075
		Non-Monsoon	78	401	525	209	185	220	129	163	384	415
		Annual	6246	26103	15603	22369	19953	20984	10509	10557	14657	18490
19	Simga	Monsoon	1887	6974	3127	9206	5963	7352	1998	2529	4837	5744
		Non-Monsoon	31	124	189	66	46	87	17	50	102	67
		Annual	1918	7098	3317	9273	6009	7439	2015	2578	4940	5811
21	Tikarpara	Monsoon	19574	63246	36778	42115	56555	47790	38309	39422	33466	39915
		Non-Monsoon	4225	7073	4652	4701	5389	7227	7369	4105	5830	5311
		Annual	23799	70318	41430	46816	61944	55017	45678	43527	39296	45227

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) Data in CD (2002-03 to 2011-12) Mahanadi Basin.

Table 5 : Flow of Water by season site and river basin

**II Basin : Subarnarekha, Burhabalang & Baitarni** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	Monsoon	1794	1520	1999	1127	3737	4479	3426	2174	203	3140
		Non-Monsoon	83	77	65	74	68	96	49	57	31	71
		Annual	1878	1597	2065	1201	3804	4575	3474	2231	234	3211
2	Anandpur	Monsoon	1778	4512	3216	4974	5203	8246	5038	2464	1154	6479
		Non-Monsoon	153	225	230	315	271	355	214	128	153	329
		Annual	1931	4737	3446	5289	5474	8602	5253	2592	1307	6808
3	Champua	Monsoon	408	842	791	1050	1084	1610	1313	655	389	1567
		Non-Monsoon	70	103	100	95	94	119	109	52	51	100
		Annual	478	945	891	1145	1178	1729	1422	707	440	1667
4	Fekoghat	Monsoon	413	353	669	306	618	605	507	157	68	506
		Non-Monsoon	-	-	-	-	-	-	-	-	-	-
		Annual	413	353	669	306	618	605	507	157	68	506
5	Ghatsila	Monsoon	4365	3976	4596	2809	9941	11415	9580	6845	1312	12681
		Non-Monsoon	346	207	379	238	730	540	534	693	544	1194
		Annual	4711	4184	4975	3048	10671	11955	10115	7538	1856	13876
6	Govindpur	Monsoon	2087	2918	2993	2901	3518	4903	4583	3084	1687	4236
		Non-Monsoon	170	251	141	174	138	197	108	106	163	128
		Annual	2257	3170	3134	3075	3656	5100	4691	3190	1851	4364
7	Jamshedpur	Monsoon	4215	3673	4413	2229	7944	8480	8972	4768	618	8875
		Non-Monsoon	363	170	202	229	432	240	222	554	176	387
		Annual	4578	3843	4615	2457	8376	8720	9194	5322	795	9262
8	Muri	Monsoon	289	383	372	219	660	660	697	260	63	664
		Non-Monsoon	163	134	132	15	68	50	46	30	10	27
		Annual	452	517	504	234	727	710	743	290	73	691

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) Data in CD,(2002-03 to 2011-12) Subarnarekha, Burhabalang & Baitarni Basin.

**Table 5 : Flow of Water by season site and river basin**

**III Basin : Brahmani** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	<b>Altuma</b>	Monsoon	267	1044	250	771	516	718	598	597	217	831
		Non-Monsoon	32	53	43	60	48	53	54	48	26	68
		Annual	299	1096	293	831	565	770	652	645	243	899
2	<b>Gomlai</b>	Monsoon	7475	9855	7805	6464	10464	15679	13046	6108	2878	15450
		Non-Monsoon	261	451	364	357	318	434	301	201	168	431
		Annual	7735	10306	8169	6821	10782	16113	13347	6309	3046	15882
3	<b>Jaraikela</b>	Monsoon	2937	4019	3374	2401	4140	5573	4717	2117	987	5039
		Non-Monsoon	138	220	166	184	206	229	134	98	94	272
		Annual	3075	4239	3540	2585	4347	5801	4851	2215	1081	5311
4	<b>Jenapur</b>	Monsoon	7955	18096	10132	14233	12828	20287	17695	8855	3525	18488
		Non-Monsoon	2831	3316	2412	2312	1982	2249	2180	2084	1880	3428
		Annual	10785	21413	12544	16546	14810	22536	19875	10940	5405	21915
5	<b>Panposh</b>	Monsoon	7525	8970	7178	6665	9576	13145	11764	6378	2942	17698
		Non-Monsoon	280	550	419	418	303	435	350	232	256	502
		Annual	7804	9519	7598	7083	9879	13580	12114	6611	3198	18199
6	<b>Tilga</b>	Monsoon	1494	2106	1603	1706	1519	1796	1946	1577	833	2505
		Non-Monsoon	62	129	81	62	69	68	41	51	68	128
		Annual	1556	2236	1684	1768	1588	1864	1987	1628	901	2633

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) Data in CD (2002-03 to 2011-12) Brahmani Basin.

Table 5 : Flow of Water by season site and river basin

**IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	<b>Purushottampur</b>	Monsoon	863	3070	1072	2660	2876	2549	2033	2116	2457	986
		Non-Monsoon	14	268	26	88	36	76	34	82	354	36
		Annual	878	3338	1098	2748	2912	2624	2067	2199	2811	1022
2	<b>Gunupur</b>	Monsoon	627	2761	1759	2071	4967	2506	2561	2473	2080	1537
		Non-Monsoon	53	338	148	309	219	257	155	147	299	119
		Annual	681	3099	1907	2381	5186	2763	2716	2620	2379	1656
3	<b>Kashinagar</b>	Monsoon	596	3160	2582	2337	6047	3520	2875	2631	2767	1797
		Non-Monsoon	33	322	167	313	374	449	195	176	372	157
		Annual	629	3482	2749	2650	6422	3968	3070	2807	3138	1955
4	<b>Srikakulam</b>	Monsoon	483	2024	1612	1761	4388	3331	2573	1920	4841	1511
		Non-Monsoon	67	341	129	157	277	430	209	237	1067	213
		Annual	550	2365	1741	1918	4665	3760	2782	2157	5907	1724
5	<b>Anakapalli</b>	Monsoon	27	186	282	884	592	1027	301	83	1268	833
		Non-Monsoon	0	112	46	108	59	123	43	0	436	39
		Annual	27	297	328	992	651	1150	344	83	1705	873

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation,CWC,Mahanadi Bhawan,A-13&14,P.O. Bhoi Nagar,Bhubaneswar(Ordisha)Data in CD(2002-03 to 2011-11)Rushikulya,Vamsadhara, Sarada & Nagavali Basin.

Table 5 : Flow of Water by season site and river basin

V Basin : Godavari		Unit : M.C.M.										
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ambabal	Monsoon	315	1129	734	545	1521	1109	711	473	1134	478
		Non-Monsoon	85	24	14	4	9	5	1	1	8	165
		Annual	400	1153	748	549	1529	1113	712	474	1142	642
2	Betmogra	Monsoon	111	221	26	439	210	44	15	0	229	228
		Non-Monsoon	0	2	2	5	4	5	0	0	7	8
		Annual	111	223	27	444	214	49	15	0	236	236
3	Bhadrachalam	Monsoon	-	-	-	-	-	70604	48106	25079	105890	45598
		Non-Monsoon	-	-	-	-	-	2752	1051	977	2291	1908
		Annual	-	-	-	-	-	73356	49157	26056	108181	47506
4	Bhatkheda	Monsoon	3	29	8	448	-	-	-	-	-	-
		Non-Monsoon	0	0	0	0	-	-	-	-	-	-
		Annual	3	29	8	448	-	-	-	-	-	-
5	Cherribeda	Monsoon	230	1162	803	595	1197	941	366	372	827	306
		Non-Monsoon	4	30	23	11	20	11	5	3	15	11
		Annual	234	1191	826	606	1216	952	371	374	842	317
6	Chindnar	Monsoon	3318	8190	8554	7642	15295	10513	6603	4484	11844	4640
		Non-Monsoon	30	275	193	117	129	99	50	86	243	135
		Annual	3348	8464	8747	7759	15424	10612	6654	4570	12087	4775
7	Degloor	Monsoon	100	359	110	500	385	65	78	25	297	221
		Non-Monsoon	0	0	0	3	1	0	0	0	0	0
		Annual	100	359	110	503	386	65	78	25	297	221
8	Dhalegaon	Monsoon	274	59	122	3629	6550	886	1034	172	408	193
		Non-Monsoon	0	0	0	5	12	4	0	0	0	0
		Annual	274	59	122	3633	6562	890	1034	172	408	193
9	G.R.Bridge	Monsoon	528	144	106	4601	7075	887	1048	65	698	498
		Non-Monsoon	0	1	5	44	0	69	0	0	0	0
		Annual	528	145	111	4644	7075	956	1048	65	698	498
10	Gandlapet	Monsoon	7	3	3	23	100	0	0	0	63	62
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	7	3	3	23	100	0	0	0	63	62
11	Ghargaon	Monsoon	519	623	687	1060	-	-	-	-	-	-
		Non-Monsoon	0	0	0	0	-	-	-	-	-	-
		Annual	519	623	687	1060	-	-	-	-	-	-
12	Injaram	Monsoon	4768	12758	9435	7630	1779	-	-	-	-	-
		Non-Monsoon	792	2312	1718	1752	-	-	-	-	-	-
		Annual	5560	15069	11153	9381	1779	-	-	-	-	-

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Table 5 : Flow of Water by season site and river basin

V Basin : Godavari			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
13	Jagdapur	Monsoon	1127	3169	2317	1730	3471	3056	1824	1342	2728	1160
		Non-Monsoon	40	87	57	75	61	63	44	64	113	49
		Annual	1167	3256	2374	1805	3532	3119	1868	1406	2841	1210
14	Koida	Monsoon	49543	82178	41916	93834	20	-	-	-	-	-
		Non-Monsoon	3030	6555	4657	7366	-	-	-	-	-	-
		Annual	52573	88733	46574	101200	20	-	-	-	-	-
15	Konta	Monsoon	5090	13796	11720	10218	19994	15951	10692	6090	15738	7442
		Non-Monsoon	1683	4243	2755	3523	3109	3575	2342	1482	3730	2274
		Annual	6773	18039	14475	13741	23103	19526	13034	7572	19468	9716
16	Kosagumda	Monsoon	304	1146	1029	724	1324	1281	970	583	1287	646
		Non-Monsoon	1	33	31	26	21	16	7	9	45	16
		Annual	306	1178	1061	750	1345	1297	977	592	1332	662
17	Mancherial	Monsoon	2451	3203	262	10898	14815	925	2171	431	9436	2381
		Non-Monsoon	122	117	28	243	300	185	169	34	332	266
		Annual	2573	3320	290	11141	15115	1110	2340	464	9767	2647
18	Murthahandi	Monsoon	789	1360	1076	859	1622	1456	947	828	1364	781
		Non-Monsoon	50	168	138	130	149	220	150	141	281	120
		Annual	839	1528	1214	989	1771	1676	1097	969	1645	900
19	Nowrangpur	Monsoon	440	1552	917	716	2181	1541	660	583	1070	484
		Non-Monsoon	40	82	53	63	61	140	115	105	155	46
		Annual	479	1635	971	779	2242	1682	775	689	1225	531
20	Pachegaon	Monsoon	24	37	347	1277	2423	1414	950	18	215	380
		Non-Monsoon	0	0	0	0	0	0	0	0	7	0
		Annual	24	37	347	1277	2423	1414	950	18	222	380
21	Pathagudem	Monsoon	11082	30839	18820	21365	36592	24520	18300	11128	30610	13336
		Non-Monsoon	103	654	446	354	480	428	172	140	562	323
		Annual	11185	31493	19266	21719	37072	24948	18472	11268	31172	13658
22	Perur	Monsoon	43073	63632	31796	82213	106875	63327	40177	22493	97825	50737
		Non-Monsoon	953	1980	1415	1926	2011	1605	919	857	2405	1836
		Annual	44027	65612	33212	84139	108886	64931	41097	23350	100229	52573
23	Polavaram	Monsoon	49256	82402	45441	98327	124623	88589	55646	26655	110940	50647
		Non-Monsoon	2216	6599	5144	8276	7245	5255	2834	2368	6231	5171
		Annual	51472	89001	50584	106603	131868	93844	58479	29023	117171	55818
24	Potteru (Seasonal)	Monsoon	622	1926	1674	1117	2319	2495	1302	992	1728	1311
		Non-Monsoon	474	1155	776	925	927	-	520	-	-	69
		Annual	1095	3081	2450	2042	3246	2495	1822	992	1728	1380

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Table 5 : Flow of Water by season site and river basin

V Basin : Godavari Unit : MCM

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
25	Purna	Monsoon	2023	482	215	2680	5532	281	343	227	1492	344
		Non-Monsoon	27	18	0	10	66	13	0	0	74	12
		Annual	2050	500	215	2689	5598	294	343	227	1565	357
26	Saigaon	Monsoon	20	86	24	953	675	438	917	39	2367	587
		Non-Monsoon	0	0	0	1	0	0	0	0	18	0
		Annual	20	86	24	954	675	438	917	39	2384	587
27	Sangam	Monsoon	147	278	404	437	229	164	260	22	454	143
		Non-Monsoon	1	15	2	13	18	36	11	19	42	8
		Annual	148	293	406	450	247	200	271	41	496	151
28	Saradaput	Monsoon	2948	4965	4825	3106	6754	6227	3416	2446	4675	2841
		Non-Monsoon	250	993	771	690	846	907	549	302	874	445
		Annual	3198	5958	5596	3796	7600	7134	3965	2748	5548	3286
29	Somanpally (Seasonal)	Monsoon	446	259	11	754	2039	703	1117	117	1993	306
		Non-Monsoon	10	17	0	29	45	1	1	2	27	8
		Annual	456	276	11	783	2084	703	1118	119	2020	314
30	Sonarpal	Monsoon	362	1188	784	632	1102	801	619	487	983	342
		Non-Monsoon	10	26	10	5	5	1	10	2	15	2
		Annual	372	1215	794	637	1107	803	629	489	998	344
31	Tumnar	Monsoon	492	1712	1285	817	1799	1957	1092	577	1829	685
		Non-Monsoon	15	83	41	54	38	57	39	33	48	50
		Annual	506	1795	1326	871	1837	2014	1131	610	1877	735
32	Yelli	Monsoon	2727	1262	185	9014	12960	1784	1707	511	4985	1383
		Non-Monsoon	19	3	2	11	15	0	0	0	0	0
		Annual	2746	1265	187	9025	12974	1784	1707	511	4985	1383
33	Zari	Monsoon	470	108	47	672	764	123	139	161	618	192
		Non-Monsoon	0	0	0	0	1	0	0	0	0	0
		Annual	470	108	47	672	765	123	139	161	618	192
34	Ashti	Monsoon	14687	20196	7436	28181	22952	22628	11267	9648	26180	-
		Non-Monsoon	547	1068	528	1309	927	1081	286	1031	859	-
		Annual	15235	21264	7963	29490	23879	23709	11553	10680	27039	-
35	Bamni	Monsoon	12730	8646	1062	11412	15522	10844	3019	905	16284	-
		Non-Monsoon	305	266	215	517	621	594	148	120	897	-
		Annual	13036	8912	1278	11930	16143	11438	3167	1025	17181	-
36	Bhatpalli	Monsoon	496	885	275	967	1258	666	480	146	1308	-
		Non-Monsoon	53	94	33	99	80	58	58	21	151	-
		Annual	549	979	308	1066	1339	725	538	166	1459	-

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Table 5 : Flow of Water by season site and river basin

V Basin : Godavari			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
37	Bishnir*	Monsoon	196	139	193	232	-	-	-	-	-	-
		Non-Monsoon	170	144	149	-	-	-	-	-	-	-
		Annual	366	283	342	232	-	-	-	-	-	-
38	Ghughus*	Monsoon	2430	2304	600	5131	-	-	-	-	-	-
		Non-Monsoon	84	115	117	-	-	-	-	-	-	-
		Annual	2514	2419	718	5131	-	-	-	-	-	-
39	Hivra	Monsoon	860	407	260	1530	2293	3270	211	72	1875	-
		Non-Monsoon	40	46	58	131	152	222	-	-	0	-
		Annual	901	453	318	1661	2445	3492	211	72	1875	-
40	Kanergaon	Monsoon	1229	116	32	227	1087	292	99	94	1307	-
		Non-Monsoon	3	0	0	4	13	3	0	-	27	-
		Annual	1232	116	32	231	1099	294	99	94	1333	-
41	Keolari	Monsoon	1148	1070	246	1088	1343	870	253	862	1282	-
		Non-Monsoon	65	105	42	99	92	128	50	83	142	-
		Annual	1213	1175	289	1187	1435	998	302	945	1424	-
42	Kumhari	Monsoon	3313	3701	1071	3508	3969	2147	1858	2020	3142	-
		Non-Monsoon	143	166	130	270	223	218	140	228	238	-
		Annual	3456	3866	1200	3778	4191	2365	1998	2248	3380	-
43	Mangrul	Monsoon	849	43	8	347	607	155	22	29	410	-
		Non-Monsoon	27	9	0	79	39	40	-	0	15	-
		Annual	877	52	8	426	646	194	22	29	425	-
44	Marlegaon*	Monsoon	2881	372	27	1174	-	-	-	-	-	-
		Non-Monsoon	67	15	5	-	-	-	-	-	-	-
		Annual	2948	387	33	1174	-	-	-	-	-	-
45	Medapalli	Monsoon	920	1706	1006	3666	-	-	-	-	-	-
		Non-Monsoon	11	92	64	-	-	-	-	-	-	-
		Annual	931	1799	1071	3666	-	-	-	-	-	-
46	Mirdapalli	Monsoon	9007	31076	24885	36206	-	-	-	-	-	-
		Non-Monsoon	2959	7556	6186	9225	-	-	-	-	-	-
		Annual	11966	38632	31072	45432	-	-	-	-	-	-
47	Nandgaon	Monsoon	511	554	167	926	827	1442	296	148	2420	-
		Non-Monsoon	65	84	64	141	118	108	42	72	145	-
		Annual	577	638	230	1067	945	1551	339	220	2565	-
48	P.G. Bridge	Monsoon	7978	3533	260	5067	8232	1667	1088	442	7126	-
		Non-Monsoon	144	50	6	112	142	63	5	3	225	-
		Annual	8122	3583	266	5179	8374	1729	1093	445	7351	-

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**Table 5 : Flow of Water by season site and river basin**

V Basin : Godavari			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
49	Pauni*	Monsoon	7819	11161	3226	14519	-	-	-	-	-	-
		Non-Monsoon	475	849	403	-	-	-	-	-	-	-
		Annual	8295	12010	3630	14519	-	-	-	-	-	-
50	Rajegaon	Monsoon	2469	3033	945	3651	3394	2060	1815	1165	2845	-
		Non-Monsoon	9	92	69	179	72	107	26	101	43	-
		Annual	2479	3125	1014	3830	3465	2167	1840	1266	2888	-
51	Rajoli	Monsoon	493	581	265	1016	484	1214	320	121	1100	-
		Non-Monsoon	4	8	22	13	14	18	2	5	15	-
		Annual	497	588	287	1029	498	1232	322	126	1115	-
52	Ramakona	Monsoon	466	865	208	790	1031	1164	118	769	564	-
		Non-Monsoon	7	25	4	32	21	25	4	49	39	-
		Annual	473	890	212	821	1053	1189	123	818	603	-
53	Salebardi	Monsoon	784	531	220	1102	897	820	271	305	1265	-
		Non-Monsoon	5	6	23	8	6	4	1	12	12	-
		Annual	788	537	243	1110	904	824	271	317	1278	-
54	Satapur	Monsoon	764	1772	587	2180	1775	1752	335	1301	1544	-
		Non-Monsoon	126	289	37	201	106	167	61	188	227	-
		Annual	890	2061	625	2381	1881	1919	396	1489	1771	-
55	Sirpur	Monsoon	10162	9743	1217	12641	14427	9516	3536	1032	18633	-
		Non-Monsoon	320	325	322	510	775	591	115	78	667	-
		Annual	10482	10068	1538	13150	15202	10107	3651	1109	19300	-
56	Tekra	Monsoon	24257	29680	11014	37668	44546	36096	18617	11703	43397	-
		Non-Monsoon	981	1810	1093	2225	1923	1871	613	1152	2163	-
		Annual	25238	31490	12107	39893	46469	37967	19230	12855	45560	-
57	Wairagarh	Monsoon	718	1141	584	1382	1198	1487	467	488	1045	-
		Non-Monsoon	1	16	11	15	8	9	0	6	21	-
		Annual	719	1156	595	1396	1206	1495	468	494	1066	-

Source : SE, Godavari Circle, Central Water Commission, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills

Note : \* : Discharge observations suspended from 01.11.2005.

Table 5 : Flow of Water by season site and river basin

VI Basin : Krishna			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad (Seasonal)	Monsoon	2946	2697	7776	18332	17640	9962	5794	4811	5407	7328
		Non-Monsoon	0	0	0	0	0	0	0	0	2	0
		Annual	2946	2697	7776	18332	17640	9962	5794	4811	5410	7328
2	Bawapuram	Monsoon	752	422	1444	5621	4169	10595	5111	9253	4396	3425
		Non-Monsoon	87	250	251	507	389	931	391	1161	1316	196
		Annual	839	672	1695	6129	4558	11526	5501	10414	5713	3622
3	Cholachguda (Seasonal)	Monsoon	314	218	524	737	695	1533	240	1272	328	341
		Non-Monsoon	50	115	121	285	90	63	111	75	205	51
		Annual	365	333	645	1022	784	1596	352	1347	533	392
4	Dameracherla	Monsoon	6	36	160	815	595	1019	1303	1122	815	508
		Non-Monsoon	9	4	331	730	893	835	796	584	829	235
		Annual	15	40	491	1545	1488	1854	2098	1706	1644	743
5	Gokak Falls (Seasonal)	Monsoon	549	354	770	3975	3050	2197	1405	1180	1308	2319
		Non-Monsoon	20	0	0	24	37	43	23	52	81	57
		Annual	569	354	770	3999	3087	2239	1428	1233	1389	2376
6	Halia	Monsoon	1	17	103	784	79	437	222	107	201	100
		Non-Monsoon	1	1	12	120	92	102	243	130	222	70
		Annual	2	18	115	904	171	539	465	237	423	170
7	Huvinhedigi	Monsoon	3696	2159	9095	25444	25627	20673	10509	11085	9280	13437
		Non-Monsoon	996	1373	1184	1134	1167	1021	1055	1421	1246	696
		Annual	4692	3532	10279	26578	26794	21694	11564	12505	10526	14134
8	Karad	Monsoon	2030	1703	4594	9983	10216	6203	3289	2859	2634	3703
		Non-Monsoon	560	620	486	497	608	521	598	530	123	39
		Annual	2590	2323	5080	10481	10824	6723	3887	3389	2757	3742
9	Keesara	Monsoon	225	712	641	2719	1969	1311	3903	85	3532	883
		Non-Monsoon	0	89	68	495	302	422	308	357	685	182
		Annual	225	801	709	3214	2272	1733	4212	442	4218	1065
10	Kurundwad	Monsoon	5886	4706	10797	23671	24683	16759	11813	7979	9817	11582
		Non-Monsoon	0	0	0	0	0	0	0	367	9	0
		Annual	5886	4706	10797	23671	24683	16759	11813	8346	9826	11582
11	Madhira	Monsoon	60	78	159	728	390	368	663	24	732	276
		Non-Monsoon	1	22	30	217	127	161	98	168	240	92
		Annual	61	99	190	945	517	529	761	192	973	369
12	Malkhed	Monsoon	194	211	142	998	62	705	803	1164	2038	629
		Non-Monsoon	34	42	35	94	34	216	116	143	259	55
		Annual	228	253	177	1092	95	921	919	1307	2297	684

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Table 5 : Flow of Water by season site and river basin

VI Basin : Krishna												
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	Madhira	Monsoon	60	78	159	728	390	368	663	24	732	-
		Non-Monsoon	1	22	30	217	127	161	98	168	240	-
		Annual	61	99	190	945	517	529	761	192	973	-
12	Malkhed	Monsoon	194	211	142	998	62	705	803	1164	2038	-
		Non-Monsoon	34	42	35	94	34	216	116	143	259	-
		Annual	228	253	177	1092	95	921	919	1307	2297	-
13	Mantralayam	Monsoon	737	649	1971	6734	4572	11231	5454	10967	5537	4006
		Non-Monsoon	463	561	542	891	869	1581	731	1317	2137	542
		Annual	1200	1210	2513	7625	5441	12812	6185	12284	7674	4548
14	Narasingpur	Monsoon	164	106	1573	10131	11337	4560	2449	1037	1685	2055
		Non-Monsoon	237	204	360	316	228	213	365	499	172	0
		Annual	401	310	1933	10448	11565	4773	2814	1537	1857	2055
15	Phulgaon (Seasonal)	Monsoon	964	674	1224	2801	2720	964	1106	620	359	890
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	964	674	1224	2801	2720	964	1106	620	359	890
16	Sadalga (Seasonal)	Monsoon	1570	907	1860	4905	4924	2673	2216	1736	2117	2864
		Non-Monsoon	3	0	0	13	0	0	0	0	51	0
		Annual	1573	907	1860	4918	4924	2673	2216	1736	2167	2864
17	Samdoli (Seasonal)	Monsoon	1361	1436	2708	5839	5650	3839	2343	1949	2114	3190
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	1361	1436	2708	5839	5650	3839	2343	1949	2114	3190
18	Sarati	Monsoon	72	7	991	2600	3015	1865	748	1096	969	678
		Non-Monsoon	0	7	0	0	53	0	0	298	77	0
		Annual	72	14	991	2600	3068	1865	748	1394	1046	678
19	T Ramapuram (Seasonal)	Monsoon	191	146	271	806	207	814	906	1559	592	210
		Non-Monsoon	73	91	83	275	255	100	111	207	180	79
		Annual	263	238	354	1081	461	914	1017	1766	772	289
20	Takli	Monsoon	42	8	1481	9277	11671	5348	2094	3490	1470	2056
		Non-Monsoon	7	0	0	0	0	0	0	0	0	0
		Annual	49	8	1481	9277	11671	5348	2094	3490	1470	2056
21	Talikota (Seasonal)	Monsoon	159	33	118	99	172	262	171	701	153	40
		Non-Monsoon	9	3	10	21	1	2	1	2	10	0
		Annual	169	36	129	120	173	264	172	704	163	41
22	Terwad (Seasonal)	Monsoon	3155	2535	4302	8166	8027	5496	4067	3163	3435	4797
		Non-Monsoon	0	0	0	10	11	0	0	0	0	0
		Annual	3155	2535	4302	8176	8038	5496	4067	3163	3435	4797
23	Vijayawada	Monsoon	278	241	627	34385	26350	25560	8820	12666	10849	7279
		Non-Monsoon	96	92	31	1649	391	702	937	1845	2976	27
		Annual	374	333	658	36034	26741	26262	9757	14510	13825	7306
24	Wadakbal	Monsoon	15	1	189	311	868	544	686	284	1872	112
		Non-Monsoon	3	2	5	5	4	24	95	250	264	2
		Annual	18	3	193	316	872	568	781	534	2136	115

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Table 5 : Flow of Water by season site and river basin

VI Basin : Krishna												
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
25	Wadenapally	Monsoon	3021	893	2328	33718	32201	34258	11360	20318	12426	11330
		Non-Monsoon	1156	1536	1937	4137	3678	3971	4397	4529	4693	2257
		Annual	4177	2429	4265	37856	35880	38229	15758	24846	17118	13586
26	Warunji	Monsoon	1453	1249	2806	6082	6038	3909	2310	1800	1835	2963
		Non-Monsoon	567	585	472	412	394	370	363	237	160	79
		Annual	2021	1835	3278	6493	6432	4279	2673	2037	1995	3042
27	Yadgir	Monsoon	650	817	2405	13254	14062	7084	4616	6669	7156	3662
		Non-Monsoon	117	802	151	286	128	542	120	883	896	294
		Annual	766	1619	2555	13541	14191	7626	4736	7553	8053	3956
28	Byladahalli	Monsoon	92	42	88	309	127	126	220	283	395	244
		Non-Monsoon	39	5	13	84	103	39	63	47	258	76
		Annual	131	47	101	393	230	166	283	330	652	321
29	Haralahalli	Monsoon	3310	3138	4660	6904	6496	9341	6112	6921	5559	5851
		Non-Monsoon	396	231	284	656	683	891	556	902	1535	633
		Annual	3706	3369	4944	7560	7179	10232	6668	7824	7094	6484
30	HOLEHONNUR	Monsoon	-	-	488	1002	979	2271	1423	1737	1163	1424
		Non-Monsoon	-	-	409	453	492	636	840	780	1192	818
		Annual	-	-	897	1456	1471	2907	2262	2517	2355	2242
31	Honnali	Monsoon	3544	3373	5036	7161	7536	9995	6949	6881	5327	6486
		Non-Monsoon	432	-	557	841	835	1092	655	893	1401	734
		Annual	3976	3768	5593	8003	8371	11087	7604	7775	6727	7219
32	Hoovinahole	Monsoon	-	-	-	7	1	3	44	38	14	0
		Non-Monsoon	-	-	-	11	1	1	14	5	55	0
		Annual	-	-	-	18	2	4	58	43	69	0
33	Kellodu	Monsoon	8	10	0	45	1	1	15	64	94	6
		Non-Monsoon	2	-	0	5	1	0	7	7	210	1
		Annual	10	10	0	50	1	1	21	71	305	7
34	Kuppelur	Monsoon	37	70	226	460	280	751	389	565	805	317
		Non-Monsoon	13	6	4	15	21	30	17	23	152	72
		Annual	51	76	230	475	301	782	406	588	957	389
35	Marol	Monsoon	808	839	1381	2290	2526	3220	1901	2325	1801	2434
		Non-Monsoon	0	21	0	35	15	200	0	0	265	134
		Annual	808	859	1381	2325	2541	3420	1901	2325	2065	2568
36	Shimoga	Monsoon	3435	3375	4497	5896	6105	6770	5625	5838	4678	5747
		Non-Monsoon	186	106	134	324	261	533	265	248	385	273
		Annual	3621	3481	4632	6220	6366	7303	5890	6086	5062	6020

Source : SE, Godavari & Krishna Circle, Central Water Commission, Hyderabad.

Table 5 : Flow of Water by season site and river basin

VII Basin : Cauvery			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal	Monsoon	223	192	557	1670	1750	-	-	1143.0	783.1	896.0
		Non-Monsoon	69	63	165	290	231	-	-	310.4	434.9	248.0
		Annual	293	255	722	1960	1981	-	-	1453.4	1218.0	1144.0
2	Bendrahalli	Monsoon	-	-	-	-	16	-	-	21.4	49.3	34.0
		Non-Monsoon	-	-	-	-	5	-	-	6.1	20.2	5.0
		Annual	-	-	-	-	21	-	-	27.4	69.5	39.0
3	Biligundulu	Monsoon	2371	1694	4445	9154	6320	-	-	5171.4	4292.2	5647.0
		Non-Monsoon	743	446	762	1717	1002	-	-	1133.6	1574.9	1162.0
		Annual	3114	2140	5208	10871	7322	-	-	6305.0	5867.1	6809.0
4	Chunchunkatte	Monsoon	-	-	-	-	-	-	-	1841.8	1583.6	2073.0
		Non-Monsoon	-	-	-	-	-	-	-	123.4	150.6	89.0
		Annual	-	-	-	-	-	-	-	1965.2	1734.1	2163.0
5	Hogenakkal	Monsoon	3	12	15	127	4	-	-	0.5	17.1	5.0
		Non-Monsoon	0	8	1	40	1	-	-	1.1	27.0	2.0
		Annual	3	19	16	167	4	-	-	1.6	44.1	7.0
6	K.M.Vadi	Monsoon	102	62	225	542	366	-	-	432.5	186.0	353.0
		Non-Monsoon	2	0	4	22	3	-	-	9.6	10.7	2.0
		Annual	103	62	228	564	368	-	-	442.1	196.7	354.0
7	Kollegal	Monsoon	60	76	-	-	-	-	-	4618.9	3610.5	5080.0
		Non-Monsoon	8	0	-	-	-	-	-	609.4	946.0	608.0
		Annual	69	76	-	-	-	-	-	5228.4	4556.5	5688.0
8	Kudige	Monsoon	2914	2301	3673	7246	6903	-	-	2524.0	1773.1	2421.0
		Non-Monsoon	930	711	1005	1638	1212	-	-	167.3	211.2	163.0
		Annual	3845	3012	4678	8884	8115	-	-	2691.3	1984.3	2584.0
9	M.H.Halli	Monsoon	1484	1266	2057	3078	2900	-	-	882.3	473.1	748.0
		Non-Monsoon	124	125	134	289	116	-	-	253.5	320.7	177.0
		Annual	1608	1392	2191	3367	3017	-	-	1135.8	793.8	925.0
10	Sakleshpur	Monsoon	166	211	310	635	619	-	-	1193.1	1087.6	1118.0
		Non-Monsoon	119	39	131	211	67	-	-	96.5	118.8	81.0
		Annual	285	251	441	846	685	-	-	1289.6	1206.5	1199.0
11	T. BEKUPPE	Monsoon	602	413	789	1148	1649	-	-	224.6	142.8	169.0
		Non-Monsoon	32	46	21	102	59	-	-	85.9	83.6	81.0
		Annual	634	459	810	1250	1708	-	-	310.5	226.5	250.0

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Table 5 : Flow of Water by season site and river basin

VII Basin : Cauvery			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
12	T.K.Halli	Monsoon	162	218	522	1055	363	-	-	881.2	752.7	497.0
		Non-Monsoon	66	38	58	279	102	-	-	223.0	276.9	147.0
		Annual	228	255	579	1334	465	-	-	1104.1	1029.6	644.0
13	T.Narasipur	Monsoon	1587	1253	2197	2937	2940	-	-	2380.7	1282.4	2190.0
		Non-Monsoon	347	354	259	807	304	-	-	327.5	392.1	322.0
		Annual	1934	1607	2456	3743	3245	-	-	2708.2	1674.5	2512.0
14	Thimmanahalli	Monsoon	26	5	72	172	171	-	-	314.7	325.3	177.0
		Non-Monsoon	2	1	9	30	21	-	-	59.5	69.1	29.0
		Annual	28	6	81	202	193	-	-	374.2	394.4	206.0
15	Urachikottai	Monsoon	-	-	-	-	-	-	-	4350.8	3272.3	6022.0
		Non-Monsoon	-	-	-	-	-	-	-	1434.2	1568.1	1860.0
		Annual	-	-	-	-	-	-	-	5785.1	4840.4	7882.0
16	Nellithurai	Monsoon	-	-	-	-	-	-	-	2065.4	1613.1	1716.0
		Non-Monsoon	-	-	-	-	-	-	-	314.2	471.4	602.0
		Annual	-	-	-	-	-	-	-	2379.6	2084.5	2318.0
17	Thengumarahada	Monsoon	-	-	-	-	-	-	-	376.5	220.6	191.0
		Non-Monsoon	-	-	-	-	-	-	-	144.9	113.3	120.0
		Annual	-	-	-	-	-	-	-	521.4	333.9	311.0
18	Savandapur	Monsoon	-	-	-	-	-	-	-	332.0	391.4	314.0
		Non-Monsoon	-	-	-	-	-	-	-	255.7	251.5	250.0
		Annual	-	-	-	-	-	-	-	587.6	642.8	564.0
19	Nallamaranpatti	Monsoon	-	-	-	-	-	-	-	104.8	104.2	122.0
		Non-Monsoon	-	-	-	-	-	-	-	58.1	184.1	67.0
		Annual	-	-	-	-	-	-	-	162.9	288.3	189.0
20	Kodumudi	Monsoon	-	-	-	-	-	-	-	5064.5	4060.8	7154.0
		Non-Monsoon	-	-	-	-	-	-	-	2196.3	2548.5	2667.0
		Annual	-	-	-	-	-	-	-	7260.8	6609.2	9820.0
21	Musiri	Monsoon	-	-	-	-	-	-	-	5569.0	3884.1	6465.0
		Non-Monsoon	-	-	-	-	-	-	-	1377.5	1870.8	1862.0
		Annual	-	-	-	-	-	-	-	6946.5	5754.9	8327.0
22	Elunuthimangalam	Monsoon	-	-	-	-	-	-	-	83.2	104.4	106.0
		Non-Monsoon	-	-	-	-	-	-	-	49.9	95.4	72.0
		Annual	-	-	-	-	-	-	-	133.1	199.8	178.0
23	Sevanur	Monsoon	-	-	-	-	-	-	-	8.5	3.2	4.0
		Non-Monsoon	-	-	-	-	-	-	-	2.4	3.0	2.0
		Annual	-	-	-	-	-	-	-	11.0	6.2	7.0
24	Thevur	Monsoon	-	-	-	-	-	-	-	4.1	24.2	11.0
		Non-Monsoon	-	-	-	-	-	-	-	3.4	5.1	5.0
		Annual	-	-	-	-	-	-	-	7.4	29.4	16.0
25	Thoppur	Monsoon	-	-	-	-	-	-	-	0.0	0.9	2.0
		Non-Monsoon	-	-	-	-	-	-	-	0.0	5.8	0.0
		Annual	-	-	-	-	-	-	-	0.0	6.7	2.0

Table 5 : Flow of Water by season site and river basin

VII Basin : Cauvery			Unit : MCM									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
26	Kudlur	Monsoon	-	-	-	-	-	-	-	13.5	99.1	12.0
		Non-Monsoon	-	-	-	-	-	-	-	2.6	44.9	6.0
		Annual	-	-	-	-	-	-	-	16.1	144.0	18.0
27	Annvasal	Monsoon	-	-	-	-	-	-	-	10.8	8.0	22.0
		Non-Monsoon	-	-	-	-	-	-	-	7.6	12.0	10.0
		Annual	-	-	-	-	-	-	-	18.4	20.0	31.0
28	Peralam	Monsoon	-	-	-	-	-	-	-	6.9	6.0	12.0
		Non-Monsoon	-	-	-	-	-	-	-	4.2	6.0	3.0
		Annual	-	-	-	-	-	-	-	11.0	12.0	14.0
29	Menangudi	Monsoon	-	-	-	-	-	-	-	32.1	35.0	75.0
		Non-Monsoon	-	-	-	-	-	-	-	23.1	18.0	15.0
		Annual	-	-	-	-	-	-	-	55.1	53.0	91.0
30	Porakudi	Monsoon	-	-	-	-	-	-	-	54.5	45.0	71.0
		Non-Monsoon	-	-	-	-	-	-	-	46.7	54.0	38.0
		Annual	-	-	-	-	-	-	-	101.2	99.0	109.0
31	Thengudi	Monsoon	-	-	-	-	-	-	-	92.8	85.0	95.0
		Non-Monsoon	-	-	-	-	-	-	-	76.6	71.0	41.0
		Annual	-	-	-	-	-	-	-	169.4	156.0	136.0
32	Gopurajapuram	Monsoon	-	-	-	-	-	-	-	31.3	33.0	42.0
		Non-Monsoon	-	-	-	-	-	-	-	30.6	39.0	17.0
		Annual	-	-	-	-	-	-	-	61.9	72.0	59.0
33	Nallathur	Monsoon	-	-	-	-	-	-	-	43.6	37.0	78.0
		Non-Monsoon	-	-	-	-	-	-	-	41.4	47.0	16.0
		Annual	-	-	-	-	-	-	-	85.0	84.0	94.0
34	MUTHANKERA	Monsoon	-	-	-	-	-	-	-	2165.7	1649.5	2414.0
		Non-Monsoon	-	-	-	-	-	-	-	188.6	188.7	97.0
		Annual	-	-	-	-	-	-	-	2354.3	1838.2	2512.0

Source : Water Year Book for 2011-2012, (Cauvery Basin) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received Data in CD's)

Table 5 : Flow of Water by season site and river basin

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari Unit: M. C. M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Thammavaram	Monsoon	-	-	-	-	-	-	-	-	-	-
		Non-monsoon	-	-	-	-	-	-	-	-	-	-
		Annual	-	-	-	-	-	-	-	-	-	-
2	K.Bitragunda	Monsoon	-	-	-	-	-	-	-	-	-	-
		Non-monsoon	-	-	-	-	-	-	-	-	-	-
		Annual	-	-	-	-	-	-	-	-	-	-
3	Nellore	Monsoon	36.02	77.59	21.20	1522	-	348.5	42.2	122.4	863.0	226.0
		Non-monsoon	0.00	0.000	0.00	651.7	-	53.7	15.9	32.1	658.0	91.0
		Annual	36.02	77.59	21.20	2174	-	402.2	58.1	154.5	1521.0	317.0
4	Nandipalli	Monsoon	2.138	35.05	0.637	150.7	-	289.1	137.7	68.0	144.0	51.0
		Non-monsoon	0.000	0.000	0.000	0.942	-	20.5	124.2	38.4	115.0	39.0
		Annual	2.138	35.05	0.637	151.6	-	309.5	261.9	106.4	259.0	90.0
5	Chennur	Monsoon	264.3	555.4	1259	3019	-	4228.5	1914.4	2756.9	3254.0	2034.0
		Non-monsoon	0.000	7.523	113.1	432.3	-	575.5	296.9	470.9	1146.0	414.0
		Annual	264.3	562.9	1372	3451	-	4804.0	2211.2	3227.8	4400.0	2448.0
6	Kamalapuram	Monsoon	7.750	90.62	0.435	112.0	-	19.7	16.8	1.8	11.0	29.0
		Non-monsoon	0.000	0.000	0.000	47.22	-	0.6	7.4	0.0	0.0	0.0
		Annual	7.750	90.62	0.435	159.2	-	20.3	24.2	1.8	11.0	29.0
7	Alladupalli	Monsoon	218.9	247.0	1255	3102	-	2527.4	682.5	1700.0	2310.0	1622.0
		Non-monsoon	7.078	28.26	117.2	437.7	-	367.3	210.9	392.3	821.0	379.0
		Annual	226.0	275.3	1372	3540	-	2894.7	893.4	2092.3	3131.0	2001.0
8	Tadapatric	Monsoon	0.000	3.949	0.000	41.27	-	216.9	111.7	35.3	1.0	1.0
		Non-monsoon	0.000	0.000	0.000	0.000	-	16.6	12.7	4.1	0.0	0.0
		Annual	0.000	3.949	0.000	41.27	-	233.6	124.4	39.4	1.0	1.0
9	Nagalamadike	Monsoon	13.37	0.000	0.000	0.000	-	0.0	8.3	0.0	0.0	0.0
		Non-monsoon	0.000	0.000	0.000	0.000	-	0.0	0.0	0.0	0.0	0.0
		Annual	13.37	0.000	0.000	0.000	-	0.0	8.3	0.0	0.0	0.0
10	Singavaram	Monsoon	0.000	0.000	0.000	12.91	-	0.0	0.0	0.0	0.0	0.0
		Non-monsoon	0.000	0.000	0.653	12.66	-	0.0	0.0	0.0	21.0	0.0
		Annual	0.000	0.000	0.653	25.57	-	0.0	0.0	0.0	21.0	0.0

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Table 5 : Flow of Water by season site and river basin

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Unit: M. C. M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	Naidupeta	Monsoon	30.79	0.000	12.95	396.8	-	174.0	142.0	18.0	199.0	61.0
		Non-monsoon	4.071	0.000	0.17	523.2	-	236.0	99.0	42.0	142.0	56.0
		Annual	34.86	0.000	13.12	920.0	-	411.0	241.0	60.0	341.0	117.0
12	Sullurpet	Monsoon	41.92	3.345	7.062	703.5	-	189.0	244.0	62.0	70.0	89.0
		Non-monsoon	2.459	0.000	0.000	315.9	-	119.0	39.0	15.0	23.0	52.0
		Annual	44.38	3.345	7.062	1019	-	308.0	283.0	76.0	93.0	141.0
13	Chengalpattu	Monsoon	3.245	3.924	14.20	132.9	-	36.0	99.0	25.0	38.0	46.0
		Non-monsoon	2.935	0.189	0.929	331.4	-	127.0	66.0	25.0	138.0	49.0
		Annual	6.180	4.113	15.13	464.3	-	163.0	165.0	50.0	176.0	96.0
14	Magaral	Monsoon	0.000	0.000	0.000	46.62	-	0.0	29.0	0.0	0.0	7.0
		Non-monsoon	0.000	0.000	0.000	267.0	-	36.0	20.0	0.0	54.0	9.0
		Annual	0.000	0.000	0.000	313.6	-	36.0	49.0	0.0	54.0	17.0
15	Arcot	Monsoon	0.000	0.000	0.000	112.0	-	0.0	0.0	0.0	1.0	0.0
		Non-monsoon	0.000	0.000	0.000	74.51	-	4.0	0.0	0.0	5.0	0.0
		Annual	0.00	0.000	0.000	186.5	-	4.0	0.0	0.0	6.0	0.0
16	Annavaasal	Monsoon	2.144	1.321	7.023	19.61	-	-	-	-	-	-
		Non-monsoon	0.712	0.000	4.820	6.507	-	-	-	-	-	-
		Annual	2.856	1.321	11.843	26.12	-	-	-	-	-	-
17	Kumarapalayam	Monsoon	-	-	-	0.000	-	0.0	55.0	7.0	100.0	41.0
		Non-monsoon	-	-	-	31.46	-	7.0	26.0	6.0	238.0	101.0
		Annual	-	-	-	31.46	-	7.0	81.0	13.0	338.0	142.0
18	Villupuram	Monsoon	0.000	0.000	151.9	1169	-	0.0	86.0	3.0	139.0	39.0
		Non-monsoon	0.000	0.000	0.839	685.9	-	208.0	125.0	3.0	255.0	79.0
		Annual	0.000	0.000	152.7	1854.9	-	208.0	211.0	6.0	394.0	119.0
19	Vazhavachanur	Monsoon	3.057	10.10	97.45	782.0	-	0.0	23.0	24.0	147.0	40.0
		Non-monsoon	0.000	37.51	97.36	470.8	-	83.0	147.0	114.0	244.0	167.0
		Annual	3.057	47.61	194.8	1252.8	-	83.0	170.0	138.0	391.0	208.0
20	Gummanur	Monsoon	-	-	-	-	-	141.42	239.05	160.22	142.23	163
		Non-monsoon	-	-	-	-	-	70.70	72.31	55.52	63.22	54
		Annual	-	-	-	-	-	212.12	311.36	215.74	205.45	218
21	Kudalaiyathur	Monsoon	5.161	14	291.8	\$	-	33.0	316.0	78.0	377.0	232.0
		Non-monsoon	0.000	5.560	0.110	\$	-	173.0	168.0	128.0	665.0	213.0
		Annual	5.161	19.90	291.9	-	-	206.0	484.0	206.0	1042.0	445.0

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Table 5 : Flow of Water by season site and river basin

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari												Unit: M. C. M.		
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
22	Peralam	Monsoon	1.963	1.875	7.472	15.73	-	-	-	-	-	-	-	-
		Non-monsoon	0.941	0.468	3.298	5.290	-	-	-	-	-	-	-	-
		Annual	2.904	2.343	10.77	21.02	-	-	-	-	-	-	-	-
23	Menangudi	Monsoon	-	-	15.95	36.73	-	-	-	-	-	-	-	-
		Non-monsoon	-	-	9.360	13.26	-	-	-	-	-	-	-	-
		Annual	-	-	25.31	49.99	-	-	-	-	-	-	-	-
24	Porakudi	Monsoon	15.89	12.86	80.79	98.43	-	-	-	-	-	-	-	-
		Non-monsoon	4.660	3.005	10.98	66.06	-	-	-	-	-	-	-	-
		Annual	20.6	15.9	91.8	164.5	-	-	-	-	-	-	-	-
25	Thengudi	Monsoon	19.12	16.59	100.9	154.5	-	-	-	-	-	-	-	-
		Non-monsoon	7.028	10.04	17.51	41.01	-	-	-	-	-	-	-	-
		Annual	26.15	26.63	118.4	195.5	-	-	-	-	-	-	-	-
26	Gopurajapuram	Monsoon	2.760	6.926	50.00	60.82	-	-	-	-	-	-	-	-
		Non-monsoon	0.322	1.946	2.650	5.479	-	-	-	-	-	-	-	-
		Annual	3.082	8.872	52.65	66.30	-	-	-	-	-	-	-	-
27	Nallathur	Monsoon	-	-	-	-	-	-	-	-	-	-	-	-
		Non-monsoon	-	-	-	-	-	-	-	-	-	-	-	-
		Annual	-	-	-	-	-	-	-	-	-	-	-	-
28	Avarankuppam	Monsoon	-	-	-	-	-	2.16	14.01	13.41	7.162	9		
		Non-Monsoon	-	-	-	-	-	1.71	4.41	0.836	3.718	1		
		Annual	-	-	-	-	-	3.87	18.42	14.25	10.88	9		
29	Theni	Monsoon	-	-	-	-	-	632.30	429.11	267.53	359.46	510		
		Non-Monsoon	-	-	-	-	-	306.26	79.54	124.54	216.38	220		
		Annual	-	-	-	-	-	938.56	508.65	392.07	575.84	731		
30	Murappanadu	Monsoon	-	-	-	-	-	211.16	315.86	221.07	156.04	204		
		Non-Monsoon	-	-	-	-	-	536.56	375.27	242.41	189.91	155		
		Annual	-	-	-	-	-	747.72	691.13	463.48	345.95	359		
31	A.P.Puram	Monsoon	-	-	-	-	-	1.23	0.94	27.05	0.052	2		
		Non-Monsoon	-	-	-	-	-	63.10	1.86	1.545	0.320	1.000		
		Annual	-	-	-	-	-	64.33	2.80	28.60	0.372	3		
32	Paramakudi	Monsoon	-	-	-	-	-	41.55	49.06	2.996	20.444	11		
		Non-Monsoon	-	-	-	-	-	138.23	12.22	12.90	45.785	15		
		Annual Flow	-	-	-	-	-	179.78	61.28	15.90	66.229	26		
33	Irukkankudi	Monsoon	-	-	-	-	-	1.15	13.86	0.000	4.130	1.000		
		Non-Monsoon	-	-	-	-	-	16.40	4.13	0.000	12.47	5		
		Annual	-	-	-	-	-	17.55	17.99	0.000	16.6	6		
34	Ambasamudram	Monsoon	-	-	-	-	-	45.13	42.95	31.36	28.64	71		
		Non-Monsoon	-	-	-	-	-	149.54	18.37	16.98	35.04	29		
		Annual	-	-	-	-	-	194.67	61.32	48.34	63.68	100		

Source : Water Year Book for 2011-2012, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received Data in CD's)

Table 5 : Flow of Water by season site and river basin

IX Basin : West Flowing Rivers from Kanyakumari to Tapi											Unit : M.C.M.	
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	ADDOOR	Monsoon	-	-	2218	2206	2655	-	-	2527.3	2666.5	2710.0
		Non-monsoon	-	-	14.33	69.86	0.00	-	-	0.0	5.9	15.0
		Annual	-	-	2232	2276	2655	-	-	2527.3	2672.3	2725.0
2	AVERSHE	Monsoon	-	1058	1077	1086	1269	-	-	1315.5	1329.4	1454.0
		Non-monsoon	-	14.27	11.5	25.97	22.23	-	-	25.6	34.2	13.0
		Annual	-	1072	1089	1112	1291	-	-	1341.1	1363.6	1468.0
3	BANTWAL	Monsoon	6369	8754	12105	12105	13562	-	-	11804.8	11659.8	11930.0
		Non-monsoon	33.18	5.500	0	209.0	82.1	-	-	101.7	305.7	221.0
		Annual	6402	7654	8754	12314	13644	-	-	11906.6	11965.6	12152.0
4	HALADI	Monsoon	990.4	1291	1363	1530	1865	-	-	1827.9	1534.8	1953.0
		Non-monsoon	294.1	201.9	283	323.1	489.9	-	-	534.5	422.8	549.0
		Annual	1285	1493	1646	1853	2354	-	-	2362.4	1957.6	2502.0
5	SANTEGULI	Monsoon	2935	2538	2144	3902	4551	-	-	3020.6	2609.3	3291.0
		Non-monsoon	77.80	104.1	75.20	69.82	79.17	-	-	91.5	88.8	73.0
		Annual	3013	2642	2219	3972	4630	-	-	3112.1	2698.1	3364.0
6	YENNEHOLE	Monsoon	1019	1250	1327	1299	1454	-	-	1663.6	1393.2	1698.0
		Non-monsoon	13.69	22.57	7.500	32.50	22.73	-	-	39.1	43.5	21.0
		Annual	1033	1273	1335	1332	1477	-	-	1702.8	1436.7	1719.0
7	ARANGALY	Monsoon	-	-	-	-	-	-	-	1717.1	1498.9	2016.0
		Non-monsoon	-	-	-	-	-	-	-	72.2	114.7	21.0
		Annual	-	-	-	-	-	-	-	1789.3	1613.6	2037.0
8	ASHRAMAM	Monsoon	-	-	-	-	-	-	-	75.6	98.5	71.0
		Non-monsoon	-	-	-	-	-	-	-	2.7	68.9	27.0
		Annual	-	-	-	-	-	-	-	78.3	167.4	98.0
9	AYILAM	Monsoon	-	-	-	-	-	-	-	383.5	895.5	409.0
		Non-monsoon	-	-	-	-	-	-	-	96.3	118.8	98.0
		Annual	-	-	-	-	-	-	-	479.8	1014.3	506.0
10	ERINJIPUZHA	Monsoon	-	-	-	-	-	-	-	1930.7	2259.4	2695.0
		Non-monsoon	-	-	-	-	-	-	-	90.9	93.2	87.0
		Annual	-	-	-	-	-	-	-	2021.7	2352.7	2782.0

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Table 5 : Flow of Water by season site and river basin

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : M.C.M.	
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
11	KALAMPUR	Monsoon	-	-	-	-	-	-	-	861.4	1146.6	1044.0	
		Non-monsoon	-	-	-	-	-	-	-	40.1	20.0	12.0	
		Annual	-	-	-	-	-	-	-	901.5	1166.6	1056.0	
12	KALLOOPARA	Monsoon	-	-	-	-	-	-	-	1272.1	1952.6	1608.0	
		Non-monsoon	-	-	-	-	-	-	-	187.2	183.3	176.0	
		Annual	-	-	-	-	-	-	-	1459.3	2135.9	1784.0	
13	KARATHODU	Monsoon	-	-	-	-	-	-	-	1355.7	1225.7	1418.0	
		Non-monsoon	-	-	-	-	-	-	-	43.2	56.4	19.0	
		Annual	-	-	-	-	-	-	-	1398.9	1282.1	1437.0	
14	KIDANGOOR	Monsoon	-	-	-	-	-	-	-	1174.4	1788.3	1613.0	
		Non-monsoon	-	-	-	-	-	-	-	129.0	214.3	102.0	
		Annual	-	-	-	-	-	-	-	1303.4	2002.6	1715.0	
15	KUMBIDI	Monsoon	-	-	-	-	-	-	-	4706.6	4641.6	5503.0	
		Non-monsoon	-	-	-	-	-	-	-	201.2	452.5	239.0	
		Annual	-	-	-	-	-	-	-	4907.9	5094.1	5741.0	
16	KUNIYIL	Monsoon	-	-	-	-	-	-	-	4433.1	3754.5	5016.0	
		Non-monsoon	-	-	-	-	-	-	-	44.1	115.4	89.0	
		Annual	-	-	-	-	-	-	-	4477.2	3869.8	5105.0	
17	KUTTYADI	Monsoon	-	-	-	-	-	-	-	1275.9	953.8	1281.0	
		Non-monsoon	-	-	-	-	-	-	-	144.7	113.7	109.0	
		Annual	-	-	-	-	-	-	-	1420.5	1067.5	1390.0	
18	KUZHITHURAI	Monsoon	-	-	-	-	-	-	-	3.2	118.3	4.0	
		Non-monsoon	-	-	-	-	-	-	-	0.0	164.3	0.0	
		Annual	-	-	-	-	-	-	-	3.2	282.5	4.0	
19	MALAKKARA	Monsoon	-	-	-	-	-	-	-	2717.7	4127.9	3288.0	
		Non-monsoon	-	-	-	-	-	-	-	568.9	449.7	304.0	
		Annual	-	-	-	-	-	-	-	3286.7	4577.6	3593.0	
20	MANKARA	Monsoon	-	-	-	-	-	-	-	684.6	521.8	899.0	
		Non-monsoon	-	-	-	-	-	-	-	45.3	121.0	68.0	
		Annual	-	-	-	-	-	-	-	729.9	642.8	967.0	
21	NEELESWARAM	Monsoon	-	-	-	-	-	-	-	5889.1	5961.2	5976.0	
		Non-monsoon	-	-	-	-	-	-	-	796.7	1547.8	1513.0	
		Annual	-	-	-	-	-	-	-	6685.8	7509.1	7489.0	
22	PATTAZHY	Monsoon	-	-	-	-	-	-	-	494.6	1782.2	982.0	
		Non-monsoon	-	-	-	-	-	-	-	617.3	690.5	442.0	
		Annual	-	-	-	-	-	-	-	1111.8	2472.7	1425.0	

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Table 5 : Flow of Water by season site and river basin

**IX Basin : West Flowing Rivers from Kanyakumari to Tapi** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
23	PERUMANNU	Monsoon	-	-	-	-	-	-	-	3473.7	3092.1	3958.0
		Non-monsoon	-	-	-	-	-	-	-	129.4	155.4	116.0
		Annual	-	-	-	-	-	-	-	3603.1	3247.5	4074.0
24	PUDUR	Monsoon	-	-	-	-	-	-	-	368.0	245.6	311.0
		Non-monsoon	-	-	-	-	-	-	-	22.9	82.6	43.0
		Annual	-	-	-	-	-	-	-	390.9	328.2	354.0
25	PULAMANTHOLE	Monsoon	-	-	-	-	-	-	-	1720.1	2022.2	2150.0
		Non-monsoon	-	-	-	-	-	-	-	84.8	151.3	88.0
		Annual	-	-	-	-	-	-	-	1804.8	2173.6	2237.0
26	RAMAMANGALAM	Monsoon	-	-	-	-	-	-	-	3384.7	4136.6	4199.0
		Non-monsoon	-	-	-	-	-	-	-	1231.7	1608.7	1427.0
		Annual	-	-	-	-	-	-	-	4616.4	5745.3	5627.0
27	THUMPAMON	Monsoon	-	-	-	-	-	-	-	660.3	1237.9	880.0
		Non-monsoon	-	-	-	-	-	-	-	94.1	162.0	95.0
		Annual	-	-	-	-	-	-	-	754.4	1400.0	975.0
28	VANDIPERIYAR	Monsoon	-	-	-	-	-	-	-	123.0	126.9	144.0
		Non-monsoon	-	-	-	-	-	-	-	4.8	11.5	12.0
		Annual	-	-	-	-	-	-	-	127.8	138.4	156.0
29	AMBARAMPALAYAM	Monsoon	-	-	-	-	-	-	-	296.4	238.3	243.0
		Non-monsoon	-	-	-	-	-	-	-	131.2	187.6	169.0
		Annual	-	-	-	-	-	-	-	427.7	425.9	413.0

Source : Water Year Book for 2011-2012, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received Data in CD's)



**Table 5 : Flow of Water by season site and river basin**

**X Basin : Tapi** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gidhade	Monsoon	7527	4927	2388	4263	14867	9055	3551	3573	5909	4562
		Non-Monsoon	9	23	1	5	105	233	0	0	0	0
		Annual	7536	4950	2389	4268	14972	9288	3551	3573	5909	4562
2	Purna at Gopalkheda	Monsoon	1206	167	142	618	1956	2729	210	270	1369	600
		Non-Monsoon	8	2	263	10	30	98	1	24	31	0
		Annual	1213	169	405	629	1986	2827	211	295	1400	601
3	Purna at Yerli	Monsoon	2634	501	222	1024	3480	3298	364	578	2374	854
		Non-Monsoon	15	3	1	16	38	42	1	62	53	1
		Annual	2650	504	223	1041	3518	3340	365	640	2426	855
4	Sarangkheda	Monsoon	8601	6976	3164	5038	17388	11355	3443	3071	7001	6202
		Non-Monsoon	17	18	2	4	99	59	0	0	0	0
		Annual	8618	6994	3165	5043	17486	11414	3443	3071	7001	6202
5	Tapi at Burhanpur	Monsoon	3107	3219	2312	3286	4838	9708	2259	1806	3874	5003
		Non-Monsoon	61	77	45	56	67	89	48	222	109	36
		Annual	3168	3296	2357	3342	4905	9797	2307	2028	3983	5039

Source: Superintending Engineer, Tapi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 2002-2003 to 2011-2012 Tapi Basin).

Table 5 : Flow of Water by season site and river basin

XI Basin : Narmada			Unit : M.C.M.									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Chandwada	Monsoon	415.84	1496.21	2168.93	1288.98	2732.90	2142.94	807.07	323.05	792.97	1087.13
		Non-Monsoon	0.00	10.53	0.00	0.00	4.37	33.16	131.72	0.00	15.47	16.9
		Annual	415.84	1506.73	2168.93	1288.98	2737.27	2176.10	938.79	323.05	808.45	1104.03
2	Garudeswar	Monsoon	17974.15	28357.70	15826.23	20239.11	26499.31	20342.02	3126.00	5409.22	6593.95	6593.85
		Non-Monsoon	2811.76	1302.38	1715.26	4894.73	5364.27	3660.27	1312.49	1341.65	1700.89	1700.89
		Annual	20785.92	29660.07	17541.49	25133.85	31863.59	24002.28	4438.49	6744.87	8294.74	8294.74
3	Jobat	Monsoon	178.46	-	-	-	-	-	-	-	-	-
		Non-Monsoon	0.00	-	-	-	-	-	-	-	-	-
		Annual	178.46	-	-	-	-	-	-	-	-	-
4	Pati	Monsoon	440.84	-	-	-	-	-	-	238.19	623.50	415.16
		Non-Monsoon	7.37	-	-	-	-	-	-	45.93	60.43	0
		Annual	448.20	-	-	-	-	-	-	284.13	683.93	415.16
5	Dhulsar	Monsoon	85.91	-	-	-	-	-	-	37.78	129.00	601.77
		Non-Monsoon	0.00	-	-	-	-	-	-	1.22	1.21	1.21
		Annual	85.91	-	-	-	-	-	-	39.00	130.21	602.97
6	Rajghat	Monsoon	19927.40	31714.93	17103.05	24240.64	17150.49	-	-	-	-	-
		Non-Monsoon	3350.26	-	4420.14	9071.22	6900.42	-	-	-	-	-
		Annual	23277.67	48817.99	21523.19	33311.87	24050.91	-	-	-	-	-
7	Mandleswar	Monsoon	18601.32	31257.13	15839.91	26182.15	23975.54	15088.98	7177.79	12838.90	14423.42	33193.67
		Non-Monsoon	3817.22	3867.40	3936.71	8057.97	9748.84	9664.74	9322.17	15226.87	14037.86	-
		Annual	22418.54	35124.53	19776.62	34240.12	33724.38	24753.72	16499.96	28065.77	28461.27	44848.72
8	Kogaon	Monsoon	1498.31	1240.85	748.05	112.41	1870.93	987.13	163.20	538.61	1463.39	1039.49
		Non-Monsoon	3.73	23.22	8.02	0.00	9.94	6.37	0.00	86.99	77.81	0.39
		Annual	1502.04	1264.07	756.07	112.41	1880.88	993.50	163.20	625.60	1531.20	1039.89
9	Ginnore	Monsoon	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
		Non-Monsoon	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
		Annual	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
10	Motakka	Monsoon	16278.45	26984.53	15072.48	17582.44	21781.87	-	-	-	-	-
		Non-Monsoon	3486.25	3389.53	5074.31	10570.69	10973.23	-	-	-	-	-
		Annual	19764.71	30374.07	20146.79	28153.14	32755.10	-	-	-	-	-
11	Handia	Monsoon	15658.66	16041.37	14772.84	26195.79	21323.61	11947.56	9489.05	15616.17	12764.71	23945
		Non-Monsoon	4774.15	6265.77	3355.14	4837.71	3846.53	4240.75	5089.65	3375.58	41153.20	4428.29
		Annual	20432.81	22307.14	18127.98	31033.50	25170.13	16188.31	14578.70	18991.73	16917.91	28373.29

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Table 5 : Flow of Water by season site and river basin

XI Basin : Narmada			Unit : M.C.M.									
Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
12	Chhidgaon	Monsoon	496.67	1470.93	561.70	615.19	1454.19	1468.47	309.31	795.89	716.68	921.45
		Non-Monsoon	17.30	46.40	20.20	26.38	34.20	31.73	7.62	65.86	49.06	25.63
		Annual	46.40	1517.33	581.90	641.57	1488.39	1500.21	316.93	861.74	765.74	947.08
13	Hoshangabad	Monsoon	12701.14	16380.66	11228.54	25057.90	15938.99	8661.17	8186.31	11246.00	9386.57	21515.7
		Non-Monsoon	5182.42	5182.42	4002.57	3968.09	4208.63	3672.84	3899.66	2583.76	3483.44	3754.46
		Annual	17883.56	21563.08	15231.11	29025.99	20147.62	12334.01	12085.98	13829.75	12870.01	25270.16
14	Tawakati	Monsoon	418.77	-	-	-	-	-	-	-	-	-
		Non-Monsoon	23.07	-	-	-	-	-	-	-	-	-
		Annual	441.84	-	-	-	-	-	-	-	-	-
15	Shapur	Monsoon	297.48	-	-	-	-	-	-	-	-	-
		Non-Monsoon	3.95	-	-	-	-	-	-	-	-	-
		Annual	301.44	-	-	-	-	-	-	-	-	-
16	Sandia	Monsoon	8614.98	18051.98	8911.81	19736.52	10027.93	5779.12	6503.33	-	6538.22	19005.79
		Non-Monsoon	2907.12	4368.12	3346.27	4136.05	3836.68	3352.86	3207.19	1908.91	2574.78	3348
		Annual	11522.10	22420.10	12258.09	23872.58	13864.61	9131.98	9710.51	11271.97	9113.00	22353.79
17	Gadarwara	Monsoon	955.43	1460.07	566.87	1458.00	2215.76	1572.70	746.11	2057.87	1274.84	1257.15
		Non-Monsoon	51.51	61.04	29.99	49.64	62.42	19.46	35.50	93.72	42.75	25.15
		Annual	61.04	1521.12	596.86	1507.64	2278.17	1592.15	781.61	2191.60	1317.59	1282.29
18	Barmanghat	Monsoon	5944.82	13912.82	7756.30	16753.73	6092.21	3340.83	5608.31	4004.56	5724.64	14990.43
		Non-Monsoon	2874.38	3794.69	2987.59	3818.02	3000.24	2730.26	2795.08	1113.23	2063.91	2845.55
		Annual	8819.20	17707.51	10743.89	20571.74	9092.45	6071.09	8403.39	5717.79	7788.55	17835.98
19	Belkheri	Monsoon	705.44	838.77	398.91	693.88	1135.42	428.05	296.37	469.71	594.67	659.22
		Non-Monsoon	14.05	15.86	12.60	17.52	15.29	8.39	5.60	23.18	10.75	6.28
		Annual	719.49	854.63	411.51	711.40	1150.71	436.44	301.98	492.89	605.43	665.5
20	Patan	Monsoon	1583.10	2740.52	912.64	2804.98	483.85	530.96	1496.54	426.39	1656.47	2785.48
		Non-Monsoon	137.54	172.37	165.76	150.75	140.88	43.39	68.81	111.27	89.47	132.28
		Annual	1720.74	2912.89	1078.40	2955.74	624.72	574.35	1565.36	837.66	1745.92	2897.75
21	Bamni	Monsoon	584.15	1360.08	700.16	1342.18	670.00	545.82	483.95	246.85	460.09	707.3
		Non-Monsoon	13.60	39.16	16.81	89.38	27.60	21.84	8.33	23.35	16.56	37.65
		Annual	597.75	1399.24	716.97	1431.55	697.60	567.66	492.28	270.20	476.65	744.95
22	Jamtara	Monsoon	-	-	-	-	-	-	-	-	-	-
		Non-Monsoon	-	-	-	-	-	-	-	-	-	-
		Annual	-	-	-	-	-	-	-	-	-	-

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**Table 5 : Flow of Water by season site and river basin**

**XI Basin : Narmada** Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
23	Hridynagar	Monsoon	-	-	-	-	-	-	-	-	-	-
		Non-Monsoon	-	-	-	-	-	-	-	-	-	-
		Annual	-	-	-	-	-	-	-	-	-	-
24	Mohgaon	Monsoon	1186.51	3324.24	2306.62	3509.57	2171.06	1432.98	1236.25	570.60	1952.44	3242.46
		Non-Monsoon	58.21	332.06	79.36	100.52	74.73	68.61	56.49	67.19	61.71	142.48
		Annual	1244.72	3656.30	2385.98	3610.09	2245.78	1501.59	1292.74	637.79	2014.15	3384.94
25	Amgaon	Monsoon	2478.23	-	-	-	-	-	-	-	-	-
		Non-Monsoon	202.37	-	-	-	-	-	-	-	-	-
		Annual	2680.60	-	-	-	-	-	-	-	-	-
26	Manot	Monsoon	1856.81	4153.63	3186.01	4629.36	2668.00	1297.93	2091.82	1108.96	1917.50	3711.28
		Non-Monsoon	85.64	195.75	180.14	139.99	159.07	97.06	82.64	114.07	105.88	165.84
		Annual	1942.44	4349.38	3366.15	4769.36	2827.07	1394.99	2174.46	1223.03	2023.38	3876.92
27	Dindori	Monsoon	700.23	1940.37	6785.02	1577.23	1138.10	560.40	765.75	500.38	716.68	1591.53
		Non-Monsoon	99.58	149.56	116.90	112.88	97.54	71.64	112.35	87.35	49.06	119.89
		Annual	799.81	2089.93	6901.92	1690.11	1235.63	632.04	878.11	587.73	765.74	1711.42

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganisation, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2011 to May, 2012) Narmada Bas

Table 5 : Flow of Water by season site and river basin

XII Basin : Mahi and Sabarmati

Unit : M.C.M.

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anas at Chakaliya	Monsoon	780	1694	2401	1125	4864	1884	525	400	454	614
		Non-Monsoon	0	9	5	0	25	44	6	1	3	2
		Annual	780	1703	2406	1125	4889	1927	531	401	458	616
2	Balaram at Chitrasani	Monsoon	0	12	1	6	102	47	4	5	26	123
		Non-Monsoon	0	0	0	0	1	0	0	0	0	0
		Annual	0	12	1	6	103	47	4	5	26	123
3	Banas at Abu Road	Monsoon	1	63	9	52	492	188	10	14	42	252
		Non-Monsoon	0	0	0	0	3	1	0	0	0	4
		Annual	1	63	9	52	496	190	10	14	42	257
4	Banas at Kamalpur	Monsoon	0	112	34	11	551	214	18	22	76	96
		Non-Monsoon	0	0	5	0	0	0	0	21	2	0
		Annual	0	112	39	11	551	214	18	43	78	96
5	Banas at Sarotry	Monsoon	4	114	16	112	710	324	16	6	72	513
		Non-Monsoon	0	0	0	0	9	1	0	0	0	10
		Annual	4	114	16	112	720	325	16	6	72	523
6	Bhadar at Ganod	Monsoon	80	138	79	251	795	2032	788	200	703	615
		Non-Monsoon	0	0	0	0	0	20	12	1	0	16
		Annual	80	138	79	252	795	2052	800	201	703	632
7	Jakham at Dhariawad	Monsoon	23	18	315	106	1124	94	126	95	98	911
		Non-Monsoon	0	14	21	18	21	26	24	10	15	26
		Annual	23	32	336	124	1144	120	150	106	114	937
8	Luni at Balotra	Monsoon	0	0	0	0	98	179	0	0	0	0
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	0	0	0	0	98	179	0	0	0	0
9	Luni at Gandhav	Monsoon	0	8	0	0	0	227	0	0	0	0
		Non-Monsoon	0	0	0	0	0	0	0	0	0	0
		Annual	0	8	0	0	0	227	0	0	0	0
10	Machhu at Gungan	Monsoon	6	13	16	431	112	613	284	7	573	634
		Non-Monsoon	0	0	0	0	0	0	4	0	0	0
		Annual	6	13	16	431	112	613	289	7	573	634
11	Mahi at Khanpur	Monsoon	653	2412	6209	2206	21276	6290	505	367	926	4787
		Non-Monsoon	115	1141	681	572	604	447	363	186	152	228
		Annual	768	3553	6890	2779	21880	6737	868	553	1078	5014
12	Mahi at Mataji	Monsoon	220	1550	1046	1016	4035	2136	274	1055	606	2999
		Non-Monsoon	0	13	9	3	20	24	4	12	17	3
		Annual	220	1563	1055	1019	4055	2160	278	1067	623	3001

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Table 5 : Flow of Water by season site and river basin

XII Basin : Mahi and Sabarmati

Sl.No.	Site Name	Season	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
13	Mahi at Paderdibadi	Monsoon	264	591	1706	831	10821	1514	297	454	364	3458
		Non-Monsoon	109	71	130	100	126	87	17	98	42	319
		Annual	373	662	1837	930	10946	1600	314	552	407	3777
14	Rupen at Sapawada	Monsoon	0	32	28	230	223	200	70	5	80	29
		Non-Monsoon	0	0	1	0	0	0	0	14	0	0
		Annual	0	32	29	230	223	200	70	19	81	29
15	Sabarmati at Derol Bridge	Monsoon	2	13	9	152	2861	692	26	14	32	326
		Non-Monsoon	0	0	0	6	4	0	0	0	0	0
		Annual	2	13	9	157	2864	693	26	14	32	326
16	Sabarmati at Kheroj	Monsoon	50	206	44	460	1115	498	128	121	424	599
		Non-Monsoon	0	1	0	8	7	6	0	0	38	37
		Annual	50	207	44	468	1122	504	128	121	462	636
17	Sabarmati at Vautha	Monsoon	137	3474	1819	3697	5909	4651	816	569	933	2346
		Non-Monsoon	102	393	669	447	630	948	475	345	334	732
		Annual	239	3868	2488	4144	6539	5599	1291	914	1267	3078
18	Shetrunji at Lowara	Monsoon	414	132	194	1054	629	1266	1055	177	564	504
		Non-Monsoon	0	0	0	1	0	4	7	0	8	1
		Annual	414	132	194	1055	629	1269	1061	177	572	506
19	Som at Rangeli	Monsoon	92	103	412	485	3096	216	210	332	146	1138
		Non-Monsoon	1	20	74	32	49	48	19	37	70	160
		Annual	93	123	486	517	3146	264	229	370	217	1299
20	Wakal at Kotra (Jotsan)	Monsoon	20	101	39	370	1062	329	104	62	178	211
		Non-Monsoon	0	1	0	0	19	6	0	0	7	10
		Annual	20	102	39	370	1081	334	104	62	185	220
21	Watrak at Gadvel (Ratanpur)	Monsoon	24	493	502	334	1710	527	51	44	146	329
		Non-Monsoon	0	12	60	45	21	14	1	0	0	0
		Annual	24	505	561	379	1731	542	52	44	146	329
22	Watrak at Kheda	Monsoon	0	351	318	868	2511	895	89	63	150	356
		Non-Monsoon	0	0	8	4	87	23	0	0	0	1
		Annual	0	351	326	872	2598	918	89	63	150	357

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 2002-2003 to 2011-2012 Mahi and Sabarmati Basin).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**I Basin: Mahanadi** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed Discharge		Minimum Observed Discharge		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiyarkore	258.93	8/9/1979	694.64	0	9/21/1977	0	9/13/1998	851.98	4/17/2007	0.00	1971-2011
2	Bamnidih	228.88	8/22/1975	12700	224.3	6/7/1978	1.72	8/22/1975	12700	2/5/1971	0.00	1971-2011
3	Baronda	289.33	9/18/1980	6250	283	5/9/2033	0	8/7/2007	6593.8	4/22/1986	0.00	1971-2011
4	Basantpur	219.32	9/20/1980	26874	194	5/7/1971	0	8/30/2003	33087.95	5/11/1971	0.00	1971-2011
5	Ghatora	253.5	7/21/1994	2872	246	5/29/2001	0	7/21/1994	2872	4/25/2002	0.00	1971-2011
6	Jondhra	230.57	7/14/1994	12700	218.29	9/13/1979	56.6	9/20/1980	11033.3	6/7/2003	0.00	1971-2011
7	Kantamal	132.7	9/19/2008	20000	101.78	6/19/1972	0.1	7/28/1992	16263	6/3/1989	0.00	1971-2011
8	Kesinga	178.5	7/4/2006	21192	166	5/5/1999	0	7/28/1992	17568	6/10/1988	0.00	1971-2011
9	Kotni	279.61	7/12/1994	5269	268	5/27/1987	0	7/12/1994	5269	3/8/1998	0.00	1971-2011
10	Kurubhata	220.28	7/18/1995	2200	215	5/26/2002	0	7/18/1995	2200	5/31/1997	0.00	1971-2011
11	Manendragarh	420.44	7/12/1990	2329	411	6/10/2002	0	7/12/1990	2329	6/12/2001	0.00	1971-2011
12	Pathardih	279.63	7/1/2007	908.99	271	5/10/2003	0	7/29/1992	1618	12/13/2002	0.00	1971-2011
13	Rajim	282.68	8/30/1994	8017	275	6/19/2003	0	7/21/1976	9954.13	4/4/2010	0.00	1971-2011
14	Rampur	229.66	8/29/2003	10958.38	219	4/12/1979	0	8/29/2003	10958.38	5/13/1985	0.00	1971-2011
15	Salebhata	139.58	8/29/2003	7916	130	6/8/2002	0	8/30/1982	14545	6/13/1975	0.00	1971-2011
16	Seorinarayan	224.31	8/30/2003	22800	211.67	6/13/1997	0.58	7/25/1995	17967	6/16/2003	0.00	1971-2011
17	Simga	257.59	7/13/1994	10821	244	10/24/1972	0	7/2/2007	11331.68	6/7/2001	0.00	1971-2011
18	Sundergarh	222.3	9/11/1998	10404	214	6/3/2003	0	9/11/1998	10404	6/9/1993	0.00	1971-2011
19	Tikarpara	73.2	7/19/2001	26700	53.33	5/19/1973	131.3	8/29/1978	30862.5	12/22/1988	22.74	1972-2011

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2011) Mahanadi Basin (by internet).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

**I Basin: Mahanadi** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiyarkore	258.93	8/9/1979	694.64	252.00	4/17/2011	0.00	9/13/1998	851.98	4/17/2007	0.00	1977-2012
2	Bamnidi	228.88	8/22/1975	12700.00	224.30	6/7/1978	1.72	8/22/1975	12700.00	2/5/1971	0.00	1971-2012
3	Baronda	289.33	9/18/1980	6250.00	283.00	5/9/2003	0.00	8/7/2007	6593.80	4/22/1986	0.00	1977-2012
4	Basantpur	219.32	9/20/1980	26874.00	194.00	5/7/1971	0.00	8/30/2003	33087.95	5/11/1971	0.00	1971-2012
5	Ghatora	253.50	7/21/1994	2872.00	246.00	5/29/2001	0.00	7/21/1994	2872.00	4/25/2002	0.00	1979-2012
6	Jondhra	230.57	7/14/1994	12700.00	218.29	9/13/1979	56.60	9/20/1980	11033.30	6/7/2003	0.00	1979-2012
7	Kantamal	132.70	9/19/2008	20000.00	101.00	8/7/1971	0.00	7/28/1992	16263.00	6/3/1989	0.00	1971-2012
8	Kesinga	178.50	7/4/2006	21192.00	166.00	5/5/1999	0.00	7/28/1992	17568.00	6/10/1988	0.00	1978-2012
9	Kotni	279.61	7/12/1994	5269.00	268.00	5/27/1987	0.00	7/12/1994	5269.00	3/8/1998	0.00	1978-2012
10	Kurubhata	220.28	7/18/1995	2200.00	215.00	5/26/2002	0.00	7/18/1995	2200.00	5/31/1997	0.00	1978-2012
11	Manendragarh	420.44	7/12/1990	2329.00	411.00	6/10/2002	0.00	7/12/1990	2329.00	6/12/2001	0.00	1989-2012
12	Pathardih	279.63	7/1/2007	908.99	271.00	5/10/2003	0.00	7/29/1992	1618.00	12/13/2002	0.00	1989-2012
13	Rajim	282.68	8/30/1994	8017.00	275.00	6/19/2003	0.00	7/21/1976	9954.13	4/4/2010	0.00	1971-2012
14	Rampur	229.66	8/29/2003	10958.38	219.00	4/12/1979	0.00	8/29/2003	10958.38	5/13/1985	0.00	1971-2012
15	Salebhata	139.58	8/29/2003	7916.00	130.00	6/8/2002	0.00	8/30/1982	14545.00	6/13/1975	0.00	1971-2012
16	Seorinarayan	224.31	8/30/2003	22800.00	211.67	6/13/1997	0.58	7/25/1995	17967.00	6/16/2003	0.00	1985-2012
17	Singa	257.59	7/13/1994	10821.00	244.00	10/24/1972	0.00	7/2/2007	11331.68	6/7/2001	0.00	1971-2012
18	Sundergarh	222.30	9/11/1998	10404.00	214.00	6/3/2003	0.00	9/11/1998	10404.00	6/9/1993	0.00	1977-2012
19	Tikarpara	73.83	9/19/2008	22150.00	53.33	5/19/1973	131.30	8/29/1978	30862.50	12/22/1988	22.74	1972-2012

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2012) Mahanadi Basin (Data by CD).



Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**II Basin : Subarnarekha, Burhabalang & Baitarni** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	137.56	8/20/1975	6415.8	123.25	3/3/1993	1.9	8/20/1975	6415.8	11/30/1972	0	1971-2011
2	Anandpur	68.14	6/18/2008	6327.81	32.89	3/31/2011	3.99	6/18/2008	6327.81	5/18/2010	3.83	1971-2011
3	Champua	375.19	9/18/2008	532.41	370.74	4/28/2010	2.18	6/18/2008	538.91	10/1/2009	1.54	1971-2011
5	Ghatsila	85.05	8/17/1974	9579.59	45.14	4/20/1972	3.8	8/6/1997	10582	3/12/2010	0.4	1971-2011
6	Govindpur	8.9	10/31/1999	1725.4	0.6	4/26/2010	0.57	6/18/2008	2885.94	1/31/1997	0.06	1971-2011
7	Jamshedpur	126.26	9/3/1973	7673.89	113.72	4/6/1976	1.3	8/20/1975	8366.7	6/6/1972	0	1971-2011
9	Muri	237.5	9/24/2006	428.2	233.39	6/16/2010	0	9/7/1991	431.3	5/26/2010	0	1971-2011

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2011)Subarnarekha, Burhabalang & Baitarni Basin (by in

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

**II Basin : Subarnarekha, Burhabalang & Baitarni** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	137.56	8/20/1975	6415.80	123.25	3/3/1973	1.90	8/20/1975	6415.80	11/30/1972	0.00	1971-2012
2	Anandpur	40.63	8/19/1975	10393.90	32.13	5/14/1980	1.22	8/19/1975	10393.90	5/11/1989	0.50	1972-2012
3	Champua	376.90	8/20/2007	731.31	366.65	5/13/1991	3.77	8/13/1991	1010.24	5/15/1993	1.33	1990-2012
5	Ghatsila	85.05	8/17/1974	9579.59	45.14	4/20/1972	3.80	8/6/1997	10582.00	3/12/2010	0.40	1971-2012
6	Govindpur	8.90	10/31/1999	1725.40	0.60	4/26/2010	0.57	6/18/2008	2885.94	1/31/1997	0.06	1992-2012
7	Jamshedpur	126.26	9/3/1973	7673.89	113.72	4/6/1976	1.30	8/20/1975	8366.70	6/6/1972	0.00	1972-2012
9	Muri	237.50	9/24/2006	428.20	233.39	6/16/2010	0.00	9/7/1991	431.30	5/26/2010	0.00	1989-2012

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2012)Subarnarekha, Burhabalang & Baitarni Basin (Data

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**III Basin : Brahmani** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Altuma	50.15	7/21/2009	892.68	45.77	3/9/2011	0.83	8/6/1997	922.32	6/25/2005	0.16	1972-2011
2	Gomlai	147.27	8/20/2007	10794.57	138.3	3/24/2011	5.11	8/20/2007	10794.57	5/17/1982	1.11	1972-2011
3	Jaraikela	194.01	8/6/1997	12539	185.31	11/22/1972	25.2	8/6/1997	12539	5/10/1980	0.41	1972-2011
4	Jenapur	23.48	8/18/1984	9701.79	15.92	5/10/1980	4.88	7/31/2005	10313.65	5/10/1980	4.88	1972-2011
5	Panposh	180.2	7/26/1996	11011	170.99	4/18/2006	8.01	7/26/1996	11011	2/15/2011	6.48	1972-2011
6	Tilga	378.63	8/28/1987	2830.3	373.3	5/28/1980	0	8/28/1987	2830.3	5/10/2008	0	1972-2011

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1972 to 2011) Brahamani Basin (by internet).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

**III Basin : Brahmani** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Altuma	50.15	7/21/2009	892.68	45.77	3/9/2011	0.83	8/6/1997	922.32	6/25/2005	0.16	1990-2012
2	Gomlai	147.27	8/20/2007	10794.57	138.27	3/28/2001	5.38	8/20/2007	10794.57	5/17/1982	1.11	1979-2012
3	Jaraikela	194.01	8/6/1997	12539.00	185.31	11/22/1972	25.20	8/6/1997	12539.00	5/10/1980	0.41	1972-2012
4	Jenapur	23.48	8/18/1984	9701.79	15.92	5/10/1980	4.88	7/31/2005	10313.65	5/10/1980	4.88	1979-2012
5	Panposh	180.20	7/26/1996	11011.00	170.99	4/18/2006	8.01	7/26/1996	11011.00	2/15/2011	6.48	1996-2012
6	Tilga	378.63	8/28/1987	2830.30	373.30	5/28/1980	0.00	8/28/1987	2830.30	5/10/2008	0.00	1979-2012

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1972 to 2012) Brahamani Basin (Data by CD).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ankapali	25.2	11/16/1998	887	19.6	5/20/2001	0	12/9/2010	589.99	5/14/2001	0	1971-2011
2	Gunupur	85.95	8/7/2007	2987.41	79.38	5/1/2009	1.61	7/29/1991	5285.6	6/9/2003	0	1971-2011
3	Kashinagar	57.85	8/7/2007	7321.54	50.79	17.04.1981	3.4	8/7/2007	7321.54	6/9/2003	0	1971-2011
4	Purushottampur	17.94	10/8/2003	2279.41	12	6/12/2005	0	10/8/2003	2279.41	5/18/1997	0	1971-2011
5	Srikakulam	14.09	8/4/2006	5624.74	7.32	4/30/2009	0.06	8/4/2006	5624.74	3/14/2001	0	1971-2011

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2011) Rushikulya, Vamsadhara, Sarada & Nagavali Basi

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed		Minimum Observed		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ankapali	25.20	11/16/1998	887.00	19.60	5/20/2001	0.00	12/9/2010	589.99	5/14/2001	0.00	1989-2012
2	Gunupur	85.95	8/7/2007	6605.34	79.38	5/9/2009	1.60	8/7/2007	6605.34	10/28/1996	0.00	1989-2012
3	Kashinagar	57.85	8/7/2007	7321.54	50.79	4/17/1981	3.40	8/7/2007	7321.54	6/9/2003	0.00	1971-2012
4	Purushottampur	17.94	10/8/2003	2279.41	12.00	6/12/2005	0.00	10/8/2003	2279.41	5/18/1997	0.00	1989-2012
5	Srikakulam	14.09	8/4/2006	5624.74	7.32	4/30/2009	0.06	8/4/2006	5624.74	3/14/2001	0.00	1990-2012

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012) Rushikulya, Vamsadhara, Sarada & Nagavali Basi

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

V Basin : Godavari Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ambabal	542.450	7/5/2006	2243.15	534.000	6/1/2008	0.000	8/4/2006	1039.479	5/7/2008	Many days dry bed	12/88 to 5/11
2	Betmogra	356.200	10/16/2005	1211.94	348.230	4/22/2007	0.000	10/2/2001	1128.638	4/10/2009	Many days dry bed	06/97 to 5/11
3	Bhatkheda	581.750	10/16/1998	1838.55	94.500	8/28/1995	0.000	8/26/2000	901.445	7/29/1991	0.000	06/89 to 4/06
4	Bhadrachalam	50.140	8/8/2010	51444	32.770	5/2/2010	0.346	8/10/2007	42755.216	5/1/2010	0.505	06/07 to 5/11
5	Cherribeda	573.900	7/4/2006	2485.294	564.900	5/29/2001	0.000	9/13/2005	579.828	5/15/2010	Many days dry bed	03/96 to 5/11
6	Chindnar	340.100	7/5/2006	13350.59	327.532	5/26/1975	5.630	7/24/1995	12223	6/2/2008	0.015	06/71 to 5/11
7	Degloor	363.850	8/24/2000	2732.226	352.000	4/29/2009	0.000	8/24/2000	2732.226	6/6/2009	Many days dry bed	08/84 to 5/11
8	Dhalegaon	399.855	8/13/2006	7651.869	386.575	5/10/2010	0.000	7/25/1989	6732	4/18/2009	0.000	01/64 to 5/11
9	G.R.Bridge	378.370	8/14/2006	6221.643	364.010	2/9/2003	0.000	8/25/2000	4763.615	6/20/2009	0.000	06/76 to 5/11
10	Gandlapet	317.900	8/30/1990	1656	311.300	1/13/2008	0.000	8/30/1990	1656	10/29/2008	0.000	07/86 to 5/11
11	Ghargaon	607.840	7/28/2003	1592.479	81.150	4/30/1994	0.000	7/28/2003	1592.479	1/30/2003	Many days dry bed	06/89 to 5/06
12	Injaram	49.930	8/17/1986	14844.51	36.242	6/2/1966	5.544	8/14/1986	10266.7	5/27/1966	3.9	01/64 to 5/11
13	Jagdulpur	544.551	8/15/1986	3109.41	532.637	7/12/1965	11.569	7/22/1976	2499.1	2/3/2011	0.000	08/64 to 5/11
14	Koida	47.120	8/17/1986	70792.94	13.92	6/7/1988	85.10	8/15/1983	57978.3	5/31/2003	53.179	02/76 to 5/11
15	Konta	50.130	8/16/1986	14350*	30.700	5/15/1967	23.812	10/4/1968	10414.37	3/28/1973	17.641	02/64 to 5/11
16	Kosagumda	556.150	8/20/2001	893.53	547.650	6/10/2007	0.081	7/28/2004	498.918	4/20/2009	0.032	11/96 to 5/11
17	Mancherial	137.846	8/12/1983	29530.62	124.456	5/4/2010	0.000	7/25/1989	24900	5/19/2010	Many days dry bed	03/64 to 5/11
18	Murthahandi	545.090	8/6/2010	1882	534.110	5/25/2003	1.152	7/29/1992	1553.625	3/13/2003	1.166	02/79 to 5/11
19	Nowragpur	560.636	7/29/1969	2163.787	549.840	5/1/1999	0.000	7/7/1973	2609.922	3/26/1999	0.090	06/65 to 5/11
20	Pacheegaon	481.580	8/26/1997	1363	470.000	8/9/2008	0.000	8/7/2006	1441.044	3/2/2009	Many days dry bed	12/78 to 5/11
21	Pathagudem	103.500	8/5/2006	35392.09	86.080	6/12/2003	0.000	7/21/1976	24862.357	6/4/2009	0.000	07/64 to 5/11
22	Perur	87.42	8/15/1986	62889.13	68.49	6/10/1966	15.888	8/14/1986	54144.32	6/21/2005	3.388	03/64 to 5/11
23	Polavaram	28.017	8/16/1986	57310.57	12.077	5/12/1973	70	8/10/2007	47248.876	5/30/1966	25	06/66 to 5/11
24	Potteru (Seasonal)	131.990	8/4/2006	3331.488	121.480	6/2/1997	0.013	8/28/1997	542.8	6/2/1997	0.013	03/89 to 5/11
25	Purna	371.800	7/27/2005	10811.4	358.000	4/19/2006	0.014	7/24/1989	6133.277	5/27/2009	0.000	06/68 to 5/11
26	Saigaon	554.443	8/17/1990	2697.282	542.723	7/20/2008	0.000	10/7/1983	3395.2	1/6/2009	Many days dry bed	08/64 to 5/11
27	Sangam	58.25	9/21/2005	970.633	52.36	5/1/2006	0.000	7/24/2004	410.787	6/15/2009	Many days dry bed	06/96 to 5/11
28	Saradaput	239.530	8/4/2006	6480.381	224.647	5/23/1975	6.200	8/14/1986	7052.349	6/9/1977	5.133	01/68 to 5/11
29	Somanpally (Seasonal)	127.344	7/24/1989	3360.225	118.34	6/9/1967	0.068	7/21/1976	3457	4/12/2009	Many days dry bed	07/64 to 5/11
30	Sonarpal	542.57	7/4/2006	1509.189	534.1	4/12/2002	0.000	9/21/2006	729.3	6/14/2009	0.000	07/89 to 5/11
31	Tummar	325.977	6/14/2004	3584.01	316.937	5/27/2008	0.393	8/21/2001	1179.319	4/12/2006	0.000	03/89 to 5/11
32	Yelli	354.200	8/7/2006	12534.57	334.300	3/11/2009	0.000	8/13/1983	9815.4	4/30/2009	Many days dry bed	06/76 to 5/11

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Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**V Basin : Godavari** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
33	Zari	385.710	7/27/2005	2470.511	373.020	2/12/2009	0.000	9/3/1992	1474	12/16/2008	0.000	07/1986 to 5/2011
34	Ashti	155.240	9/8/1984	20393	137.976	05.06.1988	0.700	8/30/1978	25572	13.06.1965	0.000	1965-66 to 2010-11
35	Bamni	176.320	8/15/1986	21400	157.510	03.05.1972	0.500	7/13/1978	12181	03.06.2010	0.000	1966-67 to 2010-11
36	Bhatpalli	168.500	10/2/1988	3750	158.330	27.06.1996	1.422	20.10.1995	7862	05.06.2010	0.000	1987-88 to 2010-11
37	Bishnur	301.400	9/16/1994	3852	288.060	19.06.1995	0.452	15.09.1998	2165	15.06.1988	0.000	1988-89 to 2004-05
38	Hivra	246.310	9/7/1994	6862	0.000	28.05.2004	0.000	01.08.1991	5377	30.04.1992	0.000	1987-88 to 2010-11
39	kanergaon	477.345	8/7/2006	3009	0.000	07.06.2006	0.000	11.08.1998	1885	26.05.1995	0.000	1992-93 to 2010-11
40	Keolari	440.500	7/21/1994	5500	0.000	20.03.1988	0.000	15.09.1999	3554	24.04.1988	0.000	1987-88 to 2010-11
41	Kumhari	304.335	8/18/2002	16747	290.230	01.06.2003	0.006	17.09.1999	7269	26.07.2007	0.000	1987-88 to 2010-11
42	Mangrul	290.375	8/26/2002	1151	0.000	23.05.2005	0.000	08.08.2006	750	08.06.2010	0.000	1993-94 to 2010-11
43	Nandgaon	212.550	7/13/1994	3205	0.000	12.06.1996	0.000	20.07.2000	2185	30.04.1993	0.000	1986-87 to 2010-11
44	P.G.Bridge	217.920	8/7/2006	13881	197.168	07.06.1969	0.000	28.07.2005	7140	19.05.1968	0.000	1965-66 to 2010-11
45	Rajegaon	284.200	9/15/2005	6891	0.000	17.07.1986	0.000	18.07.1994	6415	27.05.2000	0.000	1986-87 to 2010-11
46	Rajoli	239.615	8/14/1986	1830	0.000	27.05.2004	0.000	05.09.1994	1273	05.06.1997	0.000	1986-87 to 2010-11
47	Ramakona	349.500	7/30/1991	3560	337.230	10.06.2010	0.056	20.07.2009	2238	12.04.1991	0.000	1987-88 to 2010-11
48	Salebardi	233.520	9/15/2005	3017	0.000	17.07.1992	0.000	14.08.1986	2044	13.03.1992	0.000	1986-87 to 2010-11
49	Satrapur	277.610	9/6/1994	14161	263.620	13.04.2001	0.150	06.09.1994	14161	20.05.1986	0.000	1986-87 to 2010-11
50	Sirpur	161.950	8/8/2006	14335	145.410	15.06.2005	3.278	16.08.1986	19320	06.01.2002	0.000	1968-69 to 2010-11
51	Tekra	114.600	8/15/1986	46600	95.810	01.05.2004	17.621	11.08.1981	33732	21.06.2005	1.095	1964-65 to 2010-11
52	Wairagarh	215.905	8/7/2007	2732	93.280	30.06.1995	0.591	18.07.2000	1736	15.03.2000	0.000	1993-94 to 2010-11
53	Ghugus	183.581	7/14/1994	10919	166.410	06.06.2003	0.000	04.09.1976	7086	28.05.1992	0.000	1967-68 to 2004-05
54	Pauni	237.085	9/7/1994	27124	100.520	29.05.1965	4.317	20.08.1974	17017	09.06.1966	0.400	1965-66 to 2004-05
55	Mirdapalli	243.550	8/22/1990	13635	229.560	01.06.1985	10.000	22.08.2001	15834	31.01.2001	0.000	1973 to 1996-97 & 2001-02 to 2005-06
56	Medapalli	215.370	8/22/1990	8365	204.150	17.06.2003	0.000	12.07.1994	5211	23.12.1998	0.000	1967-68 to 1996-97 & 2004-2005
57	Marlegaon	398.909	8/13/1983	4450	0.000	30.05.1973	0.000	08.09.1969	3765	04.06.1976	0.000	1965-66 to 2004-05

Source : SE, Godavari Circle, Central Water Commission, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills Nagpur,-



Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

V Basin : Godavari Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level	Date	Discharge	Water Level	Date	Discharge	Date	Discharge	Date	Discharge	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ambabal	542.450	7/5/2006	2243.15	534.000	6/1/2008	0.000	8/4/2006	1039.479	2/8/2010	0.000	12/88 to 5/12
2	Betmogra	356.200	10/16/2005	1211.94	348.230	4/22/2007	0.000	10/2/2001	1128.638	1/15/2010	0.000	06/97 to 5/12
3	Bhatkheda	581.750	10/16/1998	1838.55	94.500	8/28/1995	0.000	8/26/2000	901.445	7/29/1991	0.000	06/89 to 4/06
4	Bhadrachalam	50.140	8/8/2010	51444	32.770	5/2/2010	0.346	8/10/2007	42755.216	5/1/2010	0.505	06/07 to 5/12
5	Cherribeda	573.900	7/4/2006	2485.294	564.900	6/2/2001	0.000	9/13/2005	579.828	5/26/2010	0.000	03/96 to 5/12
6	Chindnar	340.100	7/5/2006	13350.59	327.532	5/26/1975	5.630	7/24/1995	12223	6/2/2008	0.015	06/71 to 5/12
7	Degloor	363.850	8/24/2000	2732.226	352.000	4/27/2009	0.000	8/24/2000	2732.226	3/12/2010	0.000	08/84 to 5/12
8	Dhalegaon	399.855	8/13/2006	7651.869	386.245	9/8/2011	0.000	7/25/1989	6732	8/21/2009	0.000	01/64 to 5/12
9	G.R.Bridge	378.370	8/14/2006	6221.643	364.010	2/10/2003	0.000	8/25/2000	4763.615	10/21/2009	0.000	06/76 to 5/12
10	Gandlapet	317.900	8/30/1990	1656	311.300	1/13/2008	0.000	8/30/1990	1656	4/1/2009	0.000	07/86 to 5/12
11	Ghargaon	607.840	7/28/2003	1592.479	81.150	4/30/1994	0.000	7/28/2003	1592.479	1/31/2003	Many days	06/89 to 5/06
12	Injaram	49.930	8/17/1986	14844.51	36.242	6/2/1966	5.544	8/14/1986	10266.7	5/27/1966	3.9	01/64 to 5/11
13	Jagdapur	544.551	8/15/1986	3109.41	532.637	7/12/1965	11.569	7/22/1976	2499.1	4/25/2012	0.000	08/64 to 5/12
14	Koida	47.120	8/17/1986	70792.94	13.92	6/7/1988	85.10	8/15/1983	57978.3	5/31/2003	53.179	02/76 to 5/11
15	Konta	49.910	8/17/1986	20187.04*	30.700	5/15/1967	23.812	10/4/1968	10414.37	3/28/1973	17.641	02/64 to 5/12
16	Kosagumda	556.150	8/20/2001	893.53	547.650	6/9/2007	0.081	7/28/2004	498.918	3/24/2012	0	11/96 to 5/12
17	Mancherial	137.846	8/12/1983	29530.62	124.456	5/4/2010	0.000	7/25/1989	24900	5/5/2010	0.000	03/64 to 5/12
18	Murthahandi	545.090	8/6/2010	1882	533.970	3/30/2012	2.524	7/29/1992	1553.625	3/13/2003	1.166	02/79 to 5/12
19	Nowragpur	560.636	7/29/1969	2163.787	549.840	5/1/1999	0.000	7/7/1973	2609.922	3/24/1999	0.090	06/65 to 5/12
20	Pachegaon	481.580	8/26/1997	1363	470.000	1/24/2012	0.000	8/7/2006	1441.044	1/7/2009	0.000	12/78 to 5/12
21	Pathagudem	103.500	8/5/2006	35392.09	86.080	6/12/2003	0.000	7/21/1976	24862.357	6/4/2009	0.000	07/64 to 5/12
22	Perur	87.42	8/15/1986	62889.13	68.49	6/13/1966	14.198	8/14/1986	54144.32	6/21/2005	3.388	03/64 to 5/12
23	Polavaram	28.017	8/16/1986	57310.57	12.077	5/12/1973	70	8/10/2007	47248.876	5/30/1966	25	06/66 to 5/12
24	Potteru (Seasonal)	131.990	8/4/2006	3331.488	121.480	6/2/1997	0.013	8/28/1997	542.8	6/2/1997	0.013	03/89 to 5/12
25	Purna	371.800	7/27/2005	10811.4	358.000	4/19/2006	0.014	7/24/1989	6133.277	3/23/2010	0.000	06/68 to 5/12
26	Saigaon	554.443	8/17/1990	2697.282	542.723	7/5/2008	0.000	10/7/1983	3395.2	7/10/2009	0.000	08/64 to 5/12
27	Sangam	58.25	9/21/2005	970.633	52.36	5/3/2006	0.000	7/24/2004	410.787	11/10/2009	0.000	06/96 to 5/12
28	Saradaput	239.530	8/4/2006	6480.381	224.647	5/23/1975	6.200	8/14/1986	7052.349	6/9/1977	5.133	01/68 to 5/12
29	Somanpally	127.344	7/24/1989	3360.225	118.34	6/10/1967	0.068	7/21/1976	3457	4/27/2009	0.000	07/64 to 5/12
30	Sonarpal	542.57	7/4/2006	1509.189	534.1	4/12/2002	0.000	9/21/2006	729.3	6/3/2008	0.000	07/89 to 5/12
31	Tummar	325.977	6/14/2004	3584.01	316.937	5/26/2008	0.348	8/21/2001	1179.319	4/12/2006	0.000	03/89 to 5/12
32	Yelli	354.200	8/7/2006	12534.57	334.300	3/15/2009	0.000	8/13/1983	9815.4	10/17/2009	0.000	06/76 to 5/12

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Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

V Basin : Godavari Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level	Date	Discharge	Water Level	Date	Discharge	Date	Discharge	Date	Discharge	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
33	Zari	385.71	7/27/2005	2470.511	373.02	2/12/2009	0	9/3/1992	1474	4/9/2009	0	07/86 to 05/12
34	Kiwaibalenga	571.79	8/6/2010	1408	563.39	1/22/2008	0.088	8/17/2011	16.238	6/17/2010	0	08/05 to 05/12
35	Bamni											
36	Bhatpalli											
37	Bishnur											
38	Hivra											
39	kanergaon											
40	Keolari											
41	Kumhari											
42	Mangrul											
43	Nandgaon											
44	P.G.Bridge											
45	Rajegaon											
46	Rajoli	<----- Not Available Data ----->										
47	Ramakona											
48	Salebardi											
49	Satrapur											
50	Sirpur											
51	Tekra											
52	Wairagarh											
53	Ghugus											
54	Pauni											
55	Mirdapalli											
56	Medapalli											
57	Marlegaon											

Source : SE, Godavari Circle, Central Water Commission, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills Nagpur,-44)

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

VI Basin : Krishna Unit: M. C. M.

SL. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed Discharge		Minimum Observed Discharge		Period of
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	From
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad (Seasonal)	543.685	8/5/2005	5271.52	522.451	1/16/1969	0.000	8/20/1990	6500	1/4/1985	525.79	1/1969 to 11/2010
2	Bawapuram	285.225	10/2/2009	36303.25	270.255	3/17/2004	0.000	10/1/2009	8750	4/28/2004	-	6/1965 to 5/2011
3	Cholachguda (Seasonal)	536.840	10/2/2009	2747.302	522.880	8/25/2004	0.000	6/29/1991	1472	4/29/1996	523.53	6/1982 to 11/2010
4	Dameracherla	62.500	10/5/2009	4299.748	54.500	8/16/2009	0.000	10/6/1983	5762	6/30/2004	-	6/1968 to 5/2011
5	Gokak Falls (Seasonal)	546.880	9/23/2005	2266.452	538.105	4/2/2004	0.000	8/10/1979	3147	5/6/1998	539.084	7/1971 to 11/2010
6	Halia	134.405	9/22/1991	5821.407	127.900	7/7/2006	0.000	10/6/1994	825.3	2/6/2003	-	6/1984 to 5/2011
7	Huvinhedigi	358.420	10/2/2009	15095.15	341.958	5/11/1979	0.800	10/2/2009	13909	5/5/1981	342.343	2/1976 to 5/2011
8	Karad	567.162	7/30/2006	8736.187	549.755	5/15/2006	0.000	8/3/2005	6312	5/3/1999	549.892	6/1965 to 5/2011
9	Keesara	35.810	7/24/1989	14128.18	27.595	6/6/1979	0.000	8/15/1978	5180	5/21/1973	-	6/1965 to 5/2011
10	Kurundwad	539.760	8/5/2005	9797.981	519.795	4/27/1977	0.000	7/29/2005	7786	12/17/1988	523.555	5/1972 to 5/2011
11	Madhira	52.010	9/20/2005	3048.408	44.180	9/25/2009	0.000	9/22/1991	1306	4/22/2005	-	6/1984 to 5/2011
12	Malghed	400.910	8/16/1990	5007.121	391.950	7/20/2001	0.162	10/15/1998	2215	6/24/1995	-	8/1990 to 5/2011
13	Mantralayam	318.770	10/2/2009	18882.31	305.760	6/25/2003	0.000	9/30/1978	8504	3/23/2004	305.940	6/1972 to 5/2011
14	Narasingspur	462.393	8/10/2006	8873.277	448.013	12/5/2004	0.000	8/17/1983	7602	3/11/1997	448.973	12/1966 to 5/2011
15	Phulgaon (Seasonal)	93.950	8/23/1997	5998.052	81.005	5/7/1991	0.000	7/27/2005	3029	1/22/1999	84.450	6/1992 to 11/2010
16	Sadalga (Seasonal)	538.950	6/29/1983	2457.294	525.080	4/26/1966	0.000	7/11/1975	1759	3/9/1991	529.425	6/1969 to 11/2010
17	Samdoli (Seasonal)	546.324	8/5/2005	3064.00	529.194	3/15/1975	0.000	7/27/1989	2412	3/10/1983	-	12/1966 to 11/2010
18	Sarati	476.788	8/2/1976	3232.886	466.628	3/5/2006	0.000	8/2/1976	2757	6/28/1993	-	6/1965 to 5/2011
19	T Ramapuram (Seasonal)	356.478	10/2/2009	3720.143	349.368	12/22/2000	5.100	10/2/2009	3192	5/8/2001	-	12/1965 to 11/2010
20	Takli	423.718	8/12/2006	7661.959	409.628	6/22/2005	0.000	7/31/1967	8333	5/14/1996	411.243	6/1965 to 5/2011
21	Talikot (Seasonal)	56.660	10/1/2009	1202.298	48.005	4/16/1994	0.000	10/3/2009	887.06	7/7/2002	50.020	9/1995 to 11/2010
22	Terwad (Seasonal)	540.390	8/6/2005	3340.0	520.170	6/2/1985	0.000	7/29/1991	2183.00	5/5/1990	522.300	8/1979 to 11/2010
23	Vijayawada	19.332	10/5/2009	28140.00	8.512	7/23/1997	13.520	10/16/1998	25082	6/2/2006	9.622	6/1965 to 5/2011
24	Wadakkal	428.563	9/29/1989	3270.743	418.278	5/10/1978	0.000	9/29/1989	2746	5/26/1992	-	6/1965 to 5/2011
25	Wadenapally	42.494	10/5/2009	31836.00	23.999	6/7/1987	4.835	10/16/1998	23689	6/6/1972	24.664	12/1965 to 5/2011
26	Warunji	568.047	7/30/2006	4900.641	550.537	2/4/1973	0.000	8/2/2005	4641	1/28/1989	550.907	1/1966 to 5/2011
27	Yadgir	361.913	9/7/1969	10609.86	348.903	5/31/1973	0.000	9/7/1969	10255	4/24/1998	350.523	6/1965 to 5/2011
28	Byladahalli	538.450	11/17/1992	1045	529.720	5/2/2011	0.000	11/9/2010	257.3	7/24/2003	-	3/1985 to 5/2011
29	Haralahalli	518.346	11/18/1992	7120	506.886	4/8/2003	0.000	8/4/1982	4559.3	1/9/2004	507.136	8/1965 to 5/2011
30	Holehonur	559.725	10/5/2010	652.1	89.250	1/6/2007	1.205	8/9/2007	1004	1/16/2010	89.380	11/1997 to 5/2011
31	Honnali	546.470	7/16/1994	6760	87.380	3/29/1986	3.900	8/14/2008	6732	3/31/2004	537.26	06/1978 to 5/2011
32	Hoovinahole	96.150	9/6/2008	111.9	94.000	12/9/2007	0.000	11/3/2010	75.13	6/25/2007	-	11/1997 to 5/2011
33	Kellodu	650.700	11/12/2010	360.2	97.490	1/30/2006	0.000	10/23/2000	399.2	4/1/2003	-	06/1990 to 5/2011
34	Kuppelur	541.900	8/8/2007	787.4	93.005	3/27/1994	0.000	7/17/1994	430.000	1/9/2001	535.08	06/1990 to 5/2011
35	Marol	517.601	11/18/1992	1675	507.561	2/22/1990	0.000	7/3/1980	1234.5	2/11/1992	-	02/1965 to 5/2011
36	Shimoga	566.430	8/31/2010	2128	557.000	4/29/1983	0.000	8/3/1982	4124.1	5/4/2009	558.13	06/1971 to 5/2011

Source : SE, Godavari & Krishna Circle, during the year 2010-2011 (Krishna Basin) Central Water Commission, Hyderabad.

Table 6 : Maximum and Minimum observed water levels and discharges by site and river basin during 2011-12

VI Basin : Krishna Unit: M. C. M.

SL. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed Discharge		Minimum Observed Discharge		Period of
		Water Level	Date	Discharge	Water Level	Date	Discharge	Date	Discharge	Date	Discharge	From
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad (Seasonal)	543.685	8/5/2005	5271.52	522.451	1/16/1969	0.000	8/20/1990	0.000	12/03/1985	526.875	01/1969 to 11/2011
2	Bawapuram	285.225	10/2/2009	36303.25	270.255	3/17/2004	0.000	10/1/2009	0.000	13/03/1985	-	06/1965 to 05/2012
3	Cholachguda (Seasonal)	536.840	10/2/2009	2747.302	522.880	8/25/2004	0.000	6/29/1991	0.000	14/03/1985	523.53	06/1982 to 11/2011
4	Dameracherla	62.500	10/5/2009	4299.748	54.500	8/16/2009	0.000	10/6/1983	0.000	15/03/1985	-	06/1968 to 05/2012
5	Gokak Falls (Seasonal)	546.880	9/23/2005	2266.452	538.105	4/2/2004	0.000	8/10/1979	0.000	16/03/1985	539.024	07/1971 to 11/2011
6	Halia	134.405	23.09.1991	5821.407	127.900	7/7/2006	0.000	10/6/1994	0.000	17/03/1985	-	06/1984 to 05/2012
7	Huvinhedigi	358.420	10/2/2009	15095.15	341.958	5/11/1979	0.800	10/2/2009	0.100	18/03/1985	342.343	02/1976 to 05/2012
8	Karad	567.162	7/30/2006	8736.187	549.755	5/15/2006	0.000	8/3/2005	0.000	03/05/1999	549.892	06/1965 to 05/2012
9	Keesara	35.810	7/24/1989	14128.18	27.595	6/6/1979	0.000	8/15/1978	0.000	21/05/1973	-	06/1965 to 05/2012
10	Kurundwad	539.760	8/5/2005	9797.981	519.795	4/27/1977	0.000	7/29/2005	0.000	17/12/1988	523.555	05/1972 to 05/2012
11	Madhira	52.010	9/20/2005	3048.408	44.180	9/25/2009	0.000	9/22/1991	0.000	22/04/2005	-	06/1984 to 05/2012
12	Malkhed	400.910	8/16/1990	5007.121	391.950	7/20/2001	0.162	10/15/1998	0.000	24/06/1995	-	08/1999 to 05/2012
13	Mantralayam	318.770	10/2/2009	18882.31	305.760	6/25/2003	0.000	9/30/1978	0.000	23/03/2004	305.940	06/1972 to 05/2012
14	Narasingpur	462.393	8/10/2006	8873.277	448.013	12/5/2004	0.000	8/17/1983	0.000	11/03/1997	448.973	12/1966 to 05/2012
15	Phulgaon (Seasonal)	93.950	8/23/1997	5998.052	81.005	5/7/1991	0.000	7/27/2005	0.000	22/01/1999	84.450	06/1992 to 11/2011
16	Sadalga (Seasonal)	538.950	6/29/1983	2457.294	525.080	4/26/1966	0.000	7/11/1975	0.000	09/03/1991	529.425	06/1969 to 11/2011
17	Samdoli (Seasonal)	546.324	8/5/2005	3064.00	529.104	3/15/1975	0.000	7/27/1989	0.000	10/03/1983	-	12/1966 to 11/2011
18	Sarati	476.788	8/2/1976	3232.886	466.628	3/5/2006	0.000	8/2/1976	0.000	28/06/1993	-	06/1965 to 05/2012
19	T Ramapuram (Seasonal)	356.478	10/2/2009	3720.143	349.368	4/6/2001	0.000	10/2/2009	0.000	08/05/2001	-	12/1965 to 11/2011
20	Takli	423.718	8/12/2006	7661.959	409.540	5/3/2012	0.000	7/31/1967	0.000	14/05/1996	411.243	06/1965 to 05/2012
21	Talikot (Seasonal)	56.660	10/1/2009	1202.298	48.005	4/16/1994	0.000	10/3/2009	0.000	07/07/2002	50.020	09/1995 to 11/2011
22	Terwad (Seasonal)	540.390	8/6/2005	3340.0	520.170	6/2/1985	0.000	7/29/1991	0.000	02/06/1985	520.170	08/1979 to 11/2011
23	Vijayawada	19.332	10/5/2009	28140.00	8.512	7/23/1997	13.520	10/16/1998	0.000	09/01/2007	9.342	06/1965 to 05/2012
24	Wadakbal	428.563	9/29/1989	3270.743	418.278	5/10/1978	0.000	9/29/1989	0.000	26/05/1992	-	06/1965 to 05/2012
25	Wadenapally	42.494	10/5/2009	31836.00	23.999	6/7/1987	4.835	10/16/1998	0.000	06/06/1972	24.664	12/1965 to 05/2012
26	Warunji	568.047	7/30/2006	4900.641	550.537	2/4/1973	0.000	8/2/2005	0.000	22/04/1971	550.762	01.1966 to 05/2012
27	Yadgir	361.913	9/7/1969	10609.86	348.903	5/31/1973	0.000	9/7/1969	0.000	24/04/1998	350.523	06/1965 to 05/2012
28	Bylalahalli	538.450	11/17/1992	1045	529.720	5/2/2011	0.000	11/9/2010	0.000	24/07/2003	-	03/1985 to 05/2012
29	Haralahalli	518.346	11/18/1992	7120	506.676	1/26/2012	0.000	8/4/1982	0.000	09/01/2004	507.136	08/1965 to 05/2012
30	Holehonnur	560.895	9/2/2011	652.1	89.250	1/6/2007	1.205	8/9/2007	0.846	16/01/2010	89.380	11/1997 to 05/2012
31	Honnali	546.470	7/16/1994	6760	87.380	3/29/1986	3.900	8/14/2008	0.000	01/04/2004	537.23	06/1978 to 05/2012
32	Hoovinahole	96.150	9/6/2008	111.9	94.000	12/9/2007	0.000	11/3/2010	0.000	25/06/2007	-	11/1997 to 05/2012
33	Kellodu	650.700	11/12/2010	360.2	97.490	1/30/2006	0.000	10/23/2000	0.000	01/04/2003	-	06/1990 to 05/2012
34	Kuppelur	541.900	8/8/2007	787.4	93.005	3/27/1994	0.000	7/17/1994	0.000	15/04/2001	-	06/1990 to 05/2012
35	Marol	517.601	11/18/1992	1675	507.561	2/22/1990	0.000	7/3/1980	0.000	11/02/1992	-	02/1965 to 05/2012
36	Shimoga	566.930	7/17/2011	2128	557.000	4/29/1983	0.000	8/3/1982	0.000	10/05/2009	-	06/1971 to 05/2012

Source : SE, Godavari & Krishna Circle, during the year 2011-2012 (Krishna Basin) Central Water Commission, Hyderabad.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

VII Basin : Cauvery Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal	752.560	8/2/2005	1587.3	746.780	5/31/2003	0.000	7/27/2009	638.9	5/11/2003	0.000	2002-2011
2	Bendrehalli	635.200	11/7/2010	31.9	631.19	6/1/2007	0.000	12/15/2005	7.117	6/30/2007	0.000	2006-2011
3	Biligundulu	265.840	7/30/1991	7080	257.400	5/29/2004	23.66	7/17/1994	5311	3/28/2004	4.235	1971-2011
4	Chunchankatte	757.200	7/19/2009	947.4	751.470	5/12/2009	0.000	7/18/2009	744.2	2/13/2010	0.000	2008-2011
5	Hogenakkal	256.350	10/24/2005	251.4	Dry Bed	5/19/2005	0.000	10/16/2000	122.6	5/31/2005	0.000	1996-2011
6	K.M.Vadi	771.250	7/14/1994	688	766.010	4/23/2004	0.000	7/18/2009	583.2	5/31/2005	0.000	1979-2011
7	Kollegal	630.250	7/30/1991	6570	623.490	6/20/2003	9.212	7/17/1994	5620	4/17/2007	2.249	1971-2011
8	Kudige	820.410	7/3/1980	2265	810.995	6/10/1983	1.200	7/3/1980	2265	6/1/2003	0.000	1972-2011
9	M.H.Halli	846.655	7/28/1991	2375	838.645	5/2/1983	0.400	8/19/1981	1311	6/4/2007	0.351	1978-2011
10	Sakleshpur	893.320	6/30/2007	771.8	887.300	5/29/2003	0.238	7/16/2009	717.9	4/27/2004	0.000	2002-2011
11	T.Bekuppe	606.700	7/12/2004	424.7	604.300	4/11/2004	0.000	5/23/2009	48.75	5/31/2005	0.000	2003-2011
12	T.K.Halli	585.950	10/3/1984	1219	Dry Bed	5/11/2005	0.000	10/3/1984	1219	5/31/2005	0.000	1978-2011
13	T.Narasipur	642.300	7/5/1980	2875	634.650	2/7/2010	2.732	7/4/1984	1826	4/11/1974	0.700	1971-2011
14	Thimmanahalli	909.815	7/16/2009	419.5	Dry Bed	4/1/2004	0.000	7/16/2009	393.1	6/30/2003	0.000	2002-2011
15	Urachikottai	165.920	9/12/1981	4720	157.020	4/24/2004	0.000	10/25/2005	5855	10/24/2006	0.000	1979-2011
16	Nellithurai	309.450	11/15/1992	1675	300.840	5/15/1983	0.100	7/23/1989	1348	3/4/1995	0.000	1979-2011
17	Thengumarahada	342.250	11/30/2000	1020	338.210	4/8/1983	0.030	10/30/1991	653.2	4/18/2004	0.000	1979-2011
18	Savandapur	190.270	11/5/1978	2850	179.700	9/19/2003	0.000	11/20/1979	1446	9/20/2003	0.000	1978-2011
19	Nallamaranpatti	135.300	11/10/1993	7500	128.020	10/10/2007	0.000	11/10/1993	5571	6/1/2006	0.000	1977-2011
20	Kodumudi	128.140	12/9/1972	6000	121.505	6/6/1983	1.200	10/25/2005	6585	6/10/2004	0.000	1971-2011
21	Musiri	86.980	11/25/2005	9890	82.165	5/19/2011	2.156	10/25/2005	7690	6/26/2004	0.000	1972-2011
22	Elnunthimangalam	132.050	10/24/1999	175.3	129.750	5/28/2011	0.000	10/24/1999	175.3	4/8/2004	0.000	1998-2011
23	Sevanur	173.330	10/24/2005	144.5	170.500	6/20/2005	0.000	10/13/2009	58.40	3/27/2001	0.000	1999-2011
24	Thevur	173.200	10/27/2010	167.8	169.900	4/9/2002	0.000	10/27/2010	167.8	6/1/2006	0.000	1999-2011
25	Thoppur	327.460	11/23/2005	198.7	320.470	11/13/2003	0.000	11/24/2005	60.87	5/28/2001	0.000	1999-2011
26	Kudlur	438.555	4/19/2001	50.56	433.730	6/22/2003	0.000	11/6/2010	137.7	11/29/2006	0.000	1999-2011
27	Annavasal	5.985	11/24/1999	11.28	4.370	2/10/1999	0.000	11/24/1999	11.282	5/31/2011	0.000	1999-2011
28	Peralam	9.835	11/27/2008	8.207	6.960	3/4/1999	0.000	11/27/2008	8.207	5/31/2011	0.000	1999-2011
29	Menangudi	7.945	11/8/1997	17.20	4.880	2/28/1997	0.000	11/27/2008	26.236	5/31/2011	0.000	1997-2011
30	Porakudi	7.200	11/28/2008	111.35	2.170	5/3/2005	0.000	11/28/2008	111.35	5/31/2011	0.000	1999-2011
31	Thengudi	9.620	11/28/2008	89.73	5.510	5/14/2010	0.000	11/28/2008	89.73	5/31/2011	0.000	1998-2011
32	Gopurajapuram	3.240	11/8/2005	51.80	0.020	8/15/2010	0.000	11/8/2005	51.80	5/31/2011	0.000	1999-2011
33	Nallathur	5.665	11/28/2008	92.329	1.215	8/14/2010	0.000	11/28/2008	92.33	5/31/2011	0.000	2006-2011
34	Muthankera	712.870	6/22/1992	1636.0	706.750	3/18/1981	0.800	8/9/1979	1359.700	4/13/1980	0.000	1973-2011

Source : Water Year Book for 2001-2011, (Cauvery Basin) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore,

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

VII Basin : Cauvery Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level	Date	Discharge	Water	Date	Discharge	Date	Discharge	Date	Discharge	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal	749.4	9/5/2011	382.0	746.8	5/21/2012	0.844	9/5/2011	382.0	4/23/2012	1.011	2011-2012
2	Bendrehalli	633.9	11/4/2011	18.95	631.3	4/16/2012	0.000	10/15/2011	3.704	4/3/2012	0.000	2011-2012
3	Biligundulu	261.4	9/6/2011	1888.1	257.7	3/28/2012	22.03	9/6/2011	1888	3/28/2012	22.030	2011-2012
4	Chunchankatte	755.9	9/4/2011	629.7	751.6	3/23/2012	0.000	7/20/2011	376.4	1/21/2012	0.000	2011-2012
5	Hogenakkal	252.5	11/4/2011	3.348	252.1	2/5/2012	0.000	11/4/2011	3.348	7/10/2011	0.000	2011-2012
6	K.M.Vadi	769.2	10/25/2011	142.0	766.0	4/25/2012	0.000	10/24/2011	84.31	6/1/2011	0.000	2011-2012
7	Kollegal	627.0	9/5/2011	2348.8	624.6	3/25/2012	17.85	9/5/2011	2349	3/24/2012	17.63	2011-2012
8	Kudige	816.4	9/3/2011	634.9	810.9	3/17/2012	1.925	8/5/2011	468.6	3/20/2012	1.896	2011-2012
9	M.H.Halli	840.7	9/5/2011	359.0	838.2	5/26/2012	3.902	9/3/2011	227.3	5/26/2012	3.902	2011-2012
10	Sakleshpur	840.7	9/5/2011	359.0	838.2	5/26/2012	3.902	9/3/2011	227.3	5/26/2012	3.902	2011-2012
11	T.Bekuppe	605.5	10/13/2011	60.03	604.4	3/28/2012	2.153	10/21/2011	14.90	3/29/2012	2.135	2011-2012
12	T.K.Halli	583.4	11/4/2011	243.3	580.5	3/31/2012	0.000	11/4/2011	243.3	3/18/2012	0.000	2011-2012
13	T.Narasipur	638.8	9/5/2011	958.3	634.6	2/5/2012	6.418	9/5/2011	958.3	2/16/2012	6.695	2011-2012
14	Thimmanahalli	907.4	10/16/2011	85.00	905.5	3/31/2012	0.860	9/3/2011	67.84	3/10/2012	0.621	2011-2012
15	Urachikottai	160.7	9/11/2011	633.8	157.8	2/9/2012	0.000	7/5/2011	715.9	6/1/2011	0.000	2011-2012
16	Nellithurai	306.2	9/3/2011	673.6	303.0	9/29/2011	1.141	9/3/2011	673.6	9/29/2011	1.141	2011-2012
17	Thengumarahada	339.3	9/2/2011	44.03	338.5	2/27/2012	1.041	9/2/2011	44.03	2/27/2012	1.041	2011-2012
18	Savandapur	182.6	11/17/2011	171.9	180.7	5/5/2012	3.268	11/29/2011	67.42	8/25/2011	3.203	2011-2012
19	Nallamaranpatti	130.4	11/27/2011	307.6	128.0	5/23/2012	0.000	11/30/2011	260.3	6/1/2011	0.000	2011-2012
20	Kodumudi	124.2	9/15/2011	780.0	122.3	1/10/2012	40.30	9/15/2011	780.0	1/10/2012	40.30	2011-2012
21	Musiri	83.61	7/8/2011	585.7	81.81	5/10/2012	10.57	8/19/2011	693.6	5/10/2012	10.57	2011-2012
22	Elunuthimangalam	131.3	11/8/2011	86.95	129.7	7/5/2011	0.000	11/8/2011	86.95	6/3/2011	0.000	2011-2012
23	Sevanur	171.2	11/4/2011	2.233	170.5	8/13/2011	0.000	12/31/2011	2.548	6/1/2011	0.000	2011-2012
24	Thevur	171.6	10/13/2011	6.271	170.1	8/10/2011	0.000	10/13/2011	6.271	8/1/2011	0.000	2011-2012
25	Thoppur	323.4	11/7/2011	0.663	323.0	5/31/2012	0.000	11/5/2011	0.845	8/5/2011	0.000	2011-2012
26	Kudtur	436.2	11/7/2011	23.00	435.2	4/26/2012	0.000	8/18/2011	5.399	2/15/2012	0.000	2011-2012
27	Annavasal	5.333	10/5/2011	6.359	4.610	7/18/2011	0.000	10/5/2011	6.359	6/1/2011	0.000	2011-2012
28	Peralam	8.610	11/27/2011	3.479	7.170	3/27/2012	0.000	11/25/2011	2.822	6/1/2011	0.000	2011-2012
29	Menangudi	7.715	11/27/2011	21.77	5.420	3/30/2012	0.000	11/27/2011	21.77	6/1/2011	0.000	2011-2012
30	Porakudi	5.290	11/27/2011	60.500	2.380	6/26/2011	0.000	11/28/2011	36.306	7/25/2011	0.000	2011-2012
31	Thengudi	8.680	11/27/2011	36.63	5.780	5/31/2012	0.000	11/27/2011	36.63	6/1/2011	0.000	2011-2012
32	Gopurajapuram	2.480	11/27/2011	38.64	0.045	6/21/2011	0.000	11/26/2011	33.77	6/1/2011	0.000	2011-2012
33	Nallathur	3.900	11/27/2011	40.54	1.820	5/28/2012	0.000	11/1/2011	57.37	6/1/2011	0.000	2011-2012
34	Muthankera	710.4	9/2/2011	570.1	707.2	4/2/2012	1.894	9/2/2011	570.1	4/16/2012	1.297	2011-2012

Source : Water Year Book for 2001-2012, (Cauvery Basin) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gummanur	495.700	10/24/2005	2288	490.420	7/29/2003	0.000	10/24/2005	2170.0	6/1/1998	0.000	1978-2011
2	Avaramkuppam	368.820	10/30/1991	400.0	365.685	8/19/2010	0.000	10/24/2005	405.9	6/1/1998	0.000	1978-2011
3	Theni	287.950	11/19/1979	503.0	278.430	5/29/1996	0.000	11/14/1992	660	6/1/1998	0.000	1978-2011
4	Murappanadu	22.880	11/14/1992	4022	14.335	6/22/2010	0.000	11/12/1979	2405	4/11/1983	0.000	1977-2011
5	A.P. Puram	69.570	11/14/1992	423.2	62.785	6/24/1980	0.000	11/14/1992	423.2	1/17/1992	0.000	1979-2011
6	Paramakudi	41.475	11/20/1979	1950	37.260	3/10/2011	0.000	11/20/1979	1950.0	12/7/1986	0.000	1971-2011
7	Irukankudi	51.100	12/15/1998	1180	46.800	3/31/1990	0.000	12/9/1997	1032	1/17/1992	0.000	1989-2011
8	Ambasamudram	299.790	10/25/2007	272.70	296.505	1/27/2010	0.187	12/12/2005	219.1	3/10/1999	0.000	1999-2011
9	Nellore	51.215	11/18/1991	5789.00	7.780	4/28/2010	0.000	10/18/2001	8673.0	6/1/2010	0.000	1988-2011
10	Nandipalli	102.430	10/19/1996	640.30	95.470	9/11/2006	0.000	6/23/2007	1183.7	6/1/2010	0.000	1990-2011
11	Chennur	123.375	8/24/2000	6718.00	112.530	8/3/1990	0.000	8/24/2000	6718.0	7/10/2009	0.000	1990-2011
12	Kamalapuram	139.200	10/20/1996	1089.00	134.660	8/26/2010	0.000	10/17/2001	980.4	5/31/2011	0.000	1990-2011
13	Alladupalli	142.085	6/24/2007	2752.00	94.460	9/17/2001	0.000	8/23/2000	3108.0	8/1/2009	0.000	1986-2011
14	Tadipatri	230.340	11/4/1975	1867.00	222.970	7/19/2010	0.000	11/4/1975	1867.0	5/31/2011	0.000	1972-2011
15	Nagalamedike	549.545	9/12/1988	966.60	545.170	10/12/1994	0.000	9/12/1988	966.6	5/31/2011	0.000	1978-2011
16	Singavaram	260.355	9/12/1988	878.00	255.085	4/28/2002	0.000	9/12/1988	878.0	5/31/2011	0.000	1980-2011
17	Naidupeta	25.950	11/14/1984	2525.00	20.170	2/27/2009	0.000	11/15/1991	1876.0	5/31/2011	0.000	1979-2011
18	Sulurpet	6.435	12/4/2005	1029.00	-0.640	2/25/2006	0.000	10/29/2007	1032.7	5/31/2011	0.000	1989-2011
19	Chengalpattu	29.220	11/14/1985	2690.40	24.870	11/17/2008	0.000	11/14/1985	2690.0	5/31/2011	0.000	1979-2011
20	Magaral	62.280	12/16/1996	947.00	59.130	2/5/2011	0.000	11/13/1985	1596.0	5/31/2011	0.000	1972-2011
21	Arcot	161.047	11/18/1991	1229.00	158.730	12/20/2008	0.000	11/19/1979	856.2	5/31/2011	0.000	1979-2011
22	Kumarapalayam	12.540	12/2/2010	327.50	9.730	3/19/2010	0.000	12/3/2010	336.2	5/31/2011	0.000	2004-2011
23	Villupuram	46.415	12/8/1972	600.00	42.570	12/19/2006	0.000	11/25/2005	2636.0	5/31/2011	0.000	1972-2011
24	Vazhavachanur	138.782	11/17/1991	1632.00	131.900	3/29/1983	0.000	10/29/1981	1935.0	6/1/2010	0.000	1978-2011
25	Kudalaiyathur	48.892	12/5/1993	2087.00	12.700	11/13/2007	0.000	12/11/1998	2058.0	5/31/2011	0.000	1990-2011

Source : Water Year Book for 2001-2011, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gummanur	491.7	10/13/2011	77.76	490.9	4/23/2012	0.000	10/15/2011	28.47	4/18/2012	0.000	2011-2012
2	Avaramkuppam	366.8	8/18/2011	43.09	365.8	2/16/2012	0.000	8/18/2011	43.09	6/18/2011	0.000	2011-2012
3	Theni	281.5	11/27/2011	214.7	278.6	5/29/2012	0.000	11/27/2011	214.7	6/1/2011	0.000	2011-2012
4	Murappanadu	18.57	11/27/2011	380.2	14.35	5/8/2012	0.758	11/27/2011	380.2	8/11/2011	1.737	2011-2012
5	A.P. Puram	64.54	11/27/2011	21.64	63.29	11/22/2011	0.028	11/27/2011	21.64	6/1/2011	0.000	2011-2012
6	Paramakudi	38.08	11/30/2011	41.71	36.40	11/21/2011	0.000	12/4/2011	14.57	6/1/2011	0.000	2011-2012
7	Irukankudi	47.15	12/19/2011	1.887	46.99	12/27/2011	0.335	12/23/2011	1.928	6/1/2011	0.000	2011-2012
8	Ambasamudram	298.0	11/27/2011	113.1	296.51	2/3/2012	1.723	11/27/2011	113.1	6/1/2011	0.000	2011-2012
9	Nellore	10.11	11/29/2011	540.8	7.870	9/6/2011	0.233	11/29/2011	540.8	4/21/2012	0.122	2011-2012
10	Nandipalli	98.20	11/28/2011	112.0	96.28	6/26/2011	0.000	11/28/2011	112.0	6/23/2011	0.000	2011-2012
11	Chennur	119.1	8/22/2011	1128	116.6	4/1/2012	0.000	8/22/2011	1128.0	3/28/2012	0.000	2011-2012
12	Kamalapuram	135.7	8/23/2011	116.1	134.8	8/27/2011	0.000	8/23/2011	116.1	8/2/2011	0.000	2011-2012
13	Alladupalli	138.3	8/21/2011	1224	133.5	4/22/2012	0.583	8/21/2011	1224.4	6/1/2011	0.650	2011-2012
14	Tadipatri	223.9	8/22/2011	10.68	223.9	8/22/2011	10.678	8/22/2011	10.68	6/1/2011	0.000	2011-2012
15	Nagalamedike	-	-	-	-	-	-	-	-	-	-	2011-2012
16	Singavaram	-	-	-	-	-	-	-	-	-	-	2011-2012
17	Naidupeta	22.21	11/28/2011	324.3	20.60	4/10/2011	0.000	11/28/2011	324.3	6/1/2011	0.000	2011-2012
18	Sulurpet	4.460	11/28/2011	262.5	0.300	5/27/2012	0.000	11/28/2011	262.5	6/1/2011	0.000	2011-2012
19	Chengalpattu	26.25	11/28/2011	30.48	25.10	9/4/2011	0.000	1/3/2012	34.98	6/1/2011	0.000	2011-2012
20	Magaral	59.60	11/28/2011	27.40	59.03	1/14/2012	0.000	11/28/2011	27.40	6/1/2011	0.000	2011-2012
21	Arcot	-	-	-	-	-	-	-	-	-	-	2011-2012
22	Kumarapalayam	13.12	12/31/2011	502.2	9.565	5/31/2012	0.000	12/31/2011	502.2	6/1/2011	0.000	2011-2012
23	Villupuram	113.8	12/1/2011	35.02	42.34	4/9/2012	0.000	1/2/2012	91.16	6/1/2011	0.000	2011-2012
24	Vazhavachanur	135.6	12/31/2011	106.1	133.8	7/24/2011	0.000	12/31/2011	106.1	6/22/2011	0.000	2011-2012
25	Kudalaiyathur	16.87	11/27/2011	625.0	13.03	1/25/2012	0.000	12/1/2011	148.0	6/1/2011	0.000	2011-2012

Source : Water Year Book for 2001-2012, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery & Southern Rivers Organisation, CWC, Bangalore,



Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**IX Basin : West Flowing Rivers from Kanyakumari to Tapi** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	ADDOOR	16.250	6/22/2003	1135	Dry Bed	5/30/2005	0.000	7/30/2010	1170.5	1/10/2007	0.000	2003-2011
2	AVERSHE	95.850	8/2/2005	660.6	90.900	4/6/2005	0.000	8/2/2005	616.5	5/25/2006	0.000	2002-2011
3	BANTWAL	13.550	7/26/1974	9832	1.060	5/6/1990	0.050	7/26/1974	9832	4/2/2005	0.000	1970-2011
4	HALADI	9.050	7/18/1999	1155	0.840	5/29/1989	0.000	7/15/1994	915.8	5/9/1989	0.000	1985-2011
5	SANTEGULI	19.660	7/23/1999	6800	10.120	4/21/1990	0.364	7/13/2000	4959	5/21/2000	0.000	1988-2011
6	YENNEHOLE	24.650	7/6/2009	1531	16.910	5/5/1990	0.000	7/13/1994	1062	5/22/1996	0.000	1989-2011
7	ARANGALY	7.620	6/27/1985	1149	0.000	5/16/2000	0.000	7/18/2009	1362.7	12/20/1994	0.000	1978 - 2011
8	ASHRAMAM	5.675	12/9/2010	184	1.005	5/9/2000	0.000	12/9/2010	169.3	6/1/2000	0.000	1999- 2011
9	AYILAM	10.685	10/10/1992	974.8	-0.530	3/26/2010	0.000	10/4/2010	522	3/2/1982	0.000	1979 -2011
10	ERINJIPUZHA	19.080	7/12/1995	1445	11.560	5/14/2006	0.000	8/22/1997	1332	4/1/1989	0.000	1989 -2011
11	KALAMPUR	14.960	7/9/2001	829.7	6.960	4/3/2005	0.000	9/7/2005	692.6	2/19/1989	0.000	1988 -2011
12	KALLOOPARA	9.310	7/9/2001	922	0.170	3/24/2004	0.000	8/3/1994	848.3	6/1/1986	0.000	1985-2011
13	KARATHODU	13.500	7/18/2007	1170.2	2.155	5/7/2006	0.000	7/18/2007	1200.5	1/17/1989	0.000	1988-2011
14	KIDANGOOR	8.015	8/3/1994	842	-0.180	3/30/2004	0.000	6/23/2007	706.2	2/2/1987	0.000	1985 -2011
15	KUMBIDI	9.760	7/18/2007	3079	3.640	3/3/2005	0.000	7/1/2007	3032	2/26/1981	0.000	1980-2011
16	KUNIYIL	12.845	8/17/1981	2200	0.030	3/16/1997	0.000	7/14/1994	3086	2/29/1996	0.000	1981-2011
17	KUTTYADI	7.790	7/18/2009	757.8	0.550	5/24/2005	0.618	7/17/2009	608.1	3/12/2004	0.000	2000-2011
18	KUZHITHURAI	8.830	12/8/2010	525.5	0.575	3/24/2004	0.000	10/30/2006	241.2	6/21/2001	0.000	2000-2011
19	MALAKKARA	8.200	7/9/2001	1294	-0.470	3/22/1992	1.723	8/9/1986	1570	12/11/1996	0.000	1985-2011
20	MANKARA	51.450	11/14/1992	1220	46.340	3/28/2004	0.000	7/3/2007	637.8	6/8/1986	0.000	1985-2011
21	NEELESWARAM	10.855	7/27/1974	4430	0.120	6/14/2006	62.020	8/16/1975	3502.4	5/13/1983	1.500	1971-2011
22	PATTAZHY	13.805	11/15/1992	2367	1.050	1/25/2005	3.323	10/13/1998	746.1	4/27/1990	0.000	1978-2011
23	PERUMANNU	15.470	6/26/1985	2100	5.825	4/19/1989	0.000	7/17/2007	2369.6	5/13/1987	0.000	1985-2011
24	PUDUR	65.470	11/14/1992	610	59.290	3/29/2004	0.000	11/8/2009	740.1	6/10/1986	0.000	1985-2011
25	PULAMANTHOLE	19.070	7/14/1994	1429	10.620	3/27/2004	0.000	7/3/2007	1166.3	4/2/1988	0.000	1987 -2011
26	RAMAMANGALAM	8.300	6/28/1985	1304.1	0.500	3/10/2004	14.510	7/9/2001	1450.2	4/6/1987	12.500	1978 -2011
27	THUMPAMON	13.735	11/7/1978	680	5.000	5/1/2005	0.000	7/10/2001	677.5	3/7/1983	0.000	1977 -2011
28	VANDIPERIYAR	793.800	8/3/2005	242.2	790.865	3/21/2004	0.000	7/9/2001	206.08	12/16/2000	0.000	2000 -2011
29	AMBARAMPALAYAM	226.830	11/19/1979	850	218.635	5/18/2003	0.000	11/14/1992	5122	5/5/2004	0.000	1978-2011

Source : Water Year Book for 2001-2011, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level	Date	Discharge	Water	Date	Discharge	Date	Discharge	Date	Discharge	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	ADDOOR	5.120	7/18/2011	888.6	0.030	5/31/2012	0.000	7/18/2011	888.6	6/1/2011	0.000	2011-2012
2	AVERSHE	15.31	7/17/2011	680.2	10.75	4/4/2012	0.000	9/13/2011	586.6	6/1/2011	0.000	2011-2012
3	BANTWAL	7.490	7/17/2011	2709	2.075	11/25/2011	123.1	8/6/2011	2368	5/30/2012	0.047	2011-2012
4	HALADI	8.205	7/17/2011	1004	0.940	4/12/2012	0.468	7/17/2011	1004	4/12/2012	0.468	2011-2012
5	SANTEGULI	18.37	7/17/2011	2355	10.44	6/1/2011	0.970	9/3/2011	1275	6/1/2011	0.970	2011-2012
6	YENNEHOLE	23.53	18.07/2011	859.9	17.05	5/30/2012	0.000	7/18/2011	859.9	6/1/2011	0.000	2011-2012
7	ARANGALY	4.725	9/3/2011	710.1	0.130	6/1/2011	36.75	9/3/2011	710.1	12/11/2011	0.000	2011-2012
8	ASHRAMAM	4.945	11/8/2011	113.4	2.050	5/28/2012	0.000	11/8/2011	113.4	6/1/2011	0.000	2011-2012
9	AYILAM	4.785	12/31/2011	252.3	0.380	10/9/2011	2.098	12/31/2011	252.3	6/1/2011	0.000	2011-2012
10	ERINJIPUZZHA	17.74	8/6/2011	926.7	12.23	4/18/2012	0.000	8/6/2011	926.7	3/19/2012	0.000	2011-2012
11	KALAMPUR	11.78	7/19/2011	277.3	7.700	5/21/2012	0.000	7/19/2011	277.3	12/14/2011	0.000	2011-2012
12	KALLOOPPARA	6.560	8/8/2011	585.2	0.725	3/7/2012	0.000	8/8/2011	585.2	2/5/2012	0.000	2011-2012
13	KARATHODU	8.870	9/2/2011	376.5	1.825	4/22/2012	0.000	9/2/2011	376.5	12/23/2011	0.000	2011-2012
14	KIDANGOOR	6.145	6/3/2011	546.2	0.110	4/5/2012	0.000	6/2/2011	547.8	1/31/2012	0.000	2011-2012
15	KUMBIDI	7.660	9/2/2011	1772	3.220	6/1/2011	0.292	9/2/2011	1772	3/28/2012	0.000	2011-2012
16	KUNIYIL	5.400	6/19/2011	1496	1.400	11/14/2011	98.28	9/2/2011	1449	12/15/2011	0.000	2011-2012
17	KUTTYADI	4.340	9/2/2011	270.7	0.620	4/9/2012	1.539	9/2/2011	270.7	4/9/2012	1.539	2011-2012
18	KUZHITHURAI	16.87	11/27/2011	625.0	13.03	1/25/2012	0.000	12/1/2011	148.0	6/1/2011	0.000	2011-2012
19	MALAKKARA	4.700	6/2/2011	783.3	0.030	4/2/2012	0.000	6/2/2011	783.3	12/26/2011	0.000	2011-2012
20	MANKARA	49.46	11/7/2011	578.1	46.96	4/21/2012	0.000	9/3/2011	465.9	4/18/2012	0.000	2011-2012
21	NEELESWARAM	4.460	8/7/2011	1395	-0.060	10/8/2011	38.59	8/7/2011	1395	1/18/2012	0.000	2011-2012
22	PATTAZHAY	3.800	11/8/2011	174.9	1.120	2/22/2012	7.349	11/8/2011	174.9	5/28/2012	6.248	2011-2012
23	PERUMANNU	12.40	7/17/2011	1326	6.295	5/31/2012	2.229	9/2/2011	116.6	6/1/2011	0.916	2011-2012
24	PUDUR	61.98	11/6/2011	125.1	59.71	4/20/2012	0.023	11/3/2011	95.50	6/1/2011	0.000	2011-2012
25	PULAMANTHOLE	15.12	9/3/2011	667.7	10.68	4/18/2012	0.167	6/18/2011	693.6	4/20/2012	0.165	2011-2012
26	RAMAMANGALAM	5.670	8/8/2011	794.3	0.650	3/12/2012	39.03	8/8/2011	794.3	3/12/2012	39.03	2011-2012
27	THUMPAMON	9.120	6/6/2011	225.2	5.400	2/9/2012	0.000	6/6/2011	225.2	12/28/2011	0.000	2011-2012
28	VANDIPERIYAR	792.9	8/7/2011	52.60	791.0	4/21/2012	0.000	6/2/2011	37.70	6/1/2011	0.000	2011-2012
29	AMBARAMPALAYAM	220.6	11/2/2011	122.8	219.7	4/20/2012	1.666	11/2/2011	122.8	4/20/2012	1.666	2011-2012

Source : Water Year Book for 2001-2012, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore.

**Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11**

**X Basin : Tapi**

Unit: M. C. M.

(1)	Site Name (2)	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record (13)
		Water Level (3)	Date (4)	Discharge (5)	Water Level (6)	Date (7)	Discharge (8)	Date (9)	Discharge (10)	Date (11)	Discharge (12)	
1	Burhanpur	239.500	8/29/1978	26683	0.000	4/30/1987	0.000	8/29/1978	26683	4/30/1987	0.000	1972-2011
2	Gopalkheda	252.100	8/10/1979	1872	0.000	2/20/1985	0.000	9/7/1994	3289	5/17/1980	0.000	1977-2011
3	Yerli	233.700	8/7/2006	8830	0.000	5/20/1985	0.000	8/10/1979	6828	5/20/1985	0.000	1971- 2011
4	Gidhade	142.950	8/7/2006	25915	0.000	6/7/1990	0.000	9/16/1998	17658	6/7/1990	0.000	1991-2011
5	Sarangkheda	127.080	8/8/2006	16284	0.000	5/1/1987	0.000	9/16/1998	21292	5/1/1987	0.000	1977-2011

Source: Superintending Engineer, Tapi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1972 - 2011 Tapi Basin).

**Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12**

**X Basin : Tapi**

Unit: M. C. M.

(1)	Site Name (2)	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record (13)
		Water Level (m) (3)	Date (4)	Discharge (cumec) (5)	Water Level (m) (6)	Date (7)	Discharge (cumec) (8)	Date (9)	Discharge (cumec) (10)	Date (11)	Discharge (cumec) (12)	
1	Burhanpur	239.500	8/29/1978	26683	0.000	4/30/1987	0.000	8/29/1978	26683	4/30/1987	0.000	1972-2012
2	Gopalkheda	252.100	8/10/1979	1872	0.000	2/20/1985	0.000	8/7/2006	4124	5/17/1980	0.000	1972-2012
3	Yerli	233.700	8/7/2006	8830	0.000	5/20/1985	0.000	8/10/1979	6828	5/20/1985	0.000	1972-2012
4	Gidhade	142.950	8/7/2006	25915	0.000	6/7/1990	0.000	9/16/1998	17578	6/7/1990	0.000	1972-2012
5	Sarangkheda	127.080	8/8/2006	16284	0.000	5/1/1987	0.000	9/16/1998	21292	5/1/1987	0.000	1972-2012

Source: Superintending Engineer, Tapi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1972 - 2012 Tapi Basin).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

**XI Basin : Narmada** Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Orsang at Chandawada	33.500	07.09.1994	9070	18.270	03.02.2010	0.000	3827	01.08.1997	0.004	08.02.1997	1980-81 To 2010-11
2	Narmada at Garudeswar	39.780	07.09.1994	60642	13.030	13.05.1999	55.00	60642	07.09.1994	1.842	16.03.2001	1973-74 To 2010-11
3	Hathni at Jobat	232.300	03.09.2002	1445	226.340	12.12.2001	0.00	1191	03.09.2002	0.148	23.08.2001	2001-02 To 2005-06
4	Goi at Pati	195.85	05.08.2001	2250	188.800	31.01.2003	0.00	1391	13.07.2000	0.126	31.12.2002	1999-00 To 2005-06
5	Uri at Dhulsar	155.100	05.08.2004	616	150.230	05.09.2000	0.00	327.1	03.09.2002	0.069	26.06.2001	2008-09 To 2010-11
6	Narmada at Rajghat	131.510	19.08.1984	56610	112.500	03.06.1989	13.40	56610	19.08.1984	13.07	05.06.1989	1972-73 To 2006-07
7	Narmada AT Mandleswar	157.290	31.08.1973	48000	139.035	27.05.1980	37.60	44422	07.09.1994	11.92	06.06.1988	1972-73 To 2010-11
8	Kundi at Kogaon	164.250	09.09.2010	7460	151.120	01.03.2000	0.000	5653	03.09.2002	0.015	16.02.1989	1978-79 To 2010-11
9	Chhota Tawa at Ginmore	237.650	06.09.1994	5950	219.750	15.06.1998	0.000	12158	29.08.1978	0.100	14.01.1999	1971-72 To 1998-99
10	Narmada at Motakka	169.000	26.07.1997	N.A	155.590	15.06.1997	43.00	31464	26.07.1997	43.00	15.06.1997	1919-00 To 2006-07
11	Narmada at Handia	273.580	19.08.1984	26240	258.965	08.06.1977	18.50	26210	20.09.1999	11.00	01.06.1989	1977-78 To 2010-11
12	Ganjal at Chhidgaon	300.300	15.09.1998	6660	287.155	19.05.1988	0.410	5805	16.07.1993	0.100	20.05.1980	1977-78 To 2010-11
13	Narmada at Hoshangabad	301.330	30.08.1973	33593	283.770	29.05.1980	14.40	31463	31.08.1973	14.30	30.05.1980	1972-73 To 2010-11
14	Tawa at Tawakati	371.850	30.08.2002	1082	363.040	31.05.2003	0.26	109.7	26.07.2003	0.260	02.06.2003	2001-02 To 2005-06
15	Machna at Shapur	384.090	24.06.2002	1325	377.860	20.06.2000	0.64	158.5	25.07.2003	0.010	01.02.2001	2001-02 To 2005-06
16	Narmada at Sandia	316.890	19.09.1999	24500	298.900	18.05.1996	36.48	16683	29.07.1994	9.290	09.05.1989	1978-79 To 2010-11
17	Shakkar at Gadarwara	332.470	18.09.1999	5850	322.351	22.05.1997	0.000	3835	15.09.1999	0.043	21.04.1996	1977-78 To 2010-11
18	Narmada at Barmanghat	331.320	30.08.1973	19000	307.360	01.06.1980	4.500	20658	30.08.1973	2.900	31.05.1984	1972-73 To 2010-11
19	Sher at Belkheri	359.950	21.07.1994	7600	340.910	27.04.2003	0.240	4961	16.09.1984	0.100	09.06.1977	1977-78 To 2010-11
20	Hiran at Patan	356.080	13.09.1992	1880	341.590	17.06.1997	0.000	1339	15.07.1994	0.176	15.05.1997	1979-80 To 2010-11
21	Banjar at Bamni	448.500	18.09.1999	N.A	440.590	31.05.2000	0.000	640.0	14.08.2001	0.046	08.04.2000	1999-00 To 2010-11
22	Narmada at Jamtara	382.000	24.08.1991	17250	361.790	05.06.1980	0.000	21355	30.08.1972	0.090	12.05.1988	1972-73 To 2000-01
23	Banjar at Hridayanagar	445.930	17.07.1994	4790	436.250	10.05.2001	0.000	6265	18.09.1999	0.025	01.04.1993	1977-78 To 2001-02
24	Burhner at Mohgaon	467.300	08.08.2004	11600	448.490	20.06.1979	0.000	7182	23.08.1991	0.007	09.06.1982	1978-79 To 2010-11
25	Narmada at Amgaon	445.520	08.08.2004	8900	431.110	01.06.2001	0.000	792.1	17.08.2002	0.790	03.05.2003	2001-02 To 2005-06
26	Narmada at Manot	459.650	18.08.1984	5660	442.360	31.05.1980	0.000	7528	23.08.1991	0.051	14.06.1993	1977-78 To 2010-11
27	Narmada at Dindori	669.640	23.08.1991	4710	662.520	20.05.2003	0.500	4577	23.08.1991	0.504	10.06.2003	1988-89 To 2010-11

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2010 to May, 2011) Narmada Basin.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

Unit: M. C. M.

Sl. No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum observed		Minimum observed		Period of record
		Water Level (m)	Date	Discharge (cumec)	Water Level (m)	Date	Discharge (cumec)	Date	Discharge (cumec)	Date	Discharge (cumec)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Orsang at Chandawada	33.5	07.09.94	9070	18.270	03.02.10	0.000	01.08.97	3827	08.02.97	0.004	80-81 to 2011-12
2	Narmada at Garudeswar	39.78	07.09.94	60642	13.030	13.05.99	55.00	07.09.94	60642	16.03.01	1.842	73-74 to 2011-12
3	Hathni at Jobat	232.300	03.09.02	1445	226.340	12.12.01	0.00	03.09.02	1191	23.08.01	0.148	01-02 to 2005-06
4	Goi at Pati	195.85	05.08.01	2250	188.740	30.03.05	0.00	13.07.00	1391	31.12.02	0.126	99-00 to 2005-06, 2008-09 to 2011-12
5	Uri at Dhulsar	155.1	05.08.04	616	150.230	05.09.00	0.00	03.09.02	327.1	26.06.01	0.069	99-00 to 2005-06, 2008-09 to 2011-13
6	Narmada at Rajghat	131.51	19.08.84	56610	112.500	03.06.89	13.40	19.08.84	56610	05.08.89	13.07	72-73 to 2006-07
7	Narmada AT Mandleswar	157.29	31.08.73	48000	138.820	27.11.03	3.46	07.09.94	44422	06.06.88	11.92	72-73 to 2011-12
8	Kundi at Kogaon	164.25	09.09.10	7460	151.120	01.03.00	0.000	03.09.02	5653	16.02.89	0.015	78-79 to 2011-12
9	Chhota Tawa at Ginnore	237.65	06.09.94	5950	219.750	15.06.98	0.000	19.08.78	12158	14.01.99	0.1	71-72 to 1998-99
10	Narmada at Motakka	169	26.07.97	NA	155.590	15.06.97	43.00	26.07.97	31464	15.06.97	43	99-00 to 2006-07
11	Narmada at Handia	273.580	19.08.84	26240	258.965	08.06.77	18.50	20.09.99	26210	01.06.89	11	77-78 to 2011-12
12	Ganjal at Chhidgaon	300.300	15.09.98	9625	287.155	19.05.88	0.410	16.07.93	5805	20.05.80	0.1	77-78 to 2011-12
13	Narmada at Hoshangabad	301.330	30.08.73	33593	283.770	29.05.80	14.40	31.08.73	31463	30.05.80	14.3	72-73 to 2011-12
14	Tawa at Tawakati	371.850	30.08.02	1082	363.040	31.05.03	0.26	19.08.02	109.7	31.05.03	0.26	01-02 to 2005-06
15	Machna at Shapur	384.090	24.06.02	1325	377.860	20.06.00	0.64	25.06.02	158.5	01.02.01	0.01	01-02 to 2005-06
16	Narmada at Sandia	316.890	19.09.99	24500	298.900	18.05.96	36.48	29.07.94	16683	09.05.89	9.29	78-79 to 2011-12
17	Shakkar at Gadarwara	332.470	18.09.99	5850	322.351	22.05.97	0.000	15.09.99	3835	21.04.96	0.043	77-78 to 2011-12
18	Narmada at Barmanghat	331.320	30.08.73	19000	307.360	01.06.80	4.500	30.08.73	20658	31.05.84	2.9	72-73 to 2011-12
19	Sher at Belkheri	369.950	21.07.94	7600	340.910	27.04.03	0.240	16.09.84	4961	09.06.77	0.1	77-78 to 2011-12
20	Hiran at Patan	356.800	06.07.05	1930	341.500	05.04.05	0.000	15.07.94	1339	15.05.97	0.176	79-80 to 2011-12
21	Banjar at Bamni	448.500	18.09.99	NA	440.300	31.05.12	0.000	14.08.01	640	08.04.00	0.046	99-00 to 2011-12
22	Narmada at Jamtara	382.000	24.08.91	17250	361.790	05.06.80	0.000	30.08.72	21355	12.05.88	0.09	72-73 to 2000-01
23	Banjar at Hridayanagar	445.930	17.07.94	4790	436.250	10.05.01	0.000	18.09.99	6265	01.04.93	0.025	77-78 to 2001-02
24	Burhner at Mohgaon	467.300	08.08.04	11600	448.490	20.06.79	0.000	23.08.91	7182	09.06.82	0.007	78-79 to 2011-12
25	Narmada at Amgaon	445.520	08.08.04	8900	431.110	01.06.01	0.000	17.08.02	792.1	03.05.03	0.79	01-02 to 2005-06
26	Narmada at Manot	459.650	18.08.84	5660	442.360	31.05.80	0.000	23.08.91	7528	14.06.93	0.051	77-78 to 2011-12
27	Narmada at Dindori	669.640	23.08.91	4710	662.520	20.05.03	0.500	23.08.91	4577	30.05.02	0.504	88-89 to 2011-12

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2011 to May, 2012) Narmada Basin.

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2010-11

Unit: M. C. M.

S.No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed Discharge		Minimum Observed Discharge		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
								(9)	(10)	(11)	(12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>I Mahi Basin :</b>												
1	Mataji	309.035	28.07.96	16100.000	0.000	27.07.87	0.000	28.07.96	10257.000	08.04.98	0.000	1982-2010
2	Dhariawad	209.350	11.08.06	1979.941	0.000	03.05.89	0.000	11.08.06	1979.941	05.04.03	0.000	1988-2010
3	Rangeli	158.240	19.08.06	5179.314	0.000	24.05.80	0.000	19.08.06	5179.314	03.06.01	0.000	1978-2010
4	Paderdibadi	147.525	19.08.06	16153.253	0.000	18.04.80	0.000	19.08.06	16153.253	01.12.00	0.000	1978-2010
5	Chakaliya	226.900	11.08.06	5473.966	0.000	03.04.01	0.000	28.07.96	6956.497	25.11.01	0.000	1991-2010
6	Khanpur	26.820	12.08.06	31061.914	7.900	14.06.02	7.900	12.08.06	31061.914	15.03.03	1.490	1978-2010
<b>II Sabarmati Basin :</b>												
1	Jotasan	291.550	22.08.06	1339.665	0.000	25.11.95	0.000	20.08.06	1339.665	04.01.05	0.000	1995-2010
2	Kheroj	215.450	19.08.06	1402.000	0.000	03.05.99	0.000	19.08.06	1402.000	01.06.01	0.000	1990-2010
3	Derol Bridge	94.730	20.08.94	3050.000	0.000	30.06.00	0.000	20.08.84	3050.000	07.12.01	0.000	1991-2010
4	Ratanpur	44.980	12.08.06	3732.154	0.000	03.03.96	0.000	12.08.06	3732.154	16.12.00	0.000	1989-2010
5	Kheda	28.200	25.08.90	1626.000	0.000	23.04.97	0.000	12.08.06	4507.513	16.11.03	0.000	1989-2010
6	Voutha	20.970	21.08.06	3176.000	12.000	01.10.01	0.000	09.08.06	3350.930	05.10.00	0.000	2000-2010
<b>III Banas Basin :</b>												
1	Abu Road	258.397	08.09.92	1164.000	0.000	02.01.98	0.000	08.09.06	1164.000	07.11.00	0.000	1990-2010
2	Sarotry	190.780	08.09.92	2672.000	0.000	06.02.99	0.000	08.09.92	2672.000	23.03.00	0.000	1990-2010
3	Chitrasani	186.750	19.08.06	127.200	0.000	08.04.92	0.000	08.09.92	274.800	25.09.04	0.000	1990-2010
4	Kamalpur	38.555	07.09.73	280.000	0.000	03.02.72	0.000	08.09.92	4221.000	04.06.84	0.000	1971-2010
<b>IV Luni Basin :</b>												
1	Balotra	107.150	06.07.90	1875.000	0.000	07.10.04	0.000	09.09.92	2907.000	02.10.00	0.000	1990-2010
2	Gandhav	38.880	19.07.79	4300.000	0.000	29.06.78	0.000	19.07.97	4300.000	19.06.97	0.000	1974-2010
<b>V Shetrunji Basin :</b>												
1	Lowara	66.930	09.11.82	880.000	0.000	18.04.85	0.000	29.06.05	2441.000	26.04.97	0.000	1970-2010
<b>VI Bhadar Basin :</b>												
1	Ganod	34.100	22.06.83	2750.000	0.000	26.05.75	0.000	27.07.88	4160.000	14.08.97	0.000	1970-2010
<b>VII Machhu Basin :</b>												
1	Gungan	16.000	24.06.97	990.000	0.000	01.06.76	0.000	28.07.88	2681.000	26.01.02	0.000	1970-2010
<b>VIII Rupen Basin :</b>												
1	Sapawada	43.000	27.06.97	325.000	0.000	29.07.03	0.000	03.08.94	964.300	20.06.95	0.000	1989-2010

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1970 - 2010 Mahi and Sabarmati Basin).

Table 6 : Maximum and minimum observed water levels and discharges by site and river basin during 2011-12

Unit: M. C. M.

S.No.	Site Name	Maximum Water Level			Minimum Water Level			Maximum Observed Discharge		Minimum Observed Discharge		Period of Record
		Water Level (m)	Date	Discharge (Cumecs)	Water Level (m)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	Date	Discharge (Cumecs)	
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	<b>I Mahi Basin :</b>											
1	Mataji	309.035	28.07.96	16100.000	0.000	27.07.87	0.000	28.07.96	10257.000	08.04.98	0.000	1982-2012
2	Dhariawad	209.350	11.08.06	1979.941	0.000	03.05.89	0.000	11.08.06	1979.941	05.04.03	0.000	1988-2012
3	Rangeli	158.240	19.08.06	5179.314	0.000	24.05.80	0.000	19.08.06	5179.314	03.06.01	0.000	1978-2012
4	Paderdibadi	147.525	19.08.06	16153.253	0.000	18.04.80	0.000	19.08.06	16153.253	01.12.00	0.000	1978-2012
5	Chakaliya	226.900	11.08.06	5473.966	0.000	03.04.01	0.000	28.07.96	6956.497	25.11.01	0.000	1991-2012
6	Khanpur	26.820	12.08.06	31061.914	7.900	14.06.02	7.900	12.08.06	31061.914	15.03.03	1.490	1978-2012
	<b>II Sabarmati Basin :</b>											
1	Jotasan	291.550	22.08.06	1339.665	0.000	25.11.95	0.000	20.08.06	1339.665	04.01.05	0.000	1995-2012
2	Kheroj	215.450	19.08.06	1402.000	0.000	03.05.99	0.000	19.08.06	1402.000	01.06.01	0.000	1990-2012
3	Derol Bridge	94.730	20.08.94	3050.000	0.000	30.06.00	0.000	20.08.84	3050.000	07.12.01	0.000	1991-2012
4	Ratanpur	44.980	12.08.06	3732.154	0.000	03.03.96	0.000	12.08.06	3732.154	16.12.00	0.000	1989-2012
5	Kheda	28.200	25.08.90	1626.000	0.000	23.04.97	0.000	12.08.06	4507.513	16.11.03	0.000	1989-2012
6	Voutha	20.970	21.08.06	3176.000	12.000	01.10.01	0.000	09.08.06	3350.930	05.10.00	0.000	2000-2012
	<b>III Banas Basin :</b>											
1	Abu Road	258.397	08.09.92	1164.000	0.000	02.01.98	0.000	08.09.06	1164.000	07.11.00	0.000	1990-2012
2	Sarotry	190.780	08.09.92	2672.000	0.000	06.02.99	0.000	08.09.92	2672.000	23.03.00	0.000	1990-2012
3	Chitrasani	186.750	19.08.06	127.200	0.000	08.04.92	0.000	08.09.92	274.800	25.09.04	0.000	1990-2012
4	Kamalpur	38.555	07.09.73	280.000	0.000	03.02.72	0.000	08.09.92	4221.000	04.06.84	0.000	1971-2012
	<b>IV Luni Basin :</b>											
1	Balotra	107.150	06.07.90	1875.000	0.000	07.10.04	0.000	09.09.92	2907.000	02.10.00	0.000	1990-2012
2	Gandhav	38.880	19.07.79	4300.000	0.000	29.06.78	0.000	19.07.97	4300.000	19.06.97	0.000	1974-2012
	<b>V Shetrunii Basin :</b>											
1	Lowara	66.930	09.11.82	880.000	0.000	18.04.85	0.000	29.06.05	2441.000	26.04.97	0.000	1970-2012
	<b>VI Bhadar Basin :</b>											
1	Ganod	34.100	22.06.83	2750.000	0.000	26.05.75	0.000	27.07.88	4160.000	14.08.97	0.000	1970-2012
	<b>VII Machhu Basin :</b>											
1	Gungan	16.000	24.06.97	990.000	0.000	01.06.76	0.000	28.07.88	2681.000	26.01.02	0.000	1970-2012
	<b>VIII Rupen Basin :</b>											
1	Sapawada	43.000	27.06.97	325.000	0.000	29.07.03	0.000	03.08.94	964.300	20.06.95	0.000	1989-2012

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1970 - 2012 Mahi and Sabarmati Basin).



**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**I Basin : Mahanadi**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiarkhore	6/1977 to 5/2011	578	451	412	332	277	240	217	196	97	-
2	Bamnidhi	2/1971 to 5/2011	7695	6816	5230	4458	3997	3426	2857	2434	1562	-
3	Baronda	6/1977 to 5/2011	2749	2067	1845	1426	1273	931	623	490	168	-
4	Basantpur	5/1971 to 5/2011	33775	28970	24754	21103	19905	17926	14904	11845	9383	-
5	Ghatora	9/1979 to 3/2011	1402	1157	1078	1017	934	658	543	487	344	-
6	Jondhra	6/1979 to 5/2011	12725	11291	9716	9042	7554	6591	5927	4311	3080	-
7	Kantamal	6/1971 to 5/2011	20758	15248	12982	10808	9959	7997	6549	5560	3645	-
8	Kesinga	11/1978 to 5/2011	13557	9985	7968	6874	5892	5015	4389	3122	2351	-
9	Kotni	6/1978 to 5/2011	3257	2603	2419	1889	1542	1431	921	790	428	-
10	Kurubhata	4/1978 to 2/2011	3327	2852	2733	2503	2194	2058	1839	1615	1028	-
11	Manendragarh	6/1989 to 5/2011	558	463	418	379	295	288	236	209	163	-
12	Pathardih	1/1989 to 8/2011	1867	1307	1163	1071	903	820	653	463	347	-
13	Rajim	2/1971 to 5/2011	5869	4662	3610	3218	2415	1779	1565	885	537	-
14	Rampur	2/1971 to 1/2011	2607	1826	1598	1283	1035	945	813	656	302	-
15	Salebhata	6/1971 to 1/2011	3497	2858	2305	2018	1588	1287	1102	941	460	-
16	Seorinarayan	12/1985 to 5/2011	27246	21627	19764	16164	14585	12996	10514	7823	5693	-
17	Simga	6/1971 to 5/2011	8560	7275	5972	5232	4623	3637	2741	2461	1921	-
18	Sundergarh	12/1977 to 5/2011	4318	4095	3736	3253	3016	2823	2319	2197	1834	-
19	Tikarpara	5/1972 to 5/2011	70126	61586	54726	52290	46247	41898	37685	26183	20693	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2011) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by i

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**I Basin : Mahanadi** Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Andhiarkhore	6/1977 to 5/2012	562.024	449.551	401.103	321.527	279.202	242.361	218.184	198.556	99.468	-
2	Bamnidhi	6/1971 to 5/2012	7705.422	6815.526	5230.205	4458.344	4066.144	3445.709	3054.488	2449.337	1876.889	-
3	Baronda	6/1977 to 5/2012	2722.805	2049.656	1833.013	1399.718	1263.774	918.088	625.944	497.473	168.456	-
4	Basantpur	6/1971 to 5/2012	33774.941	28970.461	24753.910	22783.668	20024.268	18300.840	16450.764	13258.087	9623.777	-
5	Ghatora	9/1979 to 5/2012	1401.577	1156.644	1077.517	1017.475	933.788	658.168	543.210	486.530	344.011	-
6	Jondhra	6/1979 to 5/2012	12725.231	11291.292	9716.467	9041.816	7554.266	6591.146	5927.372	4333.289	3079.831	-
7	Kantamal	6/1971 to 5/2012	20757.449	15247.703	12981.641	10807.938	9958.730	7997.295	6548.758	5559.873	3644.536	-
8	Kesinga	11/1978 to 5/2012	13557.214	9984.776	7968.046	6874.119	5892.360	5015.424	4388.972	3122.150	2351.140	-
9	Kotni	6/1978 to 5/2012	3256.836	2602.677	2419.289	1888.642	1541.829	1430.858	920.812	790.107	428.102	-
10	Kurubhata	4/1978 to 5/2012	3327.213	2851.641	2732.721	2502.719	2194.076	2058.330	1838.551	1614.543	1028.149	-
11	Manendragarh	6/1989 to 5/2012	557.840	463.361	417.766	379.445	294.795	288.079	235.842	209.125	163.030	-
12	Pathardih	1/1989 to 5/2012	1893.382	1321.288	1184.090	1078.759	965.428	825.989	750.992	509.183	342.129	-
13	Rajim	6/1971 to 5/2012	5898.555	4705.912	3668.747	3255.290	2578.844	1790.334	1604.984	1007.839	669.112	-
14	Rampur	6/1971 to 5/2012	2607.331	1826.132	1597.913	1282.971	1188.100	989.726	863.535	702.901	445.724	-
15	Salebhata	6/1971 to 5/2012	3476.860	2813.630	2295.584	2063.411	1627.636	1361.447	1216.878	1009.041	569.052	-
16	Seorinarayan	12/1985 to 5/2012	26865.305	21412.418	19367.916	16256.858	14657.012	13598.629	10528.312	7870.030	5877.133	-
17	Simga	6/1971 to 5/2012	8448.598	7237.484	5934.719	5394.455	4630.699	3789.763	2783.553	2477.430	1924.209	-
18	Sundergarh	12/1977 to 5/2012	4317.387	4189.443	3776.828	3317.639	3043.851	2850.814	2345.960	2207.064	1844.236	-
19	Tikarpara	5/1972 to 5/2012	70131.391	61587.016	57418.457	52743.027	47499.551	41906.609	37714.309	26213.193	20693.100	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2012) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by i

**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**II Basin : Subarnarekha, Burhabalang & Baitarni** Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	11/1971 to 5/2011	4759	3970	3644	2749	2174	2065	1879	1511	865	-
2	Anandpur	6/1972 to 5/2011	7920	6091	5473	5133	4670	4263	3500	2950	2315	-
3	Champua	7/1990 to 5/2011	1718	1374	1173	1121	1004	922	843	770	447	-
4	Ghatsila	3/1971 to 5/2011	11208	9810	8065	7196	5568	5001	4343	3578	2660	-
5	Govindpur	3/1992 to 5/2011	4910	4141	3623	3233	3161	3098	2279	2000	1855	-
6	Jamshedpur	2/1972 to 5/2011	11426	10012	8617	7485	6075	5362	4589	3845	2494	-
7	Muri	11/1989 to 5/2011	1103	959	829	742	719	507	446	348	248	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2011)Subarnarekha, Burhabalang & Baitarni Basin (by internet)

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**II Basin : Subarnarekha, Burhabalang & Baitarni** Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Adityapur	11/1971 to 5/2012	4759.054	3970.320	3643.835	2748.600	2174.372	2064.717	1879.361	1511.344	865.187	-
2	Anandpur	3/1972 to 5/2012	7893.252	6073.586	5418.493	5066.318	4661.958	4087.854	3462.401	2943.456	2181.050	-
3	Champua	7/1990 to 5/2012	1718.163	1375.933	1173.655	1121.454	1003.603	922.218	840.496	770.240	447.130	-
4	Ghatsila	6/1971 to 5/2012	11274.873	9841.063	8160.070	7366.832	5879.722	5063.909	4488.061	3775.583	2761.371	-
5	Govindpur	3/1992 to 5/2012	4909.693	4141.341	3623.057	3235.313	3162.774	3098.354	2279.427	1999.993	1854.714	-
6	Jamshedpur	2/1972 to 5/2012	11425.907	10011.525	8616.501	7485.290	6074.747	5361.957	4589.416	3845.420	2494.458	-
7	Muri	11/1989 to 5/2012	1103.001	958.855	828.604	741.571	719.068	506.798	445.710	348.459	247.862	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012)Subarnarekha, Burhabalang & Baitarni Basin (by internet)

**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**III Basin : Brahmani**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Altuma	7/1990 to 5/2011	974.17	839.93	744.34	687.17	644.9	506.09	384.2	324.33	252.83	-
2	Gomlai	1/1979 to 5/2011	15784	13578	11973	10764	10170	9004	7822	7146	3964	-
3	Jaraikela	8/1972 to 5/2011	6867	5801	5397	4851	4347	4169	3612	3126	2215	-
4	Jenapur	7/1979 to 5/2011	22795	21515	19806	16791	16463	15232	14579	11058	10661	-
5	Palposh	6/1996 to 5/2011	13873	13489	12431	11773	9879	8490	7495	6776	5246	-
6	Tilga	6/1979 to 5/2011	2744	2509	2013	1878	1819	1661	1592	1479	1051	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1972 to 2011) Brahamani Basin (by internet).

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**III Basin : Brahmani**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Altuma	7/1990 to 5/2012	974.168	839.928	744.343	687.173	644.900	506.087	384.200	324.325	252.828	-
2	Gomlai	1/1979 to 5/2012	15783.849	13577.876	11972.722	10766.518	10169.681	9004.012	7821.993	7145.571	3964.301	-
3	Jaraikela	8/1972 to 5/2012	6866.753	5801.314	5397.132	4850.670	4346.728	4169.197	3611.505	3126.342	2214.847	-
4	Jenapur	7/1979 to 5/2012	22794.500	21515.016	19805.766	16790.723	16463.213	15232.495	14578.785	11057.505	10661.290	-
5	Palposh	6/1996 to 5/2012	13872.612	13488.730	12430.817	11772.524	9879.189	8490.246	7494.582	6776.334	5245.681	-
6	Tilga	6/1979 to 5/2012	2743.721	2509.278	2013.148	1878.380	1819.207	1660.703	1591.677	1478.545	1050.512	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1972 to 2012) Brahamani Basin (by internet).

**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anakapalli	8/1989 to 5/2011	1320	1055	683	552	336	286	242	156	89	-
2	Gunupur	6/1989 to 5/2011	3188	2846	2629	2388	2218	1540	1162	1030	761	-
3	Kashinagar	4/1971 to 5/2011	4129	3454	3033	2670	2318	2151	1785	1383	1061	-
4	Purushottampur	6/1989 to 5/2011	3230	2851	2693	2592	2307	1816	1546	1216	1012	-
5	Srikakulam	8/1990 to 5/2011	4484	3575	3102	2842	2435	2127	1848	1385	1226	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2011) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by i

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anakapalli	8/1989 to 5/2012	1319.928	1055.700	682.602	551.857	335.797	286.457	242.302	155.545	89.055	-
2	Gunupur	6/1989 to 5/2012	3188.323	3012.902	2629.415	2388.480	2218.482	1539.880	1147.648	1016.637	761.263	-
3	Kashinagar	6/1971 to 5/2012	4142.841	3467.867	3051.015	2709.235	2322.139	2181.190	1835.208	1418.109	1149.887	-
4	Purushottampur	6/1989 to 5/2012	3230.293	2851.130	2692.680	2592.046	2307.488	1816.058	1545.820	1216.463	1012.490	-
5	Srikakulam	8/1990 to 5/2012	4483.658	3574.794	3102.208	2841.793	2434.959	2127.445	1847.627	1384.622	1225.671	-

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by i



Table 7 : Annual dependable flow of water by site and river basin during 2010-11

V Basin : Godavari		Unit: M. C. M.										
Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Ambabal	06/1993 to 5/2011	1544.428	1183.163	1121.760	960.230	758.714	660.352	536.096	497.210	399.125	473.730
2	Betmogrra	06/1997 to 5/2011	615.953	419.402	294.698	236.281	218.287	111.245	45.984	27.155	7.651	0.000
3	Bhadrachalam	06/2007 to 5/2011	←----- Sufficient data not available ----->									
4	Bhatkheda	06/1991 to 4/2006	1114.527	436.954	285.691	231.148	172.036	86.168	27.453	11.452	6.174	-
5	Cherribeda	06/1996 to 5/2011	1201.356	969.392	863.969	737.989	523.928	381.391	354.946	257.408	213.924	374.222
6	Chindnar	06/1971 to 5/2011	12229.268	10665.750	9325.024	8828.080	8126.213	7440.451	6344.429	5910.662	4580.949	4569.978
7	Degloor	06/1987 to 5/2011	702.302	493.453	436.009	358.595	243.883	133.196	104.018	74.418	42.970	24.815
8	Dhalegaon	06/1965 to 5/2011	5768.402	4510.633	3724.908	2832.447	1692.418	992.472	718.568	358.489	206.737	171.594
9	G.R.Bridge	06/1976 to 5/2011	4767.458	4244.747	2808.153	1816.662	1099.620	962.732	661.724	468.537	164.498	64.814
10	Gandlapet	07/1986 to 5/2011	638.296	226.740	194.025	94.169	63.431	28.197	6.516	2.907	0.000	0.000
11	Ghargaon	07/1991 to 5/2006	1180.930	955.467	799.164	686.626	673.102	637.539	517.279	445.293	399.641	-
12	Injaram	01/1966 to 8/2006	14299.687	12851.355	11822.156	11119.562	9923.091	9147.483	8478.520	7185.324	5311.802	-
13	Jagdapur	06/1965 to 5/2011	5371.721	4756.553	4481.696	3817.823	3593.215	3115.384	2852.879	2382.566	1849.183	1406.137
14	Koida	06/1977 to 6/2006	152150.156	104887.977	99204.195	93050.047	87017.156	79653.297	63466.719	56593.039	47173.523	-
15	Konta	12/1965 to 5/2011	19878.350	18019.291	16518.373	14980.288	14322.305	13413.564	12568.219	10657.929	7547.148	7572.231
16	Kosagumda	11/1996 to 5/2011	1337.123	1281.595	1186.412	1027.275	750.394	730.186	673.093	476.490	187.963	592.189
17	Mancherial	06/1966 to 5/2011	28490.932	17730.637	14836.456	10677.587	8157.622	6343.291	4076.192	2593.734	1742.669	464.373
18	Murthahandi	12/1988 to 5/2011	2422.285	1913.596	1799.521	1663.838	1527.646	1367.305	1235.298	985.215	834.492	969.229
19	Nowrangpur	12/1965 to 5/2011	4012.285	3717.465	3176.318	2907.337	2602.575	2208.160	1747.966	1470.912	753.488	688.540
20	Pachegaon	06/1983 to 5/2011	1290.545	933.111	449.566	330.587	216.607	101.488	46.484	18.361	12.540	17.806
21	Pathagudem	06/1965 to 5/2011	32441.342	29647.008	26521.016	23997.816	20733.879	18700.771	17235.932	15653.101	12204.919	11267.988
22	Perur	12/1965 to 5/2011	111876.828	99607.813	82160.914	70297.531	65136.410	62800.547	44037.449	39594.242	32619.363	23349.716
23	Polavaram	12/1965 to 5/2011	132948.813	108780.750	101994.586	94096.539	85950.219	73837.453	58514.883	55640.180	45633.172	29023.120
24	Potteru (Seasonal)	06/1997 to 11/2010	3163.592	2962.402	2472.581	2196.262	1988.406	1859.676	1833.885	1727.969	1043.859	992.480
25	Purna	06/1969 to 5/2011	4992.141	3314.331	2106.054	1689.524	1311.240	835.862	440.519	318.811	243.068	227.235
26	Saigaon	06/1967 to 5/2011	2665.583	2109.198	1229.321	795.697	701.491	441.159	229.264	166.159	33.634	39.494
27	Sangam	06/1996 to 5/2011	468.267	420.633	373.402	344.518	293.330	256.498	189.970	125.396	71.492	40.604
28	Saradaput	06/1970 to 5/2011	7053.699	5925.464	5677.482	5557.798	4997.094	4325.790	4082.830	3778.486	3097.379	2748.444
29	Somanpally (Seasonal)	12/1966 to 5/2011	3022.456	1946.886	1495.147	1238.466	936.500	718.706	571.251	399.208	276.630	118.619
30	Sonarpal	12/1991 to 5/2011	1097.896	986.763	809.224	790.255	687.935	632.140	551.856	413.693	354.958	488.945

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**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**V Basin : Godavari**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
31	Tumnar	12/1991 to 5/2011	1999.967	1828.720	1671.264	1304.763	1239.599	1128.240	867.826	646.583	512.682	610.000
32	Yelli	06/1978 to 5/2011	13332.285	9083.469	4950.912	3664.756	2937.561	2334.712	1722.448	1367.826	832.236	510.944
33	Zari	06/1987 to 5/2011	1325.926	764.878	618.940	470.285	395.255	330.369	151.199	122.912	55.738	160.521
34	Asthi	06/1965 to 05/2011	31239.521	27440.498	24310.795	21579.533	20005.863	18667.199	16172.950	11990.255	9110.308	10679.506
35	Bamni	12/1965 to 05/2011	22820.367	17085.439	15062.126	12836.105	10801.537	8860.403	6059.370	4779.377	3019.660	1025.062
36	Bhatpalli	10/1986 to 05/2011	2492.889	1981.142	1456.441	1236.521	979.414	840.243	566.276	413.964	209.699	166.315
37	Bisnur	06/1988 to 10/2005	1490.843	1192.345	812.701	624.675	549.926	356.336	313.472	221.085	121.439	-
38	Ghughus	12/1965 to 10/2005	9113.361	7950.318	6258.250	4775.064	3244.480	2788.537	2452.492	1998.692	973.864	-
39	Hivra	06/1987 to 05/2011	3266.570	2683.779	1856.073	1548.801	1154.875	900.551	719.778	470.799	264.445	71.718
40	Kanergaon	06/1992 to 05/2011	1232.342	1193.907	767.181	330.982	296.114	247.009	202.918	116.356	94.400	94.400
41	Keolari	11/1986 to 05/2011	1803.067	1403.663	1191.973	1068.940	964.004	871.805	438.961	314.880	269.668	944.751
42	Kumhari	06/1986 to 05/2011	5453.689	4126.438	3605.695	3425.769	2731.263	2301.094	1968.332	1655.819	872.519	2248.320
43	Mangrul	11/1992 to 05/2011	646.417	541.926	425.965	373.503	240.523	132.461	58.756	29.300	19.127	29.300
44	Marlegaon	06/1965 to 10/2005	2967.407	2171.948	1712.720	1303.439	1161.708	861.992	616.399	411.584	356.879	-
45	Medapalli	12/1966 to 10/2005	3614.909	2097.139	1855.927	1735.503	1388.264	1159.159	1060.001	866.028	411.216	-
46	Mirdapalli	10/1972 to 05/2006	48023.680	40835.383	29208.670	20524.744	16391.264	15148.618	12408.240	11346.221	2751.874	-
47	Nandgaon	06/1986 to 05/2011	1986.201	1160.519	1073.477	922.448	679.472	561.509	432.291	344.316	226.252	220.135
48	P.G. Bridge	06/1965 to 05/2011	8197.755	5850.756	5531.788	4514.653	3892.017	3036.696	2295.732	1631.965	949.367	444.640
49	Pauni	09/1964 to 10/2005	20117.035	15731.787	14582.796	12903.155	11100.635	9322.525	8440.861	7325.010	3980.699	-
50	Rajegaon	06/1986 to 05/2011	3906.133	3438.691	3141.276	2574.315	2196.298	2024.894	1795.384	1309.620	1054.219	1266.249
51	Rajoli	06/1986 to 05/2011	1258.694	1085.125	1037.196	690.288	588.442	493.947	357.065	291.789	207.982	126.293
52	Ramakona	11/1986 to 05/2011	1473.505	1161.469	944.613	819.854	644.194	531.311	458.672	251.316	174.686	817.731
53	Salebardi	06/1986 to 05/2011	986.233	822.622	773.687	654.126	630.042	581.058	529.351	326.315	260.173	317.119
54	Satrapur	05/1986 to 05/2011	4247.384	2393.509	2128.563	1905.420	1659.563	1422.127	1054.917	815.033	407.987	1489.112
55	Sirpur	02/1968 to 05/2011	22491.061	18736.678	15740.195	14514.367	12034.688	10106.822	5823.583	4644.409	3366.720	1109.468
56	Tekra	06/1964 to 05/2011	57154.668	49381.051	42262.418	37953.965	32075.773	28197.877	23594.793	20531.529	14700.092	12854.803
57	Wainagarh	08/1992 to 05/2011	1541.776	1396.373	1156.028	1066.054	813.509	595.097	538.029	526.035	468.537	494.456

Source : SE, Godavari Circle, Central Water Commission, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills

Table 7 : Annual dependable flow of water by site and river basin during 2011-12

V Basin : Godavari													Unit: M. C. M.
Sl.No.	Site Name	Period/Years	Dependable flow										
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1	Ambabal	6/1993 to 5/2012	1529.344	1152.834	1113.185	925.567	748.281	642.180	549.345	503.080	399.817	1141.771	
2	Betmogrra	6/1997 to 5/2012	581.574	403.881	266.438	236.190	222.914	152.211	47.998	30.250	9.181	236.281	
3	Bhadrachalam	6/2007 to 5/2012	<----- Sufficient data not available ----->										
4	Bhatkheda		<----- Sufficient data not available ----->										
5	Cherribeda	6/1996 to 5/2012	1198.873	964.950	840.452	649.962	458.035	373.542	322.106	265.920	218.986	842.056	
6	Chindnar	6/1971 to 5/2012	12213.424	10652.277	9305.532	8773.747	7996.987	7325.037	6192.043	5757.217	4591.920	12086.675	
7	Degloor	6/1987 to 5/2012	699.929	490.024	418.321	334.028	229.909	134.702	106.193	75.067	46.601	297.176	
8	Dhalegaon	6/1965 to 5/2012	5736.825	4472.096	3694.421	2796.830	1690.673	984.335	699.840	305.178	188.653	407.519	
9	G.R.Bridge	6/1976 to 5/2012	4736.695	4106.650	2721.888	1790.674	1087.115	904.485	601.380	471.216	167.815	698.451	
10	Gandlapet	7/1986 to 5/2012	613.676	225.967	190.954	88.123	62.526	33.454	7.866	2.926	0.000	63.431	
11	Ghargaon		<----- Sufficient data not available ----->										
12	Injaram		<----- Sufficient data not available ----->										
13	Jagdapur	6/1965 to 5/2012	5357.355	4749.503	4466.705	3812.871	3531.832	3103.669	2708.269	2305.175	1725.480	2840.562	
14	Koida		<----- Sufficient data not available ----->										
15	Konta	12/1965 to 5/2012	19760.848	18009.602	16137.636	14915.428	14272.801	13333.993	12407.318	10459.823	7555.509	19468.336	
16	Kosagumda	11/1996 to 5/2012	1335.772	1265.945	1166.512	993.830	746.073	716.644	664.781	505.415	217.349	1331.719	
17	Mancherial	6/1966 to 5/2012	28446.047	17507.467	14589.665	10214.601	7934.572	5984.980	3947.602	2602.450	1776.140	9767.328	
18	Murthahandi	12/1988 to 5/2012	2373.067	1892.848	1788.827	1656.019	1479.879	1347.766	1155.262	969.229	835.196	1644.796	
19	Nowrangpur	12/1965 to 5/2012	4008.411	3696.090	3172.009	2895.285	2502.328	2106.277	1697.155	1338.957	699.489	1225.197	
20	Pachegaon	06/1983 to 5/2012	1276.784	932.256	401.388	341.691	221.929	114.907	50.762	18.468	12.649	221.929	
21	Pathagudem	6/1965 to 5/2012	32125.307	29220.748	26489.711	23636.994	20089.881	18529.307	17023.086	15328.621	12338.764	31171.711	
22	Perur	12/1965 to 5/2012	111835.133	99297.016	82019.586	69394.555	64931.148	62567.977	44069.547	40095.109	32186.766	100229.418	
23	Polavaram	12/1965 to 5/2012	132581.938	108066.641	100039.344	93593.758	85937.430	72284.055	58429.793	55521.219	46185.711	117170.952	
24	Potteru (Seasonal)	6/1997 to 11/2011	3147.146	2869.008	2458.869	2134.506	1934.940	1851.324	1803.204	1449.672	1054.135	1727.969	
25	Purna	6/1969 to 5/2012	4988.439	3168.644	2045.298	1627.383	1261.540	786.222	428.514	320.942	248.346	1565.243	
26	Saigaon	6/1967 to 5/2012	2609.348	2058.385	1162.205	794.163	698.679	441.486	230.235	171.081	34.806	2384.408	
27	Sangam	6/1996 to 5/2012	463.594	416.958	363.607	340.395	282.126	237.583	156.312	131.124	76.640	496.305	
28	Saradaput	6/1970 to 5/2012	7013.440	5909.324	5676.941	5511.070	4783.580	4265.477	3962.911	3734.325	3109.989	5548.296	
29	Somanpally (Seasonal)	12/1966 to 1/2012	2935.196	1943.906	1465.731	1193.400	861.568	694.820	571.196	360.277	276.753	2019.828	
30	Sonarpal	12/1991 to 5/2012	1088.587	975.423	806.455	786.593	659.714	617.824	521.208	380.932	346.000	998.102	

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**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**V Basin : Godavari**

Unit: M. C. M.

Sl.No.	Site Name	Period/Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
31	Tumnar	12/1991 to 5/2012	1986.286	1820.282	1637.386	1283.486	1214.306	1075.063	837.165	659.828	519.177	1876.842
32	Yelli	6/1978 to 5/2012	13272.622	9024.709	4899.977	3614.194	2904.288	2192.869	1666.003	1382.751	837.460	4984.868
33	Zari	6/1987 to 5/2012	1290.268	746.264	618.672	457.292	366.810	283.178	156.792	126.061	57.490	618.493
34	Asthi											
35	Bamni											
36	Bhatpalli											
37	Bisnur											
38	Ghughus											
39	Hivra											
40	Kanergaon											
41	Keolari											
42	Kumhari											
43	Mangrul											
44	Marlegaon											
45	Medapalli											
46	Mirdapalli											
47	Nandgaon											
48	P.G. Bridge											
49	Pauni											
50	Rajegaon											
51	Rajoli											
52	Ramakona											
53	Salebardi											
54	Satrapur											
55	Sirpur											
56	Tekra											
57	Wainagarh											

<----- Sufficient data not available ----->

Source : SE, Godavari Circle, Central Water Commission, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.GO complex, Block-C, 2nd Floor, Seminary Hills

**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**VI Basin : Krishna**

Unit: M. C. M.

Sl. No.	Site Name	Period/Year	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad (Seasonal)	1/1969 to 11/2010	11233.479	10065.452	8823.312	7979.255	7510.729	5896.403	5174.839	4565.007	2902.684	5409.958
2	Bawapuram	6/1965 to 5/2011	10266.534	7745.208	6117.687	5680.163	5149.715	4689.569	3855.451	2609.677	1571.602	5712.863
3	Cholachguda (Seasonal)	6/1982 to 11/2010	1496.137	1292.644	1056.411	1004.868	885.477	730.089	662.680	490.292	333.374	533.171
4	Dameracherla	7/1968 to 5/2011	1796.458	1652.456	1487.224	1042.112	891.700	757.332	652.393	563.864	494.546	1644.231
5	Gokak Falls (Seasonal)	7/1971 to 11/2010	3443.479	2823.422	2275.050	2152.181	1809.778	1409.907	1230.846	897.514	572.251	1388.598
6	Halia	6/1984 to 5/2011	501.213	311.146	169.410	135.762	126.431	78.533	57.472	25.074	18.766	422.893
7	Huvinhedigi	2/1976 to 5/2011	25056.748	22615.500	21674.438	19905.943	16865.559	13866.444	11391.021	10024.891	6981.554	11564.079
8	Karad	6/1965 to 5/2011	7068.167	6724.947	5310.522	4982.387	4084.527	3621.082	3342.365	2828.969	2450.824	2756.935
9	Keesara	7/1965 to 5/2011	4259.448	3023.879	2696.339	1998.743	1636.341	1274.677	940.403	761.677	418.883	4217.589
10	Kurundwad	5/1972 to 5/2011	16668.516	15176.480	13103.376	12303.084	10709.719	9127.255	8353.798	6363.221	5376.644	9825.935
11	Madhira	6/1984 to 5/2011	1018.867	834.542	708.149	651.905	516.944	453.791	283.596	226.032	138.690	972.515
12	Malkhed	8/1990 to 5/2011	2174.300	1227.787	1064.847	944.081	590.827	466.123	308.003	197.626	109.853	2296.525
13	Mantralayam	6/1972 to 5/2011	12284.041	9440.563	7625.083	6903.505	6184.694	5712.681	5113.385	3548.019	2465.499	7673.936
14	Narasingpur	12/1966 to 5/2011	10439.468	7728.160	6780.644	6004.646	5033.915	3662.277	2619.244	1872.328	361.923	1857.138
15	Phulgaon (Seasonal)	6/1992 to 11/2010	2720.069	1951.602	1358.314	1224.498	1106.486	963.862	858.843	620.075	539.201	359.167
16	Sadalga (Seasonal)	6/1969 to 11/2010	3823.492	3296.310	2962.150	2717.373	2588.743	2324.113	2165.427	1810.295	1457.822	2167.432
17	Samdoli (Seasonal)	12/1966 to 11/2010	4441.503	3972.308	3514.658	3338.743	3044.831	2698.357	2300.116	1822.998	1475.222	2113.733
18	Sarati	6/1965 to 5/2011	2278.703	1859.865	1654.075	1474.289	1234.797	1035.291	868.041	499.439	173.952	1046.347
19	T Ramapuram (Seasonal)	12/1965 to 11/2010	1355.294	1093.528	1014.363	916.183	783.429	749.811	557.389	452.122	345.337	772.408
20	Takli	6/1965 to 5/2011	10783.004	9091.816	8070.383	7076.064	5391.905	4765.960	2826.833	2072.306	592.017	1470.114

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**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**VI Basin : Krishna**

Unit: M. C. M.

Sl. No.	Site Name	Period/ Year	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
21	Talikot (Seasonal)	9/1995 to 11/2010	697.362	383.981	319.747	190.959	170.483	159.108	131.526	123.446	61.104	163.121
22	Terwad (Seasonal)	8/1979 to 11/2010	6804.959	5446.062	4848.374	4138.688	3872.707	3465.685	3177.256	3052.969	2574.321	3435.111
23	Vijayawada	6/1965 to 5/2011	40086.395	34697.145	31221.689	27988.760	24637.615	18610.541	10706.253	6675.313	3978.596	13824.523
24	Wadakbal	6/1965 to 5/2011	2236.920	1688.748	1270.168	849.591	616.455	527.784	273.871	190.086	94.723	2136.203
25	Wadenapally	12/1965 to 5/2011	44227.527	39176.016	35988.512	35076.930	27135.049	21452.750	16590.236	10786.564	6275.620	17118.124
26	Warunji	1/1966 to 5/2011	4777.169	3841.999	3266.326	2818.396	2402.154	2286.968	2039.220	1785.303	1515.119	2672.864
27	Yadgir	6/1965 to 5/2011	15113.114	13854.592	11990.180	10555.206	8494.929	7673.121	4783.009	3645.240	2666.094	8052.634
28	Bylahahalli	6/1985 to 5/2011	602.446	543.861	480.690	391.817	339.900	290.510	281.261	238.961	121.916	652.317
29	Haralahalli	12/1966 to 5/2011	10388.413	8481.915	7718.079	7282.126	7077.050	6776.184	5798.164	5277.607	4433.949	7093.629
30	Holehonnur	6/2004 to 5/2011	<----- Sufficient data not available ----->									
31	Honnali	6/1980 to 5/2011	10753.294	7911.566	7660.613	7308.678	6962.934	6673.770	5358.770	4933.698	4088.328	6727.397
32	Hoovinahole	6/2005 to 5/2011	<----- Sufficient data not available ----->									
33	Kellodu	7/1990 to 5/2011	301.199	251.461	115.827	60.299	47.457	28.203	18.956	10.125	1.171	304.595
34	Kuppelur	7/1990 to 5/2011	921.769	629.490	475.312	415.229	404.345	304.435	209.027	148.490	55.851	956.813
35	Marol	6/1966 to 5/2011	3299.797	2545.060	2324.985	2045.927	1900.773	1704.909	1428.780	1279.143	893.904	2065.257
36	Shimoga	1/1972 to 5/2011	7243.076	6324.522	5961.781	5635.014	5269.516	5001.966	4289.006	4124.607	3495.225	5062.316

Source : SE, Godavari Circle, Central Water Commission, Hyderabad.

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**VI Basin : Krishna**

Unit: M. C. M.

Sl. No.	Site Name	Period/Year	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	Current Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Arjunwad (Seasonal)	01/1969 to 11/2011	11159.493	10047.938	8801.404	7888.903	7419.341	5964.408	5208.856	4618.685	2909.915	7327.952
2	Bawapuram	06/1965 to 05/2012	10246.066	7482.781	6085.035	5653.108	5038.330	4590.626	3710.350	2677.177	1612.766	3621.654
3	Cholachguda (Seasonal)	06/1982 to 11/2011	1481.195	1286.458	1046.014	997.226	876.837	719.897	650.594	411.837	335.187	392.223
4	Dameracherla	07/1968 to 05/2012	1782.072	1644.231	1486.446	1030.578	851.619	755.637	655.119	564.672	495.448	742.934
5	Gokak Falls (Seasonal)	07/1971 to 11/2011	3428.850	2817.435	2316.415	2175.801	1905.759	1422.191	1231.707	900.599	575.345	2375.636
6	Halia	07/1984 to 05/2012	496.467	273.897	169.982	142.955	127.690	96.041	59.552	25.307	18.884	169.628
7	Huvinhedigi	02/1976 to 05/2012	24839.484	22470.801	21616.826	19706.920	16600.260	14020.939	11448.707	10109.637	7308.560	14133.581
8	Karad	06/1965 to 05/2012	7052.535	6724.348	5304.062	4929.582	4036.963	3646.199	3357.758	2845.255	2460.104	3741.564
9	Keesara	01/1965 to 05/2012	4231.542	3015.071	2545.142	1983.489	1565.919	1179.296	926.896	729.916	394.131	1064.584
10	Kurundwad	05/1972 to 05/2012	16578.494	15000.924	12958.271	12075.662	10796.949	9258.696	8361.652	6692.879	5405.191	11581.887
11	Madhira	06/1984 to 05/2012	995.691	797.748	695.214	624.698	516.320	414.759	287.680	237.357	143.598	368.611
12	Malkhed	08/1990 to 05/2012	2113.188	1188.099	1051.413	920.398	637.184	494.470	335.596	207.828	113.895	683.541
13	Mantralayam	06/1972 to 05/2012	12228.598	9276.398	7539.262	6820.535	6162.718	5552.202	4717.872	3562.110	2470.210	4548.367
14	Narasingpur	12/1966 to 05/2012	10438.082	7657.718	6698.049	5944.488	4903.227	3528.547	2565.846	1887.517	364.544	2054.798
15	Phulgaon (Seasonal)	06/1992 to 11/2011	2718.369	1856.879	1335.985	1199.112	1035.189	959.656	868.109	630.950	546.313	889.729
16	Sadalga (Seasonal)	06/1969 to 11/2011	3799.599	3277.029	2941.121	2772.930	2591.594	2386.364	2177.196	1835.068	1471.863	2864.303
17	Samdoli (Seasonal)	12/1964 to 11/2011	4356.130	3872.330	3493.919	3252.345	2997.778	2689.237	2125.375	1683.215	1394.818	3190.367
18	Sarati	06/1965 to 05/2012	2278.062	1857.091	1649.050	1457.057	1210.337	1002.122	829.019	500.944	179.833	678.449
19	T Ramapuram (Seasonal)	12/1965 to 11/2011	1350.268	1089.306	1005.116	906.320	777.966	736.400	530.445	441.435	317.200	288.719
20	Takli	06/1965 to 05/2012	10730.021	9074.489	7922.954	6983.131	5365.881	4326.096	2771.280	2057.103	636.828	2056.304

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**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**VI Basin : Krishna**

Unit: M. C. M.

Sl. No.	Site Name	Period/ Year	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	Current Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
21	Talikot (Seasonal)	09/1995 to 11/2011	696.449	368.328	301.311	172.521	168.715	147.071	129.277	100.777	39.679	40.655
22	Terwad (Seasonal)	08/1979 to 11/2011	6673.247	5429.495	4812.644	4208.846	3971.004	3526.833	3184.524	3098.497	2587.480	4797.090
23	Vijayawada	01/1965 to 05/2012	39544.734	34027.129	31033.168	27510.391	22291.773	15813.800	10101.885	6158.494	2948.479	7305.928
24	Wadakbal	06/1965 to 05/2012	2211.110	1616.817	1164.108	831.485	581.835	510.494	254.588	180.451	99.963	114.515
25	Wadenapally	12/1965 to 05/2012	44042.355	38860.344	35952.211	34883.516	26731.246	20952.863	16069.320	10788.205	6562.884	13586.165
26	Warunji	01/1966 to 05/2012	4763.318	3727.984	3229.963	2858.369	2414.474	2301.264	2046.021	1801.850	1519.726	3042.227
27	Yadgir	06/1965 to 05/2012	15105.165	13749.899	11929.095	10472.222	8426.252	7637.522	4507.045	3673.701	2681.937	3955.720
28	Bylahahalli	06/1985 to 05/2012	595.321	536.347	452.764	383.884	330.112	291.674	281.971	243.351	124.928	320.727
29	Haralahalli	12/1966 to 05/2012	10366.723	8480.882	7704.405	7280.904	7074.549	6712.343	5878.065	5281.916	4518.697	6484.497
30	Holehonnur	06/2004 to 05/2012	<----- Sufficient data not available ----->									
31	Honnali	06/1980 to 05/2012	10586.268	7865.897	7617.788	7298.865	7090.230	6758.101	5371.275	4936.491	4144.563	7219.471
32	Hoovinahole	06/2005 to 05/2012	<----- Sufficient data not available ----->									
33	Kellodu	07/1990 to 05/2012	299.501	244.817	82.008	57.329	45.209	27.629	14.711	8.851	1.175	7.139
34	Kuppelur	07/1990 to 05/2012	904.247	615.705	474.846	408.024	396.776	310.455	224.430	153.884	58.392	389.206
35	Marol	06/1966 to 05/2012	3288.067	2557.467	2325.286	2077.281	1904.570	1771.259	1439.164	1289.892	899.661	2567.992
36	Shimoga	01/1972 to 05/2012	7182.826	6298.506	6003.350	5665.690	5322.183	5042.199	4290.645	4127.243	3509.187	6019.555

Source : SE, Krishna Circle, Central Water Commission, Hyderabad.



Table 7 : Annual dependable flow of water by site and river basin during 2010-11

Unit: M. C. M.

VII Basin : Cauvry			Dependable flow									
Sl. No.	Site Name	Period/Year	10%	20%	30%	40%	50%	60%	70%	80%	90%	Current Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal	2002-2011	<----- Sufficient data not available ----->									
2	Bendrahalli	2006-2011	<----- Sufficient data not available ----->									
3	Biligundulu	1971-2011	11324.8	10062.4	9293.0	8518.4	7266.6	6163.2	5518.1	5224.6	3713.4	5867.1
4	Chunchunkatte	2008-2011	<----- Sufficient data not available ----->									
5	Hogenakkal	1996-2011	160.9	132.5	63.4	43.4	40.0	23.7	13.3	3.5	1.4	44.1
6	K.M.Vadi	1979-2011	650.4	490.6	444.6	335.9	308.6	260.2	208.3	149.0	106.4	196.7
7	Kollegal	1971-2011	9908.5	9282.9	7942.6	7507.9	6118.0	5179.2	4611.1	4185.3	3801.4	4556.5
8	Kudige	1972-2011	4174.7	3395.4	3053.3	2693.6	2532.6	2358.0	2167.5	2019.7	1586.0	1984.3
9	M.H.Halli	1978-2011	2532.5	1963.6	1422.3	1059.7	996.4	843.0	697.2	582.0	446.3	793.8
10	Sakleshpur	2002-2011	<----- Sufficient data not available ----->									
11	T. Bekuppe	2003-2011	<----- Sufficient data not available ----->									
12	T.K.Halli	1978-2011	1184.9	1038.0	811.8	732.5	666.1	628.8	556.2	479.1	313.8	1029.6
13	T.Narasipur	1971-2011	4340.4	3924.6	3296.4	3059.9	2769.8	2533.6	2299.2	2159.3	1726.4	1674.5
14	Thimmanahalli	2002-2011	407.3	386.4	360.5	237.2	201.9	181.7	115.4	49.3	10.6	394.4
15	Urachikottai	1979-2011	10612.0	10038.0	8514.0	6885.0	6581.0	5893.0	5429.0	4840.0	2971.0	4840.0
16	Nellithurai	1979-2011	2085.0	1775.0	1667.0	1318.0	1198.0	1119.0	897.9	773.6	544.0	2085.0
17	Thengumarahada	1979-2011	521.4	412.0	347.0	322.0	275.0	263.2	231.0	193.0	166.5	333.9
18	Savandapur	1978-2011	960.0	876.0	662.0	648.0	616.1	553.0	504.0	453.6	419.4	642.8
19	Nallamarampatti	1977-2011	736.0	496.0	324.0	276.0	174.0	140.0	54.0	42.0	32.0	288.3
20	Kodumudi	1971-2011	12835.0	11360.0	10586.0	9350.0	8948.0	7202.0	6476.0	5484.0	4512.0	6609.0
21	Musiri	1972-2011	13360.0	12443.0	9754.0	8973.0	7596.0	6582.0	5719.0	4827.0	2431.0	5755.0
22	Elunuthimangalam	1998-2011	199.8	188.0	167.0	136.2	133.1	28.9	14.6	12.0	10.7	199.8
23	Sevanur	1999-2011	10.980	10.350	9.000	8.570	8.120	6.198	4.788	0.316	0.145	6.198
24	Thevur	1999-2011	29.360	18.320	15.320	12.000	7.960	7.220	2.442	0.000	0.000	29.360
25	Thoppur	1999-2011	16.570	6.738	1.650	0.905	0.200	0.000	0.000	0.000	0.000	6.738
26	Kudlur	1999-2011	93.18	81.00	48.14	33.38	30.00	16.07	8.10	7.61	2.08	144.00
27	Annasaval	1999-2011	44.00	38.86	28.00	26.00	24.00	23.12	19.00	11.84	2.86	18.00
28	Peralam	1999-2011	26.90	26.20	20.00	21.00	20.37	13.60	12.00	10.77	2.90	11.00
29	Menangudi	1997-2011	90.58	64.43	58.98	55.00	53.00	50.00	0.00	0.00	0.00	55.00
30	Porakudi	1999-2011	164.5	154.9	139.0	130.0	114.0	101.0	99.0	63.0	21.0	101.0
31	Thengudi	1998-2011	228.8	196.0	173.7	169.4	162.0	156.0	154.8	151.0	26.6	169.0
32	Gopurajapuram	1999-2011	112.5	88.7	78.0	72.0	66.0	62.0	53.0	42.7	8.9	62.0
33	Nallathur	2006-2011	<----- Sufficient data not available ----->									
34	Muthankera	1973-2011	3479.01	3131.56	2853.88	2547.41	2347.57	2236.63	2133.59	1973.79	1745.61	2354.330

Source : Water Year Book for 1971-2011, (Cauvery Basin) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 7 : Annual dependable flow of water by site and river basin during 2011-12

Unit: M. C. M.

VII Basin : Cauvery												
Sl. No.	Site Name	Period/Year	Dependable flow									Current Year
			10%	20%	30%	40%	50%	60%	70%	80%	90%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Akkihebbal	1/2002 to 5/2012	2143.710	1972.422	1682.555	1462.307	1217.992	1059.733	550.506	270.334	153.381	-
2	Bendrahalli	8/2005 to 5/2012	----- Sufficient data not available -----									-
3	Biligundulu	8/1971 to 5/2012	11306.1	10050.1	9199.6	8069.5	7211.4	6257.7	5525.9	5241.6	3797.2	-
4	Chunchunkatte	6/2008 to 5/2012	----- Sufficient data not available -----									-
5	Hogenakkal	10/1966 to 5/2012	638.048	487.221	427.346	345.616	310.767	272.227	210.894	152.542	107.526	-
6	K.M.Vadi	6/1979 TO 5/2012	9895.908	9150.045	7877.326	7413.675	5963.789	5233.260	4638.474	4198.223	3806.833	-
7	Kollegal	2/1971 to 5/2012	9895.908	9150.045	7877.326	7413.675	5963.789	5233.260	4638.474	4198.223	3806.833	-
8	Kudige	11/1973 to 5/2012	4163.655	3366.624	3035.163	2691.300	2559.826	2379.119	2191.167	2028.495	1607.589	-
9	M.H.Halli	10/1978 to 5/2012	2524.685	1877.162	1316.768	1019.782	986.152	846.428	705.994	583.324	447.609	-
10	Sakleshpur	4/2002 to 5/2012	1956.145	1540.935	1265.678	1215.101	1199.139	1013.364	739.611	528.985	93.137	-
11	T. Bekuppe	9/2003 to 5/2012	----- Sufficient data not available -----									-
12	T.K.Halli	6/1978 to 5/2012	1171.402	1029.486	791.911	728.934	666.040	644.231	564.832	482.557	324.541	-
13	T.Narasipur	3/1971 to 5/2012	4333.116	3922.049	3294.911	3029.567	2740.956	2519.949	2311.386	2165.722	1752.350	-
14	Thimmanahalli	6/2000 to 5/2012	405.687	382.304	353.717	208.106	203.969	194.502	132.479	60.023	12.749	-
15	Urachikottai	6/1979 to 5/2012	11168.816	10057.781	8478.598	7850.839	6729.595	6142.686	5568.172	4965.830	3404.712	-
16	Nellithurai	6/1979 to 5/2012	2354.865	1999.039	1685.357	1526.167	1208.628	1128.722	945.679	843.549	576.280	-
17	Thengumarahada	6/1979 to 5/2012	547.501	428.824	345.697	327.074	283.861	264.386	233.968	196.652	167.275	-
18	Savandapur	6/1978 to 5/2012	969.616	875.897	695.155	648.366	601.862	564.228	524.505	470.979	427.800	-
19	Nallamaranpatti	12/1977 to 5/2012	831.350	484.519	324.090	273.728	189.313	160.268	65.169	47.529	32.351	-
20	Kodumudi	6/1971 to 5/2012	13021.163	11888.730	10819.992	9455.119	8961.785	7249.077	6555.852	5546.788	4513.254	-
21	Musiri	6/1972 to 5/2012	13341.403	12403.112	9743.593	8937.750	7694.842	6587.259	5729.793	4833.740	2566.230	-
22	Elunuthimangalam	8/1998 to 5/2012	225.027	187.910	172.232	138.328	134.629	28.870	27.311	14.586	11.353	-
23	Sevanur	9/1999 to 4/2012	21.075	12.786	10.105	8.789	8.147	7.085	6.278	3.894	0.213	-
24	Thevur	9/1999 to 5/2012	40.332	20.525	17.458	15.644	11.577	7.756	7.262	1.954	0.000	-
25	Thoppur	10/1999 to 5/2012	23.712	8.705	2.963	1.809	0.905	0.163	0.021	0.000	0.000	-
26	Kudlur	3/1999 to 5/2012	118.592	81.119	46.412	33.377	24.014	16.073	11.286	7.605	4.739	-
27	Annasaval	2/1999 to 5/2012	41.326	37.556	29.622	26.121	23.691	19.443	15.135	2.856	0.764	-
28	Peralam	2/1999 to 5/2012	26.548	25.768	21.473	20.371	14.048	11.764	10.900	2.896	1.167	-
29	Menangudi	2/1999 to 5/2012	159.715	143.673	134.069	113.748	105.138	98.845	77.538	20.541	9.429	-
30	Porakudi	2/1999 to 5/2012	159.715	143.673	134.069	113.748	105.138	98.845	77.538	20.541	9.429	-
31	Thengudi	7/1997 to 5/2012	221.323	191.449	173.937	168.994	162.346	155.429	148.179	121.872	26.437	-
32	Gopurajapuram	2/1999 to 5/2012	100.616	82.159	74.813	66.294	60.587	52.645	44.819	8.872	1.619	-
33	Nallathur	6/2006 to 5/2012	----- Sufficient data not available -----									-
34	Muthankera	6/1973 to 5/2012	3473.301	3115.912	2850.613	2536.327	2354.330	2250.858	2158.819	1986.682	1758.150	-

Source : Water Year Book for 1971-2012, (Cauvery Basin) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 7 : Annual dependable flow of water by site and river basin during 2010-11

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gummanur	1978-2011	391.3	308.7	234.1	215.7	197.7	141.2	83.1	64.3	50.5	205.4
2	Avarankuppam	1978-2011	205.5	105.0	52.3	42.3	23.2	14.3	8.9	3.7	0.8	10.9
3	Theni	1978-2011	880.8	773.0	709.3	653.0	622.6	583.2	514.6	392.1	312.5	575.8
4	Murappanadu	1977-2011	1200.6	881.8	655.7	463.5	386.9	346.0	281.7	253.0	229.4	346.0
5	A.P.Puram	1979-2011	72.490	53.310	30.980	11.980	7.300	3.070	0.650	0.120	0.020	0.372
6	Paramakudi	1971-2011	450.1	202.9	141.6	47.78	24.62	16.97	10.80	7.17	0.06	66.23
7	Irukkankudi	1989-2011	100.8	54.94	43.82	18.42	17.55	15.91	7.87	2.29	0.00	16.60
8	Ambasamudram	1999-2011	157.5	92.78	73.63	63.68	61.32	50.26	48.34	19.00	18.38	63.68
9	Nellore	1988-2011	4093	3377	1521	1140	643	402	155	58	34	1521
10	Nandipalli	1990-2011	310	260	214	169	65	52	35	23	2	259
11	Chennur	1990-2011	4804	3789	3350	3053	1671	1382	1360	893	599	4400
12	Kamalapuram	1990-2011	814	200	147	54	24	17	12	8	0	11
13	Alladupalli	1986-2011	3131	2895	2092	1530	1257	1215	1017	765	349	3131
14	Tadapatri	1972-2011	628	380	198	100	90	78	47	39	4	1
15	Nagalamadike	1978--2011	154	21	8	4	3	1	0	0	0	0
16	Singavaram	1980-2011	314	163	33	26	15	5	1	0	0	21
17	Naidupeta	1979-2011	920	532	386	294	208	181	94	60	29	341
18	Sullurpet	1989-2011	658	400	296	247	126	76	44	25	12	93
19	Chengalpattu	1979-2011	1088	690	182	163	78	50	33	15	12	176
20	Magaral	1972-2011	420	288	77	49	13	1	0	0	0	54
21	Arcot	1979--2011	406	113	64	37	4	0	0	0	0	6
22	Kumarapalayam	2004-2011	338	338	81	81	31	13	13	7	7	338
23	Villupuram	1972-2011	1131	399	263	189	104	57	42	6	0	394
24	Vazhavachanur	1978-2011	1051	577	298	223	170	147	131	83	20	391
25	Kudalaiyathur	1990-2011	1042	825	493	411	206	200	99	20	2	1042

Source : Water Year Book for 1971-2011, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 7 : Annual dependable flow of water by site and river basin during 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gummanur	9/1978 to 5/2012	461.653	308.733	244.328	217.529	201.568	169.672	106.436	70.284	53.641	-
2	Avarankuppam	6/1978 to 5/2012	206.053	105.002	56.284	42.336	21.442	14.244	9.150	3.872	1.031	-
3	Theni	6/1978 to 5/2012	896.651	773.021	724.272	667.500	624.430	588.658	545.221	481.720	334.046	-
4	Murappanadu	11/1977 to 5/2012	1206.131	854.988	662.749	457.410	386.911	350.372	288.065	257.573	232.770	-
5	A.P.Puram	12/1979 to 5/2012	76.162	55.516	30.502	13.221	7.299	3.302	1.973	0.032	0.023	-
6	Paramakudi	11/1971 to 5/2012	498.577	212.673	145.440	50.480	26.219	18.324	12.344	7.489	0.130	-
7	Irukkankudi	11/1989 to 5/2012	180.457	62.735	40.971	18.545	17.547	13.801	7.963	3.595	0.000	-
8	Ambasamudram	1/1999 to 5/2012	176.104	100.266	91.274	73.628	62.498	52.480	49.297	23.375	18.691	-
9	Nellore	8/1987 to 5/2012	3929.489	3136.793	1249.390	982.883	555.939	344.186	139.124	49.317	28.749	-
10	Nandipalli	6/1990 to 5/2012	295.242	249.551	193.655	142.548	77.359	53.737	34.429	21.563	1.984	-
11	Chennur	7/1989 to 5/2012	4642.675	3518.665	3192.927	2496.807	1898.343	1497.721	1362.691	889.563	577.140	-
12	Kamalapuram	6/1990 to 5/2012	672.937	175.551	96.243	44.847	26.414	17.415	11.501	5.388	0.130	-
13	Alladupalli	8/1985 to 5/2012	3212.484	2836.009	2055.604	1498.135	1257.251	1158.959	942.696	736.138	334.087	-
14	Tadapatri	12/1971 to 5/2012	619.176	362.960	177.829	99.262	89.236	63.752	42.318	27.377	0.983	-
15	Nagalamadike	7/1978 to 5/2012	97.694	20.362	6.680	3.142	2.229	1.015	0.000	0.000	0.000	-
16	Singavaram	9/1979 to 5/2012	286.400	134.568	33.212	23.966	14.913	3.761	0.370	0.000	0.000	-
17	Naidupeta	12/1978 to 5/2012	873.053	515.105	374.246	294.399	206.800	139.631	84.542	60.201	25.880	-
18	Sullurpet	10/1988 to 5/2012	567.076	308.246	264.846	144.574	108.971	76.166	47.984	24.546	9.756	-
19	Chengalpattu	10/1978 to 5/2012	1010.738	464.305	178.688	112.870	83.800	50.064	31.442	15.127	9.663	-
20	Magaral	11/1971 to 5/2012	407.015	235.455	63.261	48.776	16.628	2.466	0.140	0.000	0.000	-
21	Arcot	9/1979 to 5/2012	525.298	128.048	62.266	23.136	3.694	0.000	0.000	0.000	0.000	-
22	Kumarapalayam	11/2004 to 5/2012	<----- Sufficient data not available ----->									
23	Villupuram	10/1972 to 5/2012	1119.367	429.648	247.616	187.079	111.274	58.387	42.520	5.624	0.000	-
24	Vazhavachanur	6/1978 to 5/2012	1032.507	576.768	285.189	208.203	174.458	147.167	115.759	47.605	14.530	-
25	Kudalaiyathur	11/1989 to 5/2012	977.477	717.732	476.043	339.463	206.002	191.574	35.807	6.224	0.918	-

Source : Water Year Book for 1971-2012, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 7 : Annual dependable flow of water by site and river basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	ADDOOR	2003-2011	<----- Sufficient data not available ----->									
2	AVERSHÉ	2002-2011	<----- Sufficient data not available ----->									
3	BANTWAL	1970-2011	15051	13330	12442	11918	11127	10582	9670	9201	7794	11966
4	HALADI	1985-2011	2453.0	2295.9	2117.2	2031.5	1905.1	1747.9	1651.2	1478.4	1293.9	1957.6
5	SANTEGULI	1988-2011	6198.0	5926.6	5089.0	4678.7	3972.2	3592.3	3419.0	2959.4	2664.7	2698.1
6	YENNEHOLE	1989-2011	1792.5	1720.2	1640.6	1548.1	1456.7	1407.2	1334.3	1296.2	1098.5	1436.7
7	ARANGALY	1978-2011	2728.88	2353.67	1956.22	1789.28	1674.69	1619.21	1499.06	1393.07	1232.75	1789.284
8	ASHRAMAM	1999- 2011	209.98	167.03	160.25	143.64	107.06	80.76	77.55	65.93	22.27	78.300
9	AYILAM	1979 -2011	952.53	859.22	783.57	714.26	615.62	539.59	523.19	446.24	375.66	479.790
10	ERINJIPUZHA	1989 -2011	2891.76	2685.26	2468.47	2335.25	2258.31	2110.80	1888.02	1826.64	1609.66	2021.650
11	KALAMPUR	1988 -2011	1449.83	1337.55	1261.23	1228.03	1147.89	1036.89	953.45	907.24	862.31	901.488
12	KALLOOPPARA	1985-2011	2161.41	2067.58	1999.27	1937.57	1791.27	1537.90	1460.76	1341.04	1243.15	1459.308
13	KARATHODU	1988-2011	1960.71	1556.96	1427.07	1264.95	1173.86	1077.42	1019.57	907.54	805.07	1398.872
14	KIDANGOOR	1985 -2011	2197.21	1999.92	1862.38	1752.46	1701.84	1494.91	1415.13	1344.93	1191.97	1303.419
15	KUMBIDI	1980-2011	6484.12	5619.63	5056.84	4267.25	4027.83	3832.93	3628.53	2819.46	2343.95	4907.882
16	KUNIYIL	1981-2011	5946.00	5196.68	4589.15	4164.84	3869.84	3552.86	3367.39	2982.53	965.92	4477.228
17	KUTTYADI	2000-2011	1606.93	1397.34	1320.92	1077.26	1038.50	948.21	863.56	766.70	225.00	1420.541
18	KUZHITHURAI	2000-2011	276.08	224.75	158.40	127.57	95.67	82.33	56.10	32.90	7.56	3.152
19	MALAKKARA	1985-2011	5161.84	4560.39	4295.72	4100.82	3696.95	3571.00	3432.59	3212.22	2379.32	3286.668
20	MANKARA	1985-2011	1421.09	990.51	800.73	639.72	508.01	448.04	436.33	395.45	315.34	729.924
21	NEELESWARAM	1971-2011	10057	8881.38	8124.20	7437.81	6700.39	6442.17	6086.82	5654.63	4912.72	6685.789
22	PATTAZHY	1978-2011	2171.38	1894.92	1549.26	1468.81	1374.70	1208.80	1125.05	987.49	835.28	1111.846
23	PERUMANNU	1985-2011	4774.85	4536.93	3947.66	3662.25	3585.53	3267.39	3084.51	2997.75	2743.53	3603.137
24	PUDUR	1985-2011	554.24	384.58	305.44	278.12	210.99	205.58	182.92	158.41	108.32	390.856
25	PULAMANTHOLE	1987 -2011	2353.70	2175.00	1993.81	1811.55	1682.13	1620.07	1450.01	1261.41	963.10	1804.805
26	RAMAMANGALAM	1978 -2011	6165.50	5745.27	5462.35	5178.67	4910.08	4616.39	4249.36	4104.35	3601.06	4616.386
27	THUMPAMON	1977 -2011	1613.55	1439.85	1306.18	1246.32	1115.00	973.79	891.44	810.10	720.29	754.417
28	VANDIPERIYAR	2000 -2011	321.313	267.070	216.823	181.125	156.461	136.311	125.459	112.885	101.569	127.816
29	AMBARAMPALAYAM	1978-2011	499.13	425.93	362.81	302.55	295.73	276.13	263.94	239.5	227.53	425.9

Source : Water Year Book for 1970-2011, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 7 : Annual dependable flow of water by site and river basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow										
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1	ADDOOR	7/2003 to 5/2012	<----- Sufficient data not available ----->										-
2	AVERSHE	6/2002 to 5/2012	1458.968	1377.777	1356.855	1321.186	1245.538	1147.123	1095.619	1075.469	897.693	-	
3	BANTWAL	11/1970 to 5/2012	15038.228	13173.551	12419.580	11953.753	11304.443	10694.011	9716.644	9217.362	7861.249	-	
4	HALADI	12/1985 to 5/2012	2512.187	2357.607	2123.621	2059.708	1957.556	1760.427	1667.161	1483.296	1295.261	-	
5	SANTEGULI	6/1988 to 5/2012	6186.709	5898.313	5040.616	4630.366	3845.160	3520.908	3379.381	3013.121	2670.282	-	
6	YENNEHOLE	7/1989 to 5/2012	1788.870	1724.059	1659.245	1575.575	1476.590	1407.815	1342.637	1303.863	1120.318	-	
7	ARANGALY	4/1978 to 5/2012	2721.660	2348.359	1976.461	1816.419	1681.852	1633.354	1544.901	1395.560	1245.584	-	
8	ASHRAMAM	9/1999 to 5/2012	203.899	166.904	157.358	133.576	97.699	85.683	77.832	70.975	26.350	-	
9	AYILAM	12/1978 to 5/2012	949.365	854.814	771.299	696.936	586.323	535.414	513.747	446.826	382.723	-	
10	ERINJIPUZHA	6/1985 to 5/2012	2871.896	2786.668	2485.275	2344.579	2270.531	2140.508	1907.902	1831.233	1619.222	-	
11	KALAMPUR	6/1986 to 5/2012	1442.094	1335.451	1256.411	1218.382	1105.063	1044.896	962.803	912.982	866.075	-	
12	KALLOOPPARA	6/1985 to 5/2012	2156.465	2064.778	1990.500	1928.396	1784.443	1560.548	1465.121	1353.560	1244.701	-	
13	KARATHODU	6/1986 to 5/2012	1954.874	1553.453	1433.338	1305.439	1184.504	1095.941	1024.972	921.565	805.185	-	
14	KIDANGOOR	7/1985 to 5/2012	2189.408	1998.585	1828.688	1751.960	1715.409	1536.037	1422.417	1350.594	1196.635	-	
15	KUMBIDI	5/1979 to 5/2012	6416.788	5741.246	5271.553	4328.724	4034.363	3849.622	3650.135	2833.385	2394.173	-	
16	KUNIYIL	1/1979 to 5/2012	5917.457	5111.023	4706.460	4324.604	3904.769	3628.243	3379.186	3188.782	1155.628	-	
17	KUTTYADI	3/2000 to 5/2012	1580.306	1396.507	1368.334	1173.478	1067.492	978.862	884.362	776.113	298.349	-	
18	KUZHITHURAI	11/2000 to 5/2012	272.847	212.022	144.327	118.776	91.306	68.491	42.508	16.855	3.502	-	
19	MALAKKARA	6/1985 to 5/2012	5142.722	4551.792	4281.585	4008.497	3665.647	3593.274	3441.031	3237.033	2400.026	-	
20	MANKARA	6/1985 to 5/2012	1388.262	998.571	841.462	642.038	546.517	448.484	437.036	399.338	319.069	-	
21	NEELSWARAM	3/1971 to 5/2012	10037.205	8821.863	8088.735	7457.553	6700.387	6398.707	6034.373	5618.892	4734.828	-	
22	PATTAZHY	4/1978 to 5/2012	2147.915	1894.528	1539.781	1451.142	1375.134	1245.952	1132.965	988.945	848.653	-	
23	PERUMANNU	6/1985 to 5/2012	4764.174	4461.438	4034.759	3679.191	3603.137	3288.849	3087.397	3007.799	2762.820	-	
24	PUDUR	9/1985 to 5/2012	553.077	381.436	319.371	286.997	213.661	205.927	188.961	160.320	111.207	-	
25	PULAMANTHOLE	2/1986 to 5/2012	2337.156	2184.114	2077.760	1814.580	1728.894	1625.607	1467.358	1266.094	989.614	-	
26	RAMAMANGALAM	4/1978 to 5/2012	6156.322	5721.546	5505.534	5199.886	4923.553	4713.517	4250.875	4117.656	3603.024	-	
27	THUMPALAM	12/1977 to 5/2012	1613.494	1431.868	1293.010	1226.109	1090.920	974.436	907.606	816.140	720.347	-	
28	VANDIPERIYAR	6/2000 to 5/2012	314.738	266.248	192.932	175.424	156.405	142.018	127.227	115.897	102.231	-	
29	AMBARAMPALAYAM	6/1978 to 5/2012	535.907	425.930	387.487	351.816	296.562	280.797	264.403	249.949	230.658	-	

Source : Water Year Book for 1970-2012, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery & Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

**Table 7 : Annual dependable flow of water by site and river basin during 2010-11**

**X Basin : Tapi**

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gidhade	6/1991 to 5/2011	11828.229	8937.500	6684.139	5474.492	4936.304	4838.891	3781.232	3306.703	2663.240	<i>Data are not given</i>
2	Purna at Gopalkheda	6/1977 to 5/2011	1968.454	1727.160	1310.311	1106.438	730.853	581.527	396.994	354.364	259.277	
3	Purna at Yerli	4/1973 to 5/2011	3937.866	3403.095	2649.913	2282.591	1811.304	1200.124	1051.026	750.534	503.658	
4	Sarankheda	6/1977 to 5/2011	15495.276	12045.333	9413.187	8097.433	6927.639	6403.402	4232.480	3366.109	3112.177	
5	Tapi at Burhanpur	9/1972 to 5/2011	8714.580	6580.126	5484.292	4636.803	3950.367	3607.456	3071.734	2306.822	1554.397	

Source: Superintending Engineer, Tapi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1991-2011 Tapi Basin).

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**X Basin : Tapi**

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Gidhade	6/1991 to 5/2012	11754.350	8587.247	6351.907	5164.497	4922.312	4759.908	3989.806	3367.705	2726.931	Not Available
2	Purna at Gopalkheda	6/1977 to 5/2012	1964.903	1684.064	1256.756	1053.138	708.400	589.186	401.576	355.119	264.140	
3	Purna at Yerli	4/1973 to 5/2012	3924.446	3390.521	2649.861	2271.099	1771.190	1185.939	1043.708	753.201	517.268	
4	Sarankheda	6/1977 to 5/2012	15326.665	11919.057	9093.292	8012.100	6861.185	6282.818	4236.129	3381.532	3120.500	
5	Tapi at Burhanpur	9/1972 to 5/2012	8575.919	6574.828	5411.273	4794.406	3953.741	3665.984	3100.667	2316.911	1572.523	

Source: Superintending Engineer, Tapi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1991-2012 Tapi Basin).



Table 7 : Annual dependable flow of water by site and river basin during 2010-11

XI Basin: Narmada

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Orsang at Chandawada	1980-81 To 2010-11	2613.68	2030.75	1755.59	1311.76	1026.92	840.26	789.95	481.26	301.28	41.89
2	Narmada at Garudeswar	1973-74 To 2010-11	48750.70	40315.45	35336.38	32040.01	25686.47	23647.55	22545.28	20248.45	10845.53	4492.28
3	Hathni at Jobat	2001-02 To 2005-06	<----- Discharge started w.e.from 09.08.2001 and closed on 1.4.2006 ----->									
4	Goi at Pati	1999-00 To 2005-06,	690.53	495.35	446.64	348.82	256.27	218.85	191.26	176.07	116.51	72.01
5	Uri at Dhulsar	2008-09 To 2010-11	161.76	136.52	99.20	81.88	67.56	49.15	36.98	32.21	29.69	9.13
6	Narmada at Rajghat	1972-73 To 2006-07	47046.89	40915.64	35720.10	34581.95	28823.31	25286.02	24401.32	22272.67	19820.50	12563.39
7	Narmada AT Mandleswar	1972-73 To 2010-11	48726.75	39253.08	34694.41	32386.20	27896.86	24533.97	23594.01	22247.70	19181.56	12556.44
8	Kundi at Kogaon	1978-79 To 2010-11	1875.39	1521.85	1381.70	988.50	909.15	649.70	576.59	355.97	180.41	502.63
9	Chhota Tawa at Ginnore	1971-72 To 1998-99	3109.94	2690.57	2465.16	2267.08	2129.72	1962.16	1624.33	1147.95	738.18	502.63
10	Narmada at Motakka	1919-00 To 2006-07	<----- Discharge started w.e.from 23.08.1999 and closed on 1.7.2007 ----->									
11	Narmada at Handia	1977-78 To 2010-11	33850.69	31085.24	26937.93	24571.38	21466.37	20659.51	18501.96	16573.46	13537.32	10396.57
12	Ganjal at Chhidgaon	1977-78 To 2010-11	1619.43	1532.03	1354.80	1095.53	788.85	697.84	595.49	514.34	377.98	234.88
13	Narmada at Hoshangabad	1972-73 To 2010-11	33675.83	28913.05	23540.69	21034.34	19181.84	17072.21	16085.30	12747.48	11685.21	5100.51
14	Tawa at Tawakati	2001-02 To 2005-06	<----- Discharge started w.e.from 10.05.2001 and closed on 1.4.2006 ----->									
15	Machna at Shapur	2001-02 To 2005-06	<----- Discharge started w.e.from 20.06.2000 and closed on 1.4.2006 ----->									
16	Narmada at Sandia	1978-79 To 2010-11	23483.58	17494.77	15707.46	14352.25	12946.01	11723.53	10746.27	9182.63	8438.40	5470.61
17	Shakkar at Gadarwara	1977-78 To 2010-11	2286.06	1841.21	1546.07	1402.62	1302.56	988.68	847.03	730.41	623.91	438.21
18	Narmada at Barmanghat	1972-73 To 2010-11	18899.86	17233.96	13193.61	12052.60	10918.28	9313.98	8441.63	7102.20	6278.27	3978.26
19	Sher at Belkheri	1977-78 To 2010-11	1282.19	841.43	766.56	708.68	640.02	606.83	517.21	448.16	403.75	207.94
20	Hiran at Patan	1979-80 To 2010-11	2982.75	2107.72	1821.55	1602.37	1547.48	1353.11	1288.31	809.92	587.79	479.91
21	Banjar at Bamni	1999-00 To 2010-11	1399.13	940.93	716.91	697.54	597.66	567.65	492.28	476.65	270.20	60.18
22	Narmada at Jamtara	1972-73 To 2000-01	13121.02	11553.22	10634.51	10468.20	9314.97	8929.18	7661.38	5907.31	5040.68	2580.85
23	Banjar at Hridyanagar	1977-78 To 2001-02	2917.33	2051.66	1863.56	1463.39	1384.33	1164.04	1053.44	937.47	763.47	512.71
24	Burhner at Mohgaon	1978-79 To 2010-11	3616.36	2724.18	2484.37	2343.84	2153.02	2007.71	1684.05	1509.54	1257.89	543.51
25	Narmada at Amgaon	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->									
26	Narmada at Manot	1977-78 To 2010-11	4394.25	36957.22	3633.02	3323.68	2955.05	2720.74	2219.76	1966.67	1659.28	939.08
27	Narmada at Dindori	1988-89 To 2010-11	1682.33	1387.32	1275.50	1205.62	1153.24	1070.54	856.40	764.02	668.23	587.73

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2010 to May, 2011) Narmada Basin.

**Table 7 : Annual dependable flow of water by site and river basin during 2011-12**

**XI Basin: Narmada**

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Orsang at Chandawada	1980-81 To 2011-12	2575.77	2209.69	1713.75	1300.91	1042.92	874.52	795.50	491.42	303.45	41.89
2	Narmada at Garudeswar	1973-74 To 2011-12	48485.00	40290.13	35336.38	32040.01	25686.47	23647.55	22545.28	20248.45	10845.53	4492.28
3	Hathni at Jobat	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->									
4	Goi at Pati	1999-00 To 2005-06, 2008-09 to 2011-12	636.79	447.31	427.48	310.26	228.48	191.48	162.41	91.79	14.4	0.00
5	Uri at Dhulsar	1999-00 To 2005-06, 2008-09 to 2011-12	161.76	136.52	99.20	81.88	67.56	49.15	36.98	32.21	29.69	9.13
6	Narmada at Rajghat	1972-73 To 2006-07	47046.89	40915.64	35720.10	34581.95	28823.31	26286.02	24401.32	22272.67	19820.50	12563.39
7	Narmada AT Mandleswar	1972-73 To 2011-12	48614.31	42688.31	35106.45	33298.22	27940.09	24556.30	23615.42	22418.54	19365.45	12656.44
8	Kundi at Kogaon	1978-79 To 2011-12	1872.64	1517.17	1344.00	992.25	937.14	665.34	577.40	365.70	185.63	112.41
9	Chhota Tawa at Ginnore	1971-72 To 1998-99	3109.94	2690.57	2465.16	2267.08	2129.72	1962.16	1524.33	1147.95	738.18	502.63
10	Narmada at Motakka	1999-00 To 2006-07	<----- Discharge started w.e.from 23.08.1999 and closed on 1.7.2007----->									
11	Narmada at Handia	1977-78 To 2011-12	33676.93	30866.03	28048.33	25224.68	21768.16	20707.16	18627.63	16593.19	13698.39	10396.57
12	Ganjal at Chhidgaon	1977-78 To 2011-12	1618.31	1528.19	1329.03	1023.46	811.95	699.83	609.33	514.46	378.96	234.88
13	Narmada at Hoshangabad	1972-73 To 2011-12	32961.88	28790.21	24472.17	21179.22	19327.75	17083.37	16338.74	12808.74	11770.50	5100.51
14	Tawa at Tawakati	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->									
15	Machna at Shapur	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->									
16	Narmada at Sandia	1978-79 To 2011-12	23367.54	19174.96	16208.15	14489.77	12992.19	11923.54	10956.28	9217.45	8479.09	5470.61
17	Shakkar at Gadawara	1977-78 To 2011-12	2270.54	1812.36	1544.99	1402.00	1287.53	997.81	856.15	736.42	628.55	438.21
18	Narmada at Barmanghat	1972-73 To 2011-12	18799.89	17853.91	13334.82	12260.59	10951.87	9408.83	8505.55	7108.16	6292.43	3978.26
19	Sher at Belkheri	1977-78 To 2011-12	1271.36	833.53	758.72	690.76	642.48	609.65	524.25	448.41	406.34	207.94
20	Hiran at Patan	1979-80 To 2011-12	2979.45	2151.73	1860.52	1673.39	1558.85	1386.67	1298.55	815.47	592.84	479.91
21	Banjar at Bamni	1999-00 To 2011-12	1353.31	940.93	736.54	709.16	647.60	579.66	514.88	479.77	290.84	60.06
22	Narmada at Jamtara	1972-73 To 2000-01	13121.02	11653.22	10634.51	10468.20	9314.97	8929.18	7661.38	5907.31	5040.68	2680.85
23	Banjar at Hridyanagar	1977-78 To 2001-02	2917.33	2051.66	1863.55	1463.39	1384.33	1164.04	1053.44	937.47	753.47	512.71
24	Burhner at Mohgaon	1978-79 To 2011-12	3604.73	2829.19	2491.90	2397.13	2173.46	2038.36	1739.76	1517.02	1264.48	543.51
25	Narmada at Amgaon	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->									
26	Narmada at Manot	1977-78 To 2011-12	4384.53	3928.62	3692.46	3392.38	3008.23	2731.73	2229.14	1969.91	1604.21	939.06
27	Narmada at Dindori	1988-89 To 2011-12	1722.07	1434.99	1299.69	1232.34	1166.62	1104.98	884.70	764.59	675.31	587.73

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganisation, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2010 to May, 2012) Narmada Basin.

Table 7 : Annual dependable flow of water by site and river basin during 2010-11

XII Basin : Mahi and Sabarmati

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	Current Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anas at Chakaliya	2/1991 to 5/2011	4765.715	2919.531	1899.374	1480.809	1005.846	728.538	434.944	320.034	63.633	457.536
2	Balaram at Chitrasani	6/1990 to 8/2011	108.002	49.321	33.586	17.235	8.960	6.115	4.414	0.667	0.240	25.886
3	Banas at Abu Road	6/1989 to 9/2011	471.763	237.710	64.722	54.360	32.690	21.725	12.939	8.033	3.129	42.435
4	Banas at Kamalpur	6/1971 to 5/2011	966.112	545.640	222.526	132.018	68.497	35.907	11.119	1.375	0.000	77.651
5	Banas at Sarotry	6/1989 to 5/2011	913.417	482.581	211.482	113.551	71.208	50.608	26.183	16.030	5.591	72.269
6	Bhadar at Ganod	11/1970 to 5/2011	1666.055	797.590	441.686	310.742	197.689	135.404	82.072	61.210	16.402	702.616
7	Jakham at Dhariawad	6/1988 to 5/2011	447.965	337.062	149.458	121.597	105.718	51.557	36.530	30.991	24.621	113.597
8	Luni at Balotra	6/1990 to 5/2011	692.878	290.499	130.387	36.213	0.000	0.000	0.000	0.000	0.000	0.000
9	Luni at Gandhav	6/1974 to 3/2011	1001.337	586.013	226.331	68.463	17.221	3.165	0.000	0.000	0.000	0.000
10	Machhu at Gungan	12/1970 to 5/2011	553.625	373.727	239.156	134.771	48.964	28.764	15.188	7.279	2.060	572.838
11	Mahi at Khanpur	12/1978 to 5/2011	10451.610	6767.618	4862.940	3503.235	2759.984	1948.744	1077.991	786.768	553.671	1077.910
12	Mahi at Mataji	6/1982 to 5/2011	2572.987	1996.011	1547.581	1339.557	1066.998	890.584	623.012	277.875	171.297	623.012
13	Mahi at Paderdibadi	6/1978 to 5/2011	4619.101	3139.404	2193.639	1780.651	1320.710	912.000	696.735	399.957	316.767	406.763
14	Rupen at Sapawada	8/1989 to 5/2011	224.674	175.109	104.561	67.287	30.507	24.016	16.444	4.575	0.352	80.838
15	Sabarmati at Derol Bridge	9/1991 to 5/2011	1905.137	810.074	570.876	224.613	160.731	28.233	17.049	13.113	2.486	31.577
16	Sabarmati at Kheroj	6/1992 to 5/2011	1056.451	504.239	461.671	296.169	207.134	136.016	121.340	49.871	41.587	461.671
17	Sabarmati at Voutha	8/1999 to 5/2011	6257.023	4726.395	3895.403	2248.788	1279.269	984.453	234.226	144.544	71.636	1267.426
18	Shetrunji at Lowara	11/1970 to 5/2011	850.218	408.857	299.521	205.516	155.775	118.411	61.823	29.518	13.853	572.280
19	Som at Rangeli	7/1978 to 5/2011	1444.438	833.841	657.331	615.930	517.252	367.633	273.285	182.410	119.100	216.621
20	Wakal at Kotra( Jotasan )	6/1995 to 5/2011	583.461	274.485	114.644	102.628	80.680	60.519	48.561	41.187	18.636	185.119
21	Watrak at Gadvel (Ratanpur)	6/1991 to 5/2011	939.427	557.552	467.297	254.916	145.497	78.847	46.321	39.390	25.509	145.703
22	Watrak at Kheda	6/1989 to 5/2011	1716.882	890.270	527.241	316.241	170.697	120.691	60.247	27.065	6.225	149.666

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1991-2011 Mahi and Sabarmati Basin).

Table 7 : Annual dependable flow of water by site and river basin during 2011-12

XII Basin : Mahi and Sabarmati

Unit: M. C. M.

Sl. No.	Site Name	Period/ Years	Dependable flow									
			10%	20%	30%	40%	50%	60%	70%	80%	90%	Current Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anas at Chakaliya	6/1991 to 5/2012	4765.715	2919.531	1899.374	1480.809	1005.846	745.526	501.466	359.160	162.522	457.536
2	Balaram at Chitrasani	6/1990 to 5/2012	119.143	73.118	38.682	24.414	11.759	6.274	4.937	2.848	0.312	25.886
3	Banas at Abu Road	6/1989 to 5/2012	471.763	291.565	76.644	60.024	42.435	24.681	14.974	9.741	3.933	42.435
4	Banas at Kamalpur	6/1971 to 5/2012	954.862	540.176	218.944	129.840	77.651	38.003	11.470	1.982	0.000	77.651
5	Banas at Sarotry	6/1989 to 5/2012	909.786	562.023	231.113	122.504	72.269	58.307	28.666	16.106	5.608	72.269
6	Bhadar at Ganod	11/1970 to 11/2011	1635.124	796.712	452.369	357.324	199.533	139.998	83.017	63.371	18.844	702.616
7	Jakham at Dhariawad	6/1988 to 5/2012	724.064	339.728	204.598	123.784	109.657	56.072	39.363	31.993	24.967	113.597
8	Luni at Balotra	6/1990 to 2/2012	682.958	281.794	106.075	24.205	0.000	0.000	0.000	0.000	0.000	0.000
9	Luni at Gandhav	6/1974 to 7/2011	992.858	561.826	223.856	45.181	13.994	2.298	0.000	0.000	0.000	0.000
10	Machhu at Gungan	12/1970 to 5/2012	600.947	420.320	252.868	143.101	49.071	30.453	15.750	7.280	2.272	572.838
11	Mahi at Khanpur	12/1978 to 5/2012	10177.053	6737.120	4967.592	3552.972	2769.437	2068.321	1078.112	791.431	553.734	1077.910
12	Mahi at Mataji	6/1982 to 5/2012	2807.016	2127.187	1558.407	1369.013	1087.178	942.129	623.468	299.863	176.178	623.012
13	Mahi at Paderdibadi	6/1978 to 5/2012	4500.722	3205.236	2546.337	1836.753	1337.649	930.305	713.855	406.763	317.470	406.763
14	Rupen at Sapawada	8/1989 to 5/2012	224.394	166.892	99.178	61.026	29.431	24.526	17.637	4.901	0.469	80.838
15	Sabarmati at Derol Bridge	9/1991 to 5/2012	1788.396	780.996	472.965	268.874	164.156	30.462	19.517	13.351	3.209	31.577
16	Sabarmati at Kheroj	6/1992 to 5/2012	1029.015	610.035	466.181	371.282	220.023	157.711	123.422	62.384	41.846	461.671
17	Sabarmati at Voutha	8/1999 to 5/2012	6163.066	4435.418	3709.858	2724.267	1291.113	1125.940	374.296	165.914	72.893	1267.426
18	Shetrunji at Lowara	11/1970 to 5/2012	822.552	442.697	316.043	207.132	166.393	121.159	64.746	31.509	14.805	572.280
19	Som at Rangeli	7/1978 to 5/2012	1434.431	881.194	703.940	618.097	529.656	369.697	286.960	183.485	119.678	216.621
20	Wakal at Kotra( Jotasan )	6/1995 to 2/2012	512.327	265.797	157.420	103.352	99.491	61.846	50.786	42.517	19.083	185.119
21	Watrak at Gadvel (Ratanpur)	6/1991 to 5/2012	918.190	553.610	429.560	282.475	145.703	103.094	48.646	40.533	26.569	145.703
22	Watrak at Kheda	6/1989 to 5/2012	1656.456	881.153	473.976	335.698	189.930	135.178	68.044	28.407	8.300	149.666

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1991-2012 Mahi and Sabarmati Basin).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

I Basin : Mahanadi		Unit : Millimeter												
Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Andhiarkhore	6/1977 to 5/2011	6.94	26.87	40.92	40.04	15.1	5.88	3.88	2.9	2.3	1.44	0.72	0.5
2	Bamnidhi	6/1971 to 5/2011	27.92	107.67	146.6	92.1	28.19	15.65	14	10.95	8.61	7.86	7.92	7.72
3	Baronda	6/1977 to 5/2011	19.07	86.29	162.13	98.29	25.77	4.91	1.49	0.71	0.56	0.3	0.12	0.33
4	Basantpur	6/1971 to 5/2011	14.11	74.9	133.83	88.95	31.2	10.42	5.13	3.64	2.91	2.25	1.7	1.39
5	Ghatora	9/1979 to 3/2011	11.53	62.8	99.43	85.38	24.02	6.85	3.81	3.41	1.84	0.96	0.55	0.45
6	Jondhra	6/1979 to 5/2011	8.3	54.54	95.9	74.45	26.78	7.62	2.64	1.8	1.38	0.74	0.37	0.29
7	Kantamal	6/1971 to 5/2011	23.95	112.99	187.62	125	42.81	18.49	9	5.26	3.59	3.01	2.6	3.99
8	Kesinga	11/1978 to 5/2011	35.43	125.96	193.21	116.54	43.55	18.24	10.52	5.67	4.86	4.89	4.58	6.82
9	Kotni	6/1978 to 5/2011	12	53.3	105.12	58.09	21.79	4.66	0.99	0.6	0.6	0.08	0.02	0.03
10	Kurubhata	4/1978 to 2/2011	24.24	126.99	160.82	121.66	38.35	15.1	8.45	7.07	4.04	2.23	0.82	0.87
11	Manendragarh	6/1989 to 5/2011	18.01	84.75	89.06	74.27	23.38	7.15	5.63	4.15	3.05	3.01	1.23	0.07
12	Pathardih	1/1989 to 5/2011	11.23	92.34	153.87	98.05	39.14	6.56	1.72	1.24	1.54	0.69	0.6	0.89
13	Rajim	6/1971 to 5/2011	13.95	66.65	133.27	78.18	23.68	5	1.2	0.66	0.53	0.32	0.21	0.34
14	Rampur	6/1971 to 1/2011	19.77	109.51	185.61	114.79	26.65	6.65	1.41	0.85	0.6	0.4	0.33	0.11
15	Salebhata	6/1971 to 1/2011	17	94.09	169.03	96.27	22.22	5	1.17	1.15	1.32	1.07	0.64	0.45
16	Seorinarayan	12/1985 to 5/2011	12.31	72.96	118.83	85.33	31.37	8.73	2.72	1.71	1.36	0.68	0.39	0.31
17	Simga	6/1971 to 5/2011	4.79	30.64	57.86	41.6	15.43	3.84	1.36	0.95	0.76	0.4	0.27	0.24
18	Sundergarh	12/1977 to 5/2011	36.62	146.33	159.55	131.64	39.68	15.42	5.88	6.13	3.16	1.75	0.79	0.97
19	Tikarpara	6/1972 to 5/2011	13.51	73.02	127.22	89.68	30.27	12.31	7.61	6.88	6.13	6.59	6.39	6.19

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2011) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

I Basin : Mahanadi Unit : Millimeter

Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Andhiarkhore	6/1977 to 5/2012	6.778	26.530	40.395	40.278	14.773	5.895	3.852	2.847	2.238	1.394	0.698	0.504
2	Bamnidhi	6/1971 to 5/2012	27.282	105.587	144.220	90.840	27.743	15.436	13.809	10.770	8.453	7.712	7.779	7.570
3	Baronda	6/1977 to 5/2012	18.579	88.544	162.513	100.940	25.998	5.080	1.529	0.701	0.539	0.282	0.117	0.322
4	Basantpur	6/1971 to 5/2012	13.762	74.939	132.700	90.153	31.031	10.450	5.088	3.587	2.865	2.210	1.681	1.368
5	Ghatora	9/1979 to 5/2012	11.145	61.608	97.332	84.554	23.518	6.723	3.704	3.299	1.724	0.863	0.515	0.418
6	Jondhra	6/1979 to 5/2012	8.076	54.747	96.219	76.362	26.185	7.381	2.558	1.741	1.333	0.713	0.359	0.276
7	Kantamal	6/1971 to 5/2012	23.811	114.839	186.421	125.880	42.818	18.717	9.343	5.361	3.690	3.047	2.753	4.149
8	Kesinga	11/1978 to 5/2012	35.032	124.631	192.356	118.229	44.075	18.584	10.861	5.785	5.007	5.040	4.883	7.109
9	Kotni	6/1978 to 5/2012	12.003	53.436	106.474	60.210	21.134	4.516	0.956	0.579	0.581	0.085	0.020	0.034
10	Kurubhata	4/1978 to 5/2012	23.505	124.432	158.449	121.457	37.564	14.922	8.449	6.945	3.930	2.160	0.797	0.824
11	Manendragarh	6/1989 to 5/2012	17.200	83.211	87.889	72.792	22.727	6.918	5.410	3.970	2.914	2.871	1.169	0.064
12	Pathardih	1/1989 to 5/2012	11.225	92.383	152.925	99.864	38.537	6.634	1.656	1.242	1.542	0.690	0.600	0.846
13	Rajim	6/1971 to 5/2012	13.626	67.767	132.035	80.624	23.557	5.071	1.276	0.651	0.520	0.309	0.209	0.327
14	Rampur	6/1971 to 5/2012	19.271	108.289	182.626	114.799	26.310	6.655	1.421	0.835	0.588	0.393	0.318	0.109
15	Salebhata	6/1971 to 5/2012	16.178	93.189	164.463	94.739	22.172	5.324	1.220	1.140	1.319	1.037	0.647	0.432
16	Seorinarayan	12/1985 to 5/2012	11.822	72.780	116.671	87.335	30.848	8.776	2.756	1.704	1.332	0.661	0.413	0.329
17	Simga	6/1971 to 5/2012	4.679	30.713	57.542	42.198	15.279	3.830	1.369	0.935	0.747	0.397	0.273	0.246
18	Sundergarh	12/1977 to 5/2012	35.622	144.144	157.503	130.984	39.022	15.281	5.898	6.007	3.096	1.719	0.795	0.970
19	Tikarpara	5/1972 to 5/2012	13.511	72.449	127.015	91.366	30.481	12.370	7.721	6.907	6.130	6.663	6.491	6.176

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2012) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (D)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

II Basin : Subarnarekha, Burhabalang & Baitarni *Unit : Millimeter*

Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Adityapur	11/1971 to 5/2011	34.05	84.55	146.35	109.7	43.27	10.33	3.24	2.53	2.04	1.44	1.28	2.01
2	Anandpur	2/2008 to 5/2011	103.08	79.69	74.67	111.4	61.63	14.52	7.95	4.61	4.13	2.92	3.61	4.2
3	Champua	2/2008 to 5/2011	70.38	148.47	128.76	145.39	67.05	30.26	18.27	12.44	9.93	7.66	6.36	6.77
4	Ghatsila	6/1971 to 5/2011	34.39	88.7	139.23	120.83	51.81	16.52	7.13	4.17	3.17	2.4	2.1	3.03
5	Govindpur	3/1992 to 5/2011	44.06	104.09	184.96	199.31	112.28	48.12	15.19	6.85	4.87	3.75	3.93	8.65
6	Jamshedpur	2/1972 to 5/2011	33.6	101.16	165.65	141.96	63.28	21.6	8.72	5.42	3.24	2.06	1.77	2.53
7	Muri	11/1989 to 5/2011	13	68.17	105.23	107.94	74.43	49.81	41.91	27.2	17.53	11.17	6.55	5.24

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneshwar (Ordisa) (1971 to 2011)Subarnarekha, Burhabalang & Baitarni Basin (by intern

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

II Basin : Subarnarekha, Burhabalang & Baitarni *Unit : Millimeter*

Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Adityapur	11/1971 to 5/2012	33.203	82.442	142.802	107.265	42.244	10.136	3.208	2.495	2.001	1.418	1.261	1.974
2	Anandpur	3/1972 to 5/2012	42.207	92.614	174.335	134.174	66.263	20.630	6.929	5.027	3.763	2.946	2.559	5.876
3	Champua	7/1990 to 5/2012	35.506	105.483	167.320	139.076	77.149	32.813	14.904	12.612	9.025	7.661	6.315	8.086
4	Ghatsila	3/1971 to 5/2012	33.700	86.697	136.233	118.706	50.820	16.306	7.128	4.203	3.228	2.446	2.287	3.182
5	Govindpur	3/1992 to 5/2012	42.191	102.700	180.252	199.263	110.620	47.514	15.291	6.788	4.795	3.790	3.897	8.498
6	Jamshedpur	2/1972 to 5/2012	32.794	98.628	161.602	139.057	61.771	21.127	8.594	5.318	3.203	2.056	1.775	2.547
7	Muri	11/1989 to 5/2012	12.444	65.448	100.551	103.899	71.043	47.643	40.111	26.026	16.791	10.708	6.302	5.040

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1971 to 2012)Subarnarekha, Burhabalang & Baitarni Basin (Data by C



Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

III Basin : Brahmani Unit : Millimeter

Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Altuma	7/1990 to 5/2011	40.06	143.12	239.96	167.92	90.35	26.17	6.46	6.9	8.38	11.05	14.35	10.79
2	Gomlai	1/1979 to 5/2011	32.53	120.08	152.54	113.85	39.49	12.02	5.45	4.47	3.16	2.35	1.74	2.4
3	Jaraikela	8/1972 to 5/2011	33.38	115.28	154.68	121.41	45.03	14.13	6.75	5.1	3.81	2.4	1.47	2.35
4	Jenapur	7/1979 to 5/2011	21.2	90.58	135.6	108.79	50.81	21.61	14.5	12.83	10.17	11.37	10.58	10.63
5	Palposh	6/1996 to 5/2011	29.94	125.46	162.58	126.56	48.69	14.72	7.11	6.58	4.26	2.91	2.39	2.83
6	Tilga	6/1979 to 5/2011	36.33	152.52	171.42	142.14	54.22	19.54	9.03	7.34	4.68	2.93	1.57	2.15

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1972 to 2011) Brahamani Basin (by internet).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

III Basin : Brahmani Unit : Millimeter

Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Altuma	7/1990 to 5/2012	39.620	138.118	231.374	162.808	88.457	25.703	6.475	6.700	8.112	10.636	13.976	10.604
2	Gomlai	1/1979 to 5/2012	31.647	117.048	148.908	111.977	38.558	11.774	5.371	4.364	3.084	2.301	1.716	2.372
3	Jaraikela	8/1972 to 5/2012	32.655	112.666	151.291	119.367	44.315	13.903	6.704	5.010	3.732	2.349	1.451	2.339
4	Jenapur	7/1979 to 5/2012	20.983	88.297	132.259	106.102	49.641	21.159	14.206	12.607	10.052	11.303	10.596	10.853
5	Panposh	6/1996 to 5/2012	28.385	119.347	154.036	121.772	46.515	14.116	6.944	6.255	4.067	2.816	2.333	2.801
6	Tilga	6/1979 to 5/2012	35.330	149.390	168.131	140.675	53.550	19.325	9.024	7.227	4.608	2.882	1.589	2.187

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Ordisa) (1972 to 2012) Brahamani Basin (Data by CD).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali

Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
I	Basin : RUSHIKULYA													
	Purushottampur	6/1989 to 5/2011	8.04	32.32	73.24	75.14	74.07	23.34	5.87	2.44	1.24	0.72	0.37	9.32
II	Basin : VAMSADHARA													
	Kashinagar	6/1971 to 5/2011	10.21	39.59	83.75	86.49	57.9	22.96	9.32	5.18	2.95	2.3	1.94	5.68
	Gunupur	6/1989 to 5/2011	7.87	55.5	87.42	81.95	47.05	18.52	9.28	5.52	3.67	2.83	2.8	3.01
III	Basin : NAGAVALI													
	Srikakulam	8/1990 to 5/2011	9.43	32.52	54.87	66.02	50.83	19.8	9.3	4.79	2.43	1.18	1.61	4.76
IV	Basin : SARADA													
	Anakapalli	8/1989 to 5/2011	9.02	14.23	27.91	47.89	84.22	34.5	9.22	4.03	2.14	1.06	1.2	2.78

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2011) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (by internet).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

IV Basin : Rushikulya, Vamsadhara, Sarada & Nagavali

Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
I	Basin : RUSHIKULYA													
	Purushottampur	8/1989 to 5/2012	8.81	15.69	28.68	53.73	85.45	43.15	16.65	5.31	2.28	1.01	1.14	2.64
II	Basin : VAMSADHARA													
	Kashinagar	4/1971 to 5/2012	10.05	39.62	84.09	86.97	58.16	23.33	9.55	5.29	3.03	2.31	1.97	5.62
	Gunupur	6/1989 to 5/2012	7.71	54.83	88.83	82.60	46.29	17.01	8.58	5.75	3.80	2.84	2.97	2.93
III	Basin : NAGAVALI													
	Srikakulam	8/1990 to 5/2012	9.24	33.23	57.26	69.67	53.18	24.05	12.59	5.51	2.45	1.25	1.66	4.81
IV	Basin : SARADA													
	Anakapalli	8/1989 to 5/2012	8.81	15.69	28.68	53.73	85.45	43.15	16.65	5.31	2.28	1.01	1.14	2.64

Source : Chief Engineer, Mahanadi & Eastern Rivers Organisation, CWC, Mahanadi Bhawan, A-13&14, P.O. Bhoi Nagar, Bhubaneswar (Orisha) (1971 to 2012) Rushikulya, Vamsadhara, Sarada & Nagavali Basin (Data by CD)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

V Basin : Godavari			Unit : Millimeter											
Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Ambabal	06/1993 to 5/2011	16.757	95.452	156.368	98.851	36.746	9.561	4.707	4.670	2.267	1.299	1.074	1.288
2	Betmogra	06/1997 to 5/2011	0.760	6.527	36.598	27.460	32.523	1.844	0.308	0.320	0.213	0.226	0.014	0.021
3	Bhadrachalam	06/2007 to 5/2011	0.713	33.186	71.532	45.887	15.563	3.988	2.070	1.180	0.907	0.718	0.529	0.277
4	Bhatkheda	06/1991 to 4/2006	0.702	3.819	12.823	23.532	20.280	1.252	0.184	0.268	0.115	0.000	0.000	0.000
5	Cherribeda	06/1996 to 5/2011	32.843	146.939	262.537	147.664	52.663	16.428	5.738	3.525	2.206	0.854	1.158	0.340
6	Chindnar	06/1971 to 5/2011	20.738	101.170	176.072	110.475	41.191	12.478	5.815	4.030	2.568	2.043	1.658	2.464
7	Degloor	06/1987 to 5/2011	4.263	20.205	59.532	49.523	29.502	2.975	0.479	0.233	0.026	0.020	0.008	0.368
8	Dhalegaon	06/1965 to 5/2011	3.184	12.555	25.484	25.903	10.050	1.749	1.237	0.597	0.495	0.379	0.253	0.321
9	G.R.Bridge	06/1976 to 5/2011	2.586	8.134	17.513	19.050	9.282	1.614	0.908	0.527	0.452	0.368	0.213	0.262
10	Gandlapet	07/1986 to 5/2011	3.172	20.655	53.444	25.050	21.068	1.151	0.109	0.132	0.000	0.000	0.000	0.000
11	Ghargaon	07/1991 to 5/2006	69.308	452.451	412.100	152.339	41.666	7.065	2.128	0.124	0.000	0.000	0.000	0.000
12	Injarum	01/1966 to 8/2006	37.068	144.654	253.932	165.589	76.349	31.332	23.478	18.089	15.149	15.397	14.172	14.900
13	Jagdapur	06/1965 to 5/2011	26.812	102.074	162.422	108.864	41.420	14.239	9.341	6.957	4.733	4.535	3.779	4.980
14	Koida	06/1977 to 6/2006	9.121	53.554	110.883	67.689	29.744	8.051	4.800	3.585	3.046	2.882	2.317	2.333
15	Konta	12/1965 to 5/2011	35.652	115.840	208.023	136.452	72.417	34.796	27.200	23.591	21.179	22.356	20.120	20.276
16	Kosagumda	11/1996 to 5/2011	36.136	107.220	202.430	118.416	45.270	11.505	3.785	2.057	1.599	0.826	0.872	2.063
17	Mancherial	06/1966 to 5/2011	1.785	12.829	34.123	32.831	18.962	3.311	1.489	0.945	0.784	0.823	0.449	0.291
18	Murthahandi	12/1988 to 5/2011												
19	Nowrangpur	12/1965 to 5/2011	40.475	148.919	228.961	158.819	62.527	26.955	21.700	16.699	11.012	10.938	8.664	10.980
20	Pachegaon	06/1983 to 5/2011	1.055	10.443	30.473	22.561	9.771	0.766	0.106	0.007	0.002	0.000	0.000	0.000
21	Pathagudem	06/1965 to 5/2011	18.089	117.620	222.451	128.710	44.049	11.981	5.229	3.199	1.866	1.243	0.932	1.264
22	Perur	12/1965 to 5/2011	7.205	47.595	95.302	64.071	25.407	6.275	2.920	1.803	1.343	1.079	0.639	0.536
23	Polavaram	12/1965 to 5/2011	7.103	49.050	102.059	67.655	28.878	7.993	4.349	3.087	2.405	2.274	1.833	1.843
24	Potteru (Seasonal)	06/1997 to 11/2010	166.875	245.959	366.840	228.313	176.049	135.772	123.950	111.755	107.238	126.823	122.472	122.581
25	Purna	06/1969 to 5/2011	6.986	17.102	35.221	39.698	15.068	2.291	1.096	0.691	0.681	0.527	0.584	0.815
26	Saigaon	06/1967 to 5/2011	3.385	8.635	18.291	42.469	24.431	2.980	0.793	0.635	0.238	0.262	0.014	0.111
27	Sangam	06/1996 to 5/2011	3.315	26.082	64.488	48.502	15.756	5.989	3.319	0.967	0.368	0.973	0.257	0.877
28	Saradapat	06/1970 to 5/2011	99.222	288.021	494.254	324.724	156.244	67.428	47.399	35.465	29.606	28.710	27.229	32.187
29	Somanpally (Seasonal)	12/1966 to 5/2011	1.957	15.605	37.686	27.117	16.471	4.503	1.457	0.914	0.687	0.702	0.460	0.572
30	Sonarpal	12/1991 to 5/2011	19.557	107.257	176.194	115.055	33.184	8.559	2.853	1.907	1.128	0.646	0.810	0.907
31	Tumnar	12/1991 to 5/2011	30.165	140.769	273.223	175.617	74.144	21.866	8.561	5.430	3.179	2.091	2.149	2.398
32	Yelli	06/1978 to 5/2011	4.302	11.728	25.453	27.366	13.974	1.699	0.867	0.542	0.487	0.410	0.296	0.447
33	Zari	06/1987 to 5/2011	6.115	15.747	21.213	26.198	15.007	1.777	0.214	0.032	0.003	0.012	0.004	0.026
34	Ashti	06/1965 to 05/2011	11.737	85.104	164.122	97.677	27.090	7.317	3.724	2.377	1.973	1.332	0.750	0.569
35	Bamni	12/1965 to 05/2011	14.120	48.603	92.692	61.280	19.867	3.880	2.340	1.614	1.227	0.947	0.388	0.334

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Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

V Basin : Godavari Unit : Millimeter

Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
36	Bhatpalli	10/1986 to 05/2011	27.522	76.403	138.163	65.303	47.961	10.180	4.875	3.482	2.237	1.984	1.976	2.169
37	Bisnur	06/1988 to 10/2005	9.889	19.369	24.682	39.579	11.730	3.041	3.789	4.093	3.668	2.805	1.757	5.352
38	Ghughus	12/1965 to 10/2005	13.284	45.500	85.181	53.613	16.341	2.717	1.918	1.289	1.113	0.806	0.214	0.246
39	Hivra	06/1987 to 05/2011	10.647	26.223	44.378	38.906	12.118	2.750	2.763	2.152	1.680	1.502	0.651	1.395
40	Kanergaon	06/1992 to 05/2011	7.045	17.824	46.329	37.793	17.501	3.856	0.730	0.076	0.025	0.032	0.000	0.000
41	Keolari	11/1986 to 05/2011	9.895	76.785	92.648	100.433	22.971	4.387	7.497	5.154	3.455	2.660	2.383	1.295
42	Kumhari	06/1986 to 05/2011	9.476	95.264	140.456	90.298	18.868	5.732	6.056	4.337	2.771	1.716	0.682	0.671
43	Mangrul	11/1992 to 05/2011	11.526	21.394	38.771	30.728	9.862	2.073	1.759	2.342	1.200	1.070	0.668	0.480
44	Marlegaon	06/1965 to 10/2005	10.619	31.852	64.379	55.404	17.992	3.273	1.826	0.910	0.556	0.415	0.455	0.486
45	Medapalli	12/1966 to 10/2005	11.795	151.703	338.763	244.876	60.865	18.632	9.770	6.447	3.689	2.522	1.370	0.863
46	mirdapalli	10/1972 to 05/2006	36.629	171.858	340.826	202.019	94.516	38.214	18.528	14.985	11.830	11.382	10.856	9.672
47	Nandgaon	06/1986 to 05/2011	12.863	35.977	61.033	39.855	10.180	2.734	3.374	3.446	2.519	1.783	0.695	0.465
48	P.G. Bridge	06/1965 to 05/2011	14.689	41.294	83.455	59.328	21.125	4.222	2.017	1.274	0.792	0.597	0.239	0.192
49	Pauni	09/1964 to 10/2005	11.163	70.823	133.600	80.622	22.148	6.509	4.291	2.822	2.236	1.471	1.000	0.706
50	Rajegaon	06/1986 to 05/2011	12.782	128.534	190.462	117.911	30.435	7.270	3.055	1.943	1.377	1.172	0.719	1.292
51	Rajoli	06/1986 to 05/2011	8.384	83.197	153.887	66.230	23.533	5.167	0.674	0.293	0.668	0.012	0.000	0.543
52	Ramakona	11/1986 to 05/2011	13.286	69.350	92.567	88.552	26.255	6.303	4.727	2.180	1.245	1.275	0.245	0.109
53	Salebardi	06/1986 to 05/2011	10.118	77.830	146.836	73.870	18.302	4.403	1.381	0.582	0.803	0.014	0.024	0.003
54	Satrapur	05/1986 to 05/2011	9.571	33.749	45.652	55.092	13.644	5.538	4.608	3.555	2.002	1.741	1.548	1.130
55	Sirpur	02/1968 to 05/2011	15.899	49.304	95.229	60.465	20.851	4.057	2.172	1.604	1.296	0.932	0.385	0.365
56	Tekra	06/1964 to 05/2011	11.354	67.157	123.967	78.662	25.679	6.191	3.200	2.114	1.705	1.267	0.629	0.490
57	Wainagarh	08/1992 to 05/2011	17.257	93.566	145.608	81.157	17.014	2.709	0.688	0.313	0.247	0.000	0.000	0.000

Source : SE, Godavari Circle,CWC, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, CGO Complex, Block-C, 2nd Floor, Seminary Hills Nagpur, (1971 to 2011) Godavari Basin

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

V Basin : Godavari		Unit : Millimeter												
Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Ambabal	6/1993 to 5/2012	16.076	95.468	158.599	104.463	38.357	9.788	4.678	4.410	2.141	1.226	1.014	1.216
2	Betmogra	6/1997 to 5/2012	0.706	6.254	36.931	27.332	32.383	2.333	0.392	0.337	0.248	0.253	0.013	0.020
3	Bhadrachalam	6/2007 to 5/2012	0.779	36.612	87.295	75.278	17.292	5.271	2.412	1.349	0.959	0.816	0.501	0.265
4	Bhatkheda		----- Sufficient data not available -----											
5	Cherribeda	6/1996 to 5/2012	30.675	145.560	262.720	167.754	53.373	16.970	5.992	3.542	2.213	0.839	1.143	0.329
6	Chindnar	6/1971 to 5/2012	20.494	101.129	178.461	113.259	41.716	12.657	5.842	3.993	2.538	2.018	1.640	2.433
7	Degloor	6/1987 to 5/2012	4.091	19.605	59.635	49.328	29.154	3.788	0.459	0.223	0.025	0.019	0.007	0.353
8	Dhalegaon	6/1965 to 5/2012	3.115	12.369	24.975	25.472	9.857	1.711	1.210	0.584	0.484	0.370	0.248	0.314
9	G.R.Bridge	6/1976 to 5/2012	2.512	8.009	17.147	18.799	9.070	1.568	0.882	0.512	0.439	0.358	0.207	0.254
10	Gandlapet	7/1986 to 5/2012	3.040	19.829	51.381	25.839	20.190	1.105	0.105	0.127	0.000	0.000	0.000	0.000
11	Ghargaon		----- Sufficient data not available -----											
12	Injaram		----- Sufficient data not available -----											
13	Jagdapur	6/1965 to 5/2012	26.284	100.872	161.629	109.567	41.386	14.219	9.241	6.866	4.665	4.472	3.747	4.922
14	Koida		----- Sufficient data not available -----											
15	Konta	12/1965 to 5/2012	35.590	116.961	208.470	139.316	72.133	35.195	27.373	23.778	21.314	22.560	20.460	20.457
16	Kosagunda	11/1996 to 5/2012	33.811	104.570	209.829	130.406	48.289	12.981	4.442	2.181	1.709	0.858	0.951	2.148
17	Mancherial	6/1966 to 5/2012	1.746	12.582	33.661	33.468	18.805	3.310	1.477	0.932	0.779	0.818	0.448	0.291
18	Murthahandi	12/1988 to 5/2012	----- Sufficient data not available -----											
19	Nowrangpur	12/1965 to 5/2012	39.709	146.846	225.752	157.641	61.840	26.759	21.441	16.497	10.902	10.823	8.836	10.908
20	Pachegaon	6/1983 to 5/2012	1.017	10.070	29.426	22.725	90.509	0.963	0.145	0.007	0.002	0.000	0.000	0.000
21	Pathagudem	6/1965 to 5/2012	17.802	117.669	224.396	131.552	44.124	12.221	5.288	3.194	1.853	1.235	0.921	1.249
22	Perur	12/1965 to 5/2012	7.060	47.529	96.109	66.049	25.380	6.372	2.942	1.802	1.337	1.080	0.638	0.532
23	Polavaram	12/1965 to 5/2012	7.015	48.988	102.536	69.534	28.757	8.079	4.386	3.095	2.412	2.288	1.855	1.851
24	Potteru (Seasonal)	6/1997 to 11/2011	171.182	257.695	364.796	236.927	169.436	135.703	123.950	111.755	107.238	126.823	122.472	122.581
25	Purna	6/1969 to 5/2012	6.819	16.940	35.277	39.771	14.829	2.325	1.088	0.690	0.677	0.525	0.584	0.843
26	Saigaon	6/1967 to 5/2012	3.308	8.980	20.453	43.177	24.291	3.106	0.815	0.621	0.233	0.256	0.014	0.109
27	Sangam	6/1996 to 5/2012	3.425	28.965	64.550	51.455	16.873	7.267	4.444	1.105	0.428	0.930	0.319	0.882
28	Saradapat	6/1970 to 5/2012	98.163	288.210	492.736	328.888	156.253	68.187	47.917	35.594	29.786	28.841	27.824	32.735
29	Somanpally (Seasonal)	12/1966 to 1/2012	1.913	15.947	37.570	28.209	16.361	4.559	1.470	0.895	0.687	0.702	0.449	0.559
30	Sonarpal	12/1991 to 5/2012	19.169	106.759	180.827	118.963	34.544	9.322	3.038	1.891	1.120	0.646	0.77	0.863
31	Tumnar	12/1991 to 5/2012	29.907	149.826	278.170	180.006	73.906	22.906	8.790	5.443	3.176	2.085	2.174	2.371
32	Yelli	6/1978 to 5/2012	4.171	11.962	25.534	27.738	13.703	1.668	0.841	0.526	0.473	0.398	0.287	0.433
33	Zari	6/1987 to 5/2012	5.861	15.632	22.644	26.833	14.438	1.707	0.205	0.030	0.003	0.011	0.003	0.025
34	Ashti		----- Sufficient data not available -----											
35	Bamni		----- Sufficient data not available -----											

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Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

V Basin : Godavari Unit : Millimeter

Sl.No.	Site Name	Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
36	Bhatpalli	2011-2012	<----- Sufficient data not available ----->											
37	Bisnur													
38	Ghughus													
39	Hivra													
40	Kanergaon													
41	Keolari													
42	Kumhari													
43	Mangrul													
44	Marlegaon													
45	Medapalli													
46	mirdapalli													
47	Nandgaon													
48	P.G. Bridge													
49	Pauni													
50	Rajegaon													
51	Rajoli													
52	Ramakona													
53	Salebardi													
54	Satrapur													
55	Sirpur													
56	Tekra													
57	Wainagarh													

Source : SE, Godavari Circle, CWC, Hyderabad (No.WD/NAG/GB-12/2010/1238-40, dated 10.07.2012, Wainganga Division, C.G.O.Complex, Block-C, 2nd Floor, Seminary Hills Nagpur,-440006 (1971 to 2012)



Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

VI Basin : Krishna		Unit: Millimeter												
Sl. No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Arjunwad (Seasonal)	1/1969 to 11/2010	34.055	200.565	239.604	84.977	37.607	3.682	0.152	0.025	0.022	0.029	0.433	0.171
2	Bawapuram	6/1965 to 5/2011	2.151	6.187	27.710	19.513	17.114	5.315	1.388	0.600	0.394	0.339	0.334	0.953
3	Cholachguda (Seasonal)	6/1982 to 11/2010	9.776	5.186	11.815	21.477	23.445	9.110	5.063	4.008	2.479	1.432	0.781	2.491
4	Dameracherla	7/1968 to 5/2011	0.847	3.112	11.951	18.763	23.261	11.337	4.864	4.895	4.902	5.280	3.336	1.061
5	Gokak Falls (Seasonal)	7/1971 to 11/2010	32.897	225.414	288.340	73.007	32.645	11.206	6.101	4.527	2.894	2.546	2.534	2.929
6	Halia	6/1984 to 5/2011	0.930	2.230	4.164	15.833	20.462	7.249	2.409	1.515	1.236	1.333	1.031	0.467
7	Huvinhedigi	2/1976 to 5/2011	9.933	78.861	118.922	49.254	29.501	5.484	2.948	2.337	2.114	2.002	1.333	1.350
8	Karad	6/1965 to 5/2011	50.909	262.449	298.383	110.507	45.644	15.218	12.864	12.089	12.136	14.045	14.627	14.756
9	Keesara	7/1965 to 5/2011	2.646	22.459	59.901	49.047	33.691	11.948	5.572	2.742	1.556	1.504	0.986	4.303
10	Kurundwad	5/1972 to 5/2011	42.797	258.231	303.238	99.369	41.546	4.462	0.563	0.073	0.031	0.110	0.098	0.189
11	Madhira	6/1984 to 5/2011	3.417	23.227	76.186	73.438	54.428	25.236	15.263	9.205	6.578	5.975	4.233	6.589
12	Malkhed	8/1990 to 5/2011	2.593	9.441	23.376	34.329	31.103	4.704	2.111	1.537	0.963	1.188	0.432	0.507
13	Mantralayam	6/1972 to 5/2011	2.454	8.356	34.091	24.723	21.452	8.456	3.169	2.286	1.881	2.030	1.379	0.956
14	Narasingpur	12/1966 to 5/2011	6.656	53.080	82.414	46.311	22.781	3.590	1.875	1.254	0.786	1.112	0.819	1.072
15	Phulgaon (Seasonal)	6/1992 to 11/2010	15.726	194.367	243.634	96.284	28.139	2.701	0.000	0.000	0.000	0.000	0.000	0.000
16	Sadalga (Seasonal)	6/1969 to 11/2010	69.016	417.301	450.084	127.793	55.852	4.101	0.000	0.029	0.000	0.000	0.004	0.087
17	Samdoli (Seasonal)	12/1966 to 11/2010	99.286	572.752	626.470	194.651	70.263	3.709	0.551	0.041	0.000	0.000	0.013	0.000
18	Sarati	6/1965 to 5/2011	5.825	38.763	59.663	40.201	24.188	4.601	2.433	1.266	0.619	0.275	0.098	1.149
19	T Ramapuram (Seasonal)	12/1965 to 11/2010	1.334	1.154	3.184	9.901	10.997	4.749	2.429	1.190	0.583	0.265	0.154	0.672
20	Takli	6/1965 to 5/2011	4.564	32.956	56.992	38.810	23.351	3.619	1.630	0.845	0.420	0.288	0.170	0.545
21	Talikota (Seasonal)	9/1995 to 11/2010	12.966	3.646	10.956	30.071	40.772	2.752	0.810	0.306	0.134	0.065	0.044	2.005
22	Terwad (Seasonal)	8/1979 to 11/2010	101.458	651.717	722.202	205.661	65.592	0.731	0.050	0.060	0.106	0.068	0.066	0.027
23	Vijayawada	6/1965 to 5/2011	0.946	8.009	30.188	21.448	18.252	4.158	1.656	1.130	0.967	1.287	1.347	1.467
24	Wadakbal	6/1965 to 5/2011	3.872	5.253	10.592	31.192	17.628	3.886	1.228	0.546	0.318	0.149	0.112	0.714
25	Wadenapally	12/1965 to 5/2011	2.045	10.928	34.290	25.352	21.883	5.931	3.151	3.077	2.810	3.261	2.411	1.447
26	Warunji	1/1966 to 5/2011	93.307	444.063	535.047	195.540	66.350	21.888	24.605	28.416	30.412	36.468	37.964	35.254
27	Yadgir	6/1965 to 5/2011	4.252	17.109	36.276	34.350	26.685	5.310	1.954	0.880	0.483	0.362	0.128	0.533
28	Bylalahalli	6/1985 to 5/2011	4.944	12.624	28.877	26.151	37.382	22.766	4.128	2.181	1.820	2.544	5.343	7.890
29	Haralahalli	12/1966 to 5/2011	30.162	129.633	156.606	67.196	47.778	26.429	10.312	4.573	4.159	3.806	5.268	7.960
30	Holehonnur	6/2004 to 5/2011	20.239	75.137	155.771	108.947	72.920	45.747	17.445	24.071	35.574	34.394	35.860	36.375
31	Honnali	6/1980 to 5/2011	67.785	269.689	317.906	124.639	80.797	38.286	17.495	10.054	10.320	9.054	11.245	11.134
32	Hoovinahole	6/2005 to 5/2011	0.056	0.138	0.396	3.239	3.077	4.522	0.552	0.024	0.000	0.000	0.000	0.506
33	Kellodu	7/1990 to 5/2011	0.690	0.369	0.849	2.597	12.111	5.850	0.816	0.200	0.080	0.045	0.063	0.326
34	Kuppelur	7/1990 to 5/2011	10.132	42.815	71.335	33.673	39.106	16.918	2.459	0.210	0.048	0.088	0.400	0.271
35	Marol	6/1966 to 5/2011	19.357	131.295	146.553	46.983	35.001	14.361	2.889	0.434	0.132	0.037	0.125	0.936
36	Shimoga	1/1972 to 5/2011	169.446	634.343	648.315	218.600	113.687	50.519	26.379	8.183	2.794	2.511	1.747	3.306

Source : SE, Godavari &amp; Krishna Circle, (Krishna Basin) Central Water Commission, Hyderabad.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

VI Basin : Krishna			Unit: Millimeter											
Sl. No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Arjunwad (Seasonal)	01/1969 to 11/2011	33.992	199.530	237.702	88.382	36.783	3.596	0.152	0.025	0.022	0.029	0.433	0.171
2	Bawapuram	06/1965 to 05/2012	2.145	6.058	27.511	19.724	16.775	5.247	1.372	0.589	0.387	0.332	0.328	0.934
3	Cholachguda (Seasonal)	06/1982 to 11/2011	9.450	5.097	11.589	21.207	23.079	8.989	5.063	4.008	2.479	1.432	0.781	2.491
4	Dameracherla	07/1968 to 05/2012	0.845	3.123	12.074	18.614	22.964	11.309	4.824	4.810	4.855	5.221	3.270	1.041
5	Gokak Falls (Seasonal)	07/1971 to 11/2011	33.812	222.914	288.277	79.170	32.657	11.434	6.101	4.527	2.894	2.546	2.534	2.929
6	Halia	07/1984 to 05/2012	0.987	2.211	4.286	15.619	20.142	7.344	2.467	1.527	1.278	1.376	1.039	0.470
7	Huvinhedigi	02/1976 to 05/2012	9.684	78.295	117.617	50.900	28.786	5.425	2.933	2.340	2.123	1.975	1.313	1.325
8	Karad	06/1965 to 05/2012	50.075	259.585	297.082	114.093	45.142	15.044	12.590	11.832	11.877	13.746	14.316	14.442
9	Keesara	01/1965 to 05/2012	2.627	22.249	59.444	48.662	33.099	11.826	5.579	2.741	1.518	1.452	0.966	4.133
10	Kurundwad	05/1972 to 05/2012	43.291	257.636	300.830	103.231	40.627	4.351	0.549	0.071	0.030	0.108	0.096	0.184
11	Madhira	06/1984 to 05/2012	3.380	23.313	75.419	72.334	53.343	25.138	15.212	9.163	6.491	5.802	4.082	6.365
12	Malkhed	08/1990 to 05/2012	2.519	9.861	23.909	33.822	29.900	4.630	2.068	1.513	0.948	1.155	0.432	0.501
13	Mantralayam	06/1972 to 05/2012	2.442	8.152	33.838	25.000	21.018	8.347	3.135	2.259	1.847	1.981	1.359	0.948
14	Narasingpur	12/1966 to 05/2012	6.508	51.907	80.673	47.128	22.330	3.510	1.834	1.227	0.769	1.087	0.801	1.049
15	Phulgaon (Seasonal)	06/1992 to 11/2011	14.939	188.291	239.391	100.065	26.732	2.566	0.000	0.000	0.000	0.000	0.000	0.000
16	Sadalga (Seasonal)	06/1969 to 11/2011	70.055	416.836	447.868	132.792	55.153	4.005	0.000	0.029	0.000	0.000	0.004	0.087
17	Samdoli (Seasonal)	12/1964 to 11/2011	95.407	571.829	622.664	202.321	67.444	3.500	0.626	0.051	0.006	0.002	0.012	0.129
18	Sarati	06/1965 to 05/2012	5.804	37.952	58.632	40.917	23.751	4.503	2.381	1.239	0.606	0.270	0.096	1.124
19	T Ramapuram (Seasonal)	12/1965 to 11/2011	1.351	1.133	3.143	9.711	10.850	4.719	2.429	1.190	0.583	0.265	0.154	0.672
20	Takli	06/1965 to 05/2012	4.467	32.254	55.779	39.274	22.854	3.542	1.596	0.827	0.411	0.282	0.167	0.534
21	Talikota (Seasonal)	09/1995 to 11/2011	12.261	3.347	10.684	28.327	38.597	2.601	0.810	0.306	0.134	0.065	0.044	2.005
22	Terwad (Seasonal)	08/1979 to 11/2011	104.476	651.668	715.897	216.870	64.826	0.709	0.050	0.060	0.106	0.068	0.066	0.027
23	Vijayawada	01/1965 to 05/2012	0.926	7.850	29.633	21.485	17.888	4.072	1.621	1.089	0.927	1.234	1.291	1.418
24	Wadakbal	06/1965 to 05/2012	3.799	5.167	10.416	30.623	17.272	3.803	1.202	0.535	0.311	0.146	0.114	0.699
25	Wadenapally	12/1965 to 05/2012	2.008	10.754	33.669	25.526	21.546	5.906	3.116	3.032	2.764	3.216	2.369	1.419
26	Warunji	01/1966 to 05/2012	93.396	441.020	534.511	203.917	66.652	22.332	24.070	27.811	29.765	35.693	37.156	34.504
27	Yadgir	06/1965 to 05/2012	4.161	16.745	35.697	34.461	26.198	5.267	1.931	0.861	0.473	0.355	0.125	0.522
28	Bylahahalli	06/1985 to 05/2012	5.255	12.555	28.960	25.951	37.118	22.191	3.978	2.100	1.760	2.459	5.770	7.917
29	Haralahalli	12/1966 to 05/2012	30.382	129.029	155.380	68.474	47.443	26.120	10.207	4.488	4.180	3.787	5.346	7.960
30	Holehonur	06/2004 to 05/2012	21.087	76.810	148.285	119.440	72.801	43.502	16.380	23.758	40.914	36.429	38.265	35.743
31	Honnali	06/1980 to 05/2012	68.543	268.677	315.758	129.343	80.241	37.858	17.280	9.930	10.637	9.186	11.425	11.149
32	Hoovinahole	06/2005 to 05/2012	0.048	0.118	0.339	2.776	2.637	3.876	0.473	0.021	0.000	0.000	0.000	0.434
33	Kellodu	07/1990 to 05/2012	0.661	0.352	0.810	2.479	11.621	5.595	0.777	0.190	0.076	0.043	0.060	0.310
34	Kuppelur	07/1990 to 05/2012	9.649	41.960	70.456	35.093	38.721	17.204	3.057	0.201	0.046	0.084	0.382	0.259
35	Marol	06/1966 to 05/2012	19.807	131.661	145.898	49.192	35.184	14.468	3.002	0.425	0.129	0.036	0.123	0.916
36	Shimoga	01/1972 to 05/2012	171.036	633.903	646.728	225.230	113.632	50.631	26.313	8.120	2.800	2.513	1.801	3.286

Source : SE, Krishna Circle, Central Water Commission, Hyderabad.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

VII Basin : Cauvery Unit: Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Akkihebbal	2002-2011	4.241	30.604	67.103	33.844	37.825	25.668	17.857	6.771	3.205	4.943	6.861	6.452
2	Bendrehalli	2006-2011	0.220	0.250	1.464	3.289	4.814	6.415	3.065	1.054	0.639	0.550	0.448	0.505
3	Biligundulu	1971-2011	7.879	32.826	47.902	31.200	31.317	20.228	11.637	5.674	3.850	3.712	4.224	5.625
4	Chunchankatte	2008-2011	19.599	186.074	113.231	121.694	65.446	65.803	36.669	7.667	0.991	0.000	0.000	0.408
5	Hogenakkal	1996-2011	0.097	0.019	1.125	1.718	14.906	8.480	4.509	1.460	0.534	0.231	0.366	0.666
6	K.M.Vadi	1979-2011	29.615	91.111	68.150	23.056	17.021	9.921	3.921	1.131	0.176	0.134	0.208	0.544
7	Kollegal	1971-2011	13.557	60.719	83.374	42.360	37.137	25.502	15.437	8.538	5.742	5.619	6.343	7.800
8	Kudige	1972-2011	137.757	437.900	443.035	153.212	93.323	48.132	24.894	14.525	10.531	7.789	9.348	14.392
9	M.H.Halli	1978-2011	16.393	63.448	96.586	51.959	40.640	31.976	21.577	14.675	15.769	16.814	19.402	17.902
10	Sakleshpur	2002-2011	164.291	530.496	516.428	273.607	174.743	100.993	50.482	26.746	13.035	9.450	6.742	12.848
11	T.Bekuppe	2003-2011	4.705	7.381	7.820	14.782	11.561	6.147	3.725	2.335	1.558	2.234	3.257	5.813
12	T.K.Halli	1978-2011	2.954	2.870	7.985	21.479	25.106	14.392	7.445	2.778	1.434	1.463	1.596	2.526
13	T.Narasipur	1971-2011	29.099	104.928	110.348	51.633	39.768	26.961	15.634	6.938	5.819	7.195	10.239	14.677
14	Thimmanahalli	2002-2011	8.495	31.522	46.895	39.672	45.753	27.653	7.440	3.781	2.390	4.838	5.166	5.144
15	Urachikottai	1979-2011	6.927	18.821	28.569	28.400	23.476	14.323	12.322	14.964	3.373	2.140	1.931	1.757
16	Nellithurai	1979-2011	100.555	263.556	145.762	81.112	96.786	112.304	48.660	30.524	24.524	29.627	20.926	20.228
17	Thengumarahada	1979-2011	15.284	27.972	32.342	24.101	28.674	31.759	16.158	10.517	10.423	11.934	11.383	11.047
18	Savandapur	1978-2011	5.487	12.819	11.227	9.998	11.529	20.401	11.715	9.629	6.956	7.452	6.433	4.257
19	Nallamaranpatti	1977-2011	0.153	0.758	1.361	1.077	2.202	15.945	9.174	1.493	0.642	0.456	0.063	0.090
20	Kodumudi	1971-2011	5.228	18.173	27.183	26.737	21.799	17.310	14.610	13.793	5.125	3.023	2.453	2.295
21	Musiri	1972-2011	3.246	12.696	20.636	21.026	17.954	16.578	12.156	10.213	3.078	1.308	0.750	0.641
22	Elunuthimangalam	1998-2011	0.435	0.902	1.235	1.275	4.965	8.640	6.094	2.743	0.752	0.950	0.771	0.962
23	Sevanur	1999-2011	0.028	0.020	0.164	2.353	11.669	6.530	5.838	2.560	0.617	0.275	0.224	0.020
24	Thevur	1999-2011	0.000	0.000	2.915	5.905	3.961	3.989	2.192	0.426	0.019	0.039	0.026	0.021
25	Thoppur	1999-2011	0.301	0.000	0.286	0.297	2.229	3.634	4.987	1.174	0.121	0.170	0.204	0.232
26	Kudlur	1999-2011	1.000	0.507	1.373	4.529	10.098	22.408	9.569	4.168	2.975	1.809	5.269	5.880
27	Muthankera	1973-2011	271.4	621.4	545.2	218.3	147.6	84.92	40.48	19.84	9.524	7.143	12.70	23.81

Source : Water Year Book for 1971-2011, (Cauvery Basin) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

VII Basin : Cauvery Unit: Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Akkihebbal	2011-2012	26.319	31.206	59.147	94.758	65.539	63.626	42.384	21.181	11.126	6.978	6.738	5.046
2	Bendrehalli	2011-2012	0.645	0.527	1.68	2.567	3.416	4.116	1.374	0.3	0.133	0.034	0.002	0.000
3	Biligundulu	2011-2012	101.669	328.324	394.81	615.832	348.081	354.028	150.848	58.183	50.581	48.556	68.282	62.952
4	Chunchankatte	2011-2012	93.555	181.717	207.59	182.153	65.042	54.74	30.288	3.013	0.000	0.000	0.000	0.000
5	Hogenakkal	2011-2012	0.433	0.02	0.216	0.058	0.087	1.031	0.501	0.132	0.000	0.000	0.000	0.000
6	K.M.Vadi	2011-2012	19.515	27.303	30.155	32.069	16.552	7.939	0.704	0.000	0.000	0.000	0.000	0.000
7	Kollegal	2011-2012	77.092	360.382	397.928	627.727	220.323	243.867	82.861	31.391	24.788	23.575	33.604	33.57
8	Kudige	2011-2012	121.264	241.23	239.603	200.054	62.09	51.604	25.18	12.266	6.502	3.651	8.148	5.835
9	M.H.Halli	2011-2012	18.858	24.064	79.541	94.357	30.457	36.902	27.866	13.734	6.899	6.127	4.19	7.765
10	Sakleshpur	2011-2012	63.41	107.898	102.994	89.62	35.73	23.573	12.559	7.206	3.757	1.077	3.492	2.445
11	T.Bekuppe	2011-2012	8.083	8.23	15.123	8.751	14.881	8.89	7.318	6.473	4.102	3.675	3.849	5.32
12	T.K.Halli	2011-2012	12.886	8.671	28.91	23.127	64.113	50.587	26.816	8.589	6.576	3.118	5.05	5.467
13	T.Narasipur	2011-2012	33.094	164.84	167.523	251.812	109.241	103.535	25.761	10.018	8.826	14.593	32.122	30.526
14	Thimmanahalli	2011-2012	4.099	4.986	10.624	16.817	16.435	14.385	2.809	1.801	2.161	0.884	1.829	1.42
15	Urachikottai	2011-2012	356.71	523.33	420.898	536.771	320.261	123.282	241.875	249.927	62.951	59.494	52.236	33.683
16	Nellithurai	2011-2012	111.705	117.164	84.167	152.855	65.853	121.459	52.671	38.55	51.744	46.031	23.668	16.045
17	Thengumarahada	2011-2012	7.157	6.736	10.517	19.601	13.45	15.169	7.216	7.37	6.002	6.456	8.445	9.906
18	Savandapur	2011-2012	16.109	16.314	13.46	20.639	22.244	30.641	19.059	17.665	14.788	18.924	18.09	6.438
19	Nallamaranpatti	2011-2012	0.000	0.000	0.000	0.653	0.41	46.035	23.073	1.213	0.858	0.000	0.000	0.000
20	Kodumudi	2011-2012	369.305	536.046	451.345	604.379	464.922	285.558	310.443	301.277	135.825	108.822	79.217	71.351
21	Musiri	2011-2012	330.581	452.964	441.289	512.49	396.664	317.186	299.949	231.435	79.85	42.285	26.353	21.447
22	Elunuthimangalam	2011-2012	2.218	0.488	0.997	1.693	6.31	28.978	14.203	5.258	3.182	1.662	1.237	1.42
23	Sevanur	2011-2012	0.000	0.000	0.021	0.251	0.622	0.745	0.647	0.206	0.006	0.000	0.000	0.000
24	Thevur	2011-2012	0.000	0.000	0.21	0.7	1.598	1.721	1.16	0.544	0.029	0.000	0.000	0.000
25	Thoppur	2011-2012	0.066	0.075	0.078	0.082	0.076	0.25	0.062	0.005	0.071	0.019	0.000	0.000
26	Kudlur	2011-2012	0.533	0.334	0.55	0.317	0.604	2.124	1.047	0.458	0.056	0.000	0.000	0.818
27	Muthankera	2011-2012	174.506	206.383	211.738	198.312	76.163	47.898	16.608	5.963	2.957	2.618	5.05	3.478

Source : Water Year Book for 1971-2012, (Cauvery Basin) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari Unit: Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Gummanur	1978-2011	1.590	1.138	2.386	10.873	15.650	8.582	3.198	1.247	0.469	0.305	0.309	1.041
2	Avarankuppam	1978-2011	0.187	0.268	0.438	3.904	5.603	4.409	1.740	0.313	0.125	0.052	0.031	0.096
3	Theni	1978-2011	15.570	43.409	61.533	57.319	77.862	104.040	65.397	36.477	19.909	14.170	6.918	5.263
4	Murappanadu	1977-2011	5.341	5.021	4.738	4.013	7.016	41.117	27.590	9.178	9.339	9.763	4.356	4.124
5	A.P.Puram	1979-2011	0.120	0.507	0.386	0.056	0.745	8.741	5.069	1.652	0.619	3.481	0.311	0.147
6	Paramakudi	1971-2011	0.009	0.024	0.042	0.391	1.983	11.700	3.945	0.273	0.233	1.088	0.085	0.047
7	Irukkankudi	1989-2011	0.030	0.031	0.017	0.022	2.274	8.842	4.793	0.253	0.105	0.071	0.206	0.016
8	Ambasamudram	1999-2011	0.232	0.489	1.064	1.350	13.411	30.314	23.401	6.109	3.279	7.189	3.032	0.763
9	Nellore	1988-2011	0.135	0.268	1.013	4.166	10.853	7.271	3.339	0.390	0.025	0.020	0.006	0.145
10	Nandipalli	1990-2011	4.630	0.887	2.354	3.779	19.856	11.136	4.441	1.261	0.622	0.229	0.187	0.118
11	Chennur	1990-2011	2.413	2.003	6.653	12.206	21.752	6.400	3.882	1.474	0.620	0.240	0.069	0.154
12	Kamalapuram	1990-2011	0.819	0.030	0.653	3.472	8.094	7.418	1.870	0.285	0.032	0.000	0.010	0.004
13	Alladupalli	1986-2011	5.740	9.629	27.082	37.962	54.643	17.281	12.128	6.155	2.204	0.957	96.000	0.399
14	Tadapatri	1972-2011	0.291	0.819	0.846	5.453	7.487	5.228	1.148	0.453	0.088	0.023	0.008	0.138
15	Nagalamadike	1978-2011	0.004	0.090	0.496	4.242	1.654	0.773	0.044	0.011	0.013	0.000	0.000	0.056
16	Singavaram	1980-2011	0.408	1.004	0.737	5.521	4.441	1.973	0.125	0.024	0.007	0.035	0.000	0.004
17	Naidupeta	1979-2011	0.571	0.063	0.365	0.534	9.425	55.030	39.560	7.834	3.931	0.105	0.013	0.381
18	Sullurpet	1989-2011	0.694	0.058	0.068	0.053	5.941	16.173	9.195	2.500	0.029	0.000	0.000	0.116
19	Chengalpattu	1979-2011	0.048	0.049	0.084	0.327	1.256	8.511	6.662	0.476	0.168	0.109	0.003	0.002
20	Magaral	1972-2011	0.000	0.190	0.117	0.633	1.948	27.988	29.292	1.888	0.844	0.535	0.000	0.011
21	Arcot	1979-2011	0.005	0.001	0.041	1.739	2.188	5.869	2.346	0.180	0.055	0.041	0.000	0.001
22	Kumarapalayam	2004-2011	0.000	0.000	0.000	0.000	0.000	10.553	5.304	0.000	0.000	0.000	0.000	0.000
23	Villupuram	1972-2011	0.000	0.008	0.015	0.101	2.849	11.551	8.933	0.697	0.100	0.061	0.059	0.047
24	Vazhavachanur	1978-2011	0.080	0.116	0.090	0.623	5.727	10.309	7.534	1.385	1.186	0.921	0.795	0.363
25	Kudalaiyathur	1990-2011	0.000	0.000	0.000	0.022	1.519	21.687	16.383	0.822	0.107	0.073	0.000	0.022

Source : Water Year Book for 1971-2011, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

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## VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Unit: Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Gummanur	2011-2012	8.077	6.477	10.647	7.442	18.271	10.804	5.397	2.998	1.619	0.674	0.868	8.925
2	Avarankuppam	2011-2012	0.059	0.007	1.848	0.263	0.487	0.555	0.219	0.073	0.000	0.000	0.000	0.035
3	Theni	2011-2012	14.401	24.327	31.09	31.878	37.713	54.39	45.927	25.107	5.959	0.959	2.119	2.602
4	Murappanadu	2011-2012	14.189	9.69	4.751	9.015	9.283	31.042	18.423	10.716	12.833	8.113	2.988	5.583
5	A.P.Puram	2011-2012	0.000	0.000	0.000	0.000	0.002	0.82	0.215	0.058	0.07	0.062	0.052	0.043
6	Paramakudi	2011-2012	0.000	0.000	0.000	0.000	0.000	4.31	5.618	0.000	0.000	0.000	0.000	0.000
7	Irukkankudi	2011-2012	0.000	0.000	0.000	0.000	0.000	0.302	1.623	0.317	0.000	0.000	0.000	0.000
8	Ambasamudram	2011-2012	0.000	0.000	0.000	0.000	7.732	19.355	7.775	3.027	0.183	0.000	0.000	0.000
9	Nellore	2011-2012	3.106	2.727	5.85	4.883	10.237	59.826	13.252	12.314	1.653	1.185	3.067	2.672
10	Nandipalli	2011-2012	0.461	0.573	2.798	1.237	3.415	10.796	6.912	4.982	1.598	0.465	0.281	0.497
11	Chennur	2011-2012	6.353	12.831	221.513	290.595	153.451	87.093	82.065	56.464	11.403	2.171	0.627	2.555
12	Kamalapuram	2011-2012	0.000	0.000	7.246	0.000	3.446	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	Alladupalli	2011-2012	5.231	11.767	198.815	215.929	112.923	70.288	70.878	46.323	15.451	5.045	2.027	2.736
14	Tadapatri	2011-2012	0.000	0.000	0.344	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	Nagalamadike	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	Singavaram	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	Naidupeta	2011-2012	0.000	0.000	0.000	0.000	0.000	23.599	10.35	6.469	1.055	2.784	0.147	0.000
18	Sullurpet	2011-2012	0.000	0.000	0.744	0.000	0.657	33.023	15.592	3.798	0.000	0.000	0.000	0.000
19	Chengalpattu	2011-2012	0.000	0.000	0.000	0.951	2.72	14.091	8.209	10.112	0.092	0.000	0.000	0.000
20	Magaral	2011-2012	0.000	0.000	0.000	0.000	0.000	2.808	1.106	2.385	0.000	0.000	0.000	0.000
21	Arcot	2011-2012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	Kumarapalayam	2011-2012	0.000	0.000	0.000	0.000	0.000	15.844	17.33	20.504	0.000	0.000	0.000	0.000
23	Villupuram	2011-2012	0.000	0.000	0.000	0.000	0.643	14.563	5.375	21.083	0.000	3.222	0.000	0.000
24	Vazhavachanur	2011-2012	0.491	0.07	0.865	0.483	2.964	10.583	13.227	18.988	3.506	23.369	2.164	1.547
25	Kudalaiyathur	2011-2012	0.000	0.000	0.000	0.000	0.000	89.652	41.663	37.675	0.000	0.000	0.000	0.000

Source : Water Year Book for 1971-2012, (East Flowing Rivers from Mahanadi to Kanyakumari) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi

Unit : Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ADDOOR	2003-2011	404.239	1134.089	954.781	568.138	310.038	137.834	9.046	0.000	0.000	0.000	0.000	10.919
2	AVERSHE	2002-2011	470.073	1501.391	1517.093	716.082	341.435	134.205	45.740	19.450	5.896	3.528	1.070	7.772
3	BANTWAL	1970-2011	373.815	1129.347	1099.242	480.850	297.497	127.986	38.090	13.631	5.143	3.117	2.425	9.086
4	HALADI	1985-2011	301.303	905.632	828.795	358.277	202.304	119.109	87.695	90.422	92.355	114.026	104.423	95.431
5	SANTEGULI	1988-2011	365.211	1552.994	1177.411	437.757	212.754	86.186	37.823	20.302	11.552	8.138	5.829	8.396
6	YENNEHOLE	1989-2011	594.900	1652.028	1312.516	539.679	323.804	125.630	42.387	12.503	2.997	3.283	1.478	12.503
7	ARANGALY	1978-2011	183.5	384.8	321.1	175.5	139.0	92.22	26.80	16.33	10.39	9.949	11.91	21.86
8	ASHRAMAM	1999-2011	15.54	34.46	21.30	62.14	104.8	128.2	16.58	11.28	11.55	17.61	17.34	8.596
9	AYILAM	1979-2011	170.2	171.6	129.8	147.4	236.1	179.3	59.73	15.99	8.115	9.848	21.75	49.39
10	ERINJIPUZHA	1989-2011	210.8	709.2	694.2	310.9	214.6	109.2	42.96	18.60	5.938	2.285	1.736	12.08
11	KALAMPUR	1988-2011	420.4	782.4	583.1	377.6	358.8	178.9	46.16	10.88	1.668	0.602	4.213	48.83
12	KALLOPPARA	1985-2011	399.2	550.0	388.8	285.4	341.9	212.4	32.83	5.922	4.073	2.300	24.55	109.8
13	KARATHODU	1988-2011	208.7	540.7	333.0	205.9	223.9	135.0	32.45	9.190	3.561	4.155	3.937	11.88
14	KIDANGOOR	1985-2011	481.7	639.2	455.8	314.9	391.0	230.7	38.17	6.907	2.089	4.450	31.24	136.0
15	KUMBIDI	1980-2011	102.2	226.7	166.3	92.62	88.30	57.18	17.00	8.660	3.132	1.640	2.512	7.221
16	KUNIYIL	1981-2011	333.7	673.6	508.0	268.2	224.9	128.4	39.40	20.49	6.764	4.937	3.749	23.28
17	KUTTYADI	2000-2011	698.2	1383	1024	602.0	429.9	180.7	128.5	67.15	36.86	20.87	19.68	123.5
18	KUZHITHURAI	2000-2011	2.858	8.827	4.692	10.72	43.80	42.67	7.395	2.808	0.765	0.239	0.789	0.784
19	MALAKKARA	1985-2011	313.3	473.5	369.1	280.5	317.9	208.0	65.35	34.94	16.98	17.71	31.88	86.19
20	MANKARA	1985-2011	21.31	64.92	44.18	31.30	32.01	32.21	10.85	5.171	2.345	1.414	1.485	2.552
21	NEELESWARAM	1971-2011	223.9	406.5	365.3	206.5	182.8	117.3	46.63	23.95	19.16	21.65	28.75	53.10
22	PATTAZHY	1978-2011	132.5	181.1	156.3	133.4	183.5	173.0	62.56	35.32	21.78	24.71	26.05	40.76
23	PERUMANNU	1985-2011	413.6	1163	929.9	427.3	262.8	107.8	29.29	14.22	7.251	7.185	5.213	30.24
24	PUDUR	1985-2011	17.30	46.06	32.47	21.21	25.07	33.54	13.58	6.436	3.422	3.093	2.813	3.519
25	PULAMANTHOLE	1987-2011	211.7	499.5	366.8	246.2	258.1	141.2	38.06	13.72	6.188	6.770	11.47	29.78
26	RAMAMANGALAM	1978-2011	538.8	791.2	629.4	421.0	437.5	306.0	170.9	145.6	133.9	145.9	151.9	206.9
27	THUMPAMON	1977-2011	209.6	284.7	217.9	169.6	233.8	185.6	35.12	9.536	4.375	3.949	13.88	41.64
28	VANDIPERIYAR	2000-2011	31.21	64.82	57.38	31.10	31.93	31.13	5.681	1.456	0.461	0.238	0.408	3.494
29	AMBARAMPALAYAM	1978-2011	16.973	17.685	25.517	38.645	34.740	74.229	45.999	40.385	29.442	16.291	7.303	11.185

Source : Water Year Book for 1970-2011, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi Unit : Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	ADDOOR	2011-2012	140.815	314.401	269.317	183.384	60.912	55.058	3.076	0.000	2.706	0.000	0.000	0.000
2	AVERSHE	2011-2012	63.427	177.054	155.550	116.306	22.968	13.923	3.718	1.069	0.181	0.000	0.000	0.000
3	BANTWAL	2011-2012	545.529	1190.707	1228.763	962.324	329.589	254.239	47.882	18.038	7.039	2.245	2.737	5.157
4	HALADI	2011-2012	87.429	208.899	161.395	147.526	62.114	71.618	27.160	29.376	31.703	34.575	44.611	41.002
5	SANTEGULI	2011-2012	150.292	429.105	306.191	294.183	45.705	18.275	9.474	7.248	4.092	2.333	2.493	1.959
6	YENNEHOLE	2011-2012	99.453	191.609	168.450	121.207	30.824	30.403	6.012	1.430	0.336	0.013	0.000	0.000
7	ARANGALY	2011-2012	118.223	134.308	209.092	202.814	53.253	46.988	7.699	0.000	0.000	0.000	0.000	0.000
8	ASHRAMAM	2011-2012	0.998	1.793	0.000	1.609	4.698	18.051	5.823	0.673	1.837	1.169	0.633	0.000
9	AYILAM	2011-2012	54.927	25.295	16.284	31.107	11.901	16.326	18.861	8.033	0.000	0.000	7.431	2.462
10	ERINJIPUZHA	2011-2012	127.031	260.742	302.077	193.077	69.098	66.555	20.050	8.379	3.497	0.285	0.000	0.503
11	KALAMPUR	2011-2012	61.092	95.127	108.073	81.096	25.661	24.134	4.537	0.000	0.000	0.000	0.000	0.000
12	KALLOOPARA	2011-2012	154.632	108.988	144.637	108.349	44.811	48.988	22.609	11.441	0.275	0.000	18.574	13.611
13	KARATHODU	2011-2012	108.618	99.230	112.446	116.218	48.232	53.562	7.029	0.000	0.000	0.000	0.000	0.000
14	KIDANGOOR	2011-2012	194.325	111.751	129.066	88.473	48.665	40.414	15.665	4.235	0.000	0.000	7.613	10.924
15	KUMBIDI	2011-2012	391.559	352.107	483.153	498.705	141.900	222.969	42.284	20.288	11.130	2.354	5.152	8.730
16	KUNIYIL	2011-2012	452.518	386.272	386.168	413.706	138.531	127.602	33.072	0.000	0.000	0.000	0.000	0.000
17	KUTTYADI	2011-2012	98.119	112.783	112.321	105.597	34.137	22.723	15.244	7.478	3.387	3.408	5.422	6.230
18	KUZHITHURAI	2011-2012	0.000	0.000	0.000	0.000	0.000	1.666	0.000	0.000	0.000	0.000	0.000	0.000
19	MALAKKARA	2011-2012	302.856	239.072	284.108	236.888	85.891	99.571	43.505	15.918	0.000	0.000	18.594	36.179
20	MANKARA	2011-2012	50.730	39.681	67.279	100.458	18.567	66.046	13.272	5.864	3.378	0.347	0.942	1.797
21	NEELESWARAM	2011-2012	403.705	482.371	584.300	476.009	129.113	190.305	80.516	49.445	91.449	97.973	128.848	126.692
22	PATTAZHY	2011-2012	57.571	58.519	59.133	76.219	50.996	70.899	55.919	27.581	16.305	24.383	27.558	15.359
23	PERUMANNU	2011-2012	237.621	404.409	383.572	341.621	73.661	57.256	18.582	10.031	5.013	4.428	3.116	2.705
24	PUDUR	2011-2012	16.043	14.369	20.002	28.265	7.910	32.105	8.067	2.891	1.614	0.519	0.896	2.081
25	PULAMANTHOLE	2011-2012	183.970	145.207	159.298	187.940	72.865	67.512	12.685	4.793	2.964	1.720	6.571	4.434
26	RAMAMANGALAM	2011-2012	331.291	311.945	326.971	296.258	184.280	141.929	91.076	63.538	96.723	110.413	90.799	89.521
27	THUMPAMON	2011-2012	95.253	55.956	69.575	59.096	29.014	25.480	14.868	3.889	0.000	0.000	9.911	7.252
28	VANDIPERIYAR	2011-2012	14.002	8.778	11.916	9.691	4.013	6.433	3.456	0.839	0.223	0.006	0.000	0.004
29	AMBARAMPALAYAM	2011-2012	9.102	9.139	10.626	18.855	12.688	32.441	18.833	15.289	11.876	7.353	3.465	7.285

1970-2012, (West Flowing Rivers from Kanyakumari to Tapi) SE (Coord.), Cauvery &amp; Southern Rivrs Organisation, CWC, Bangalore, (Received data in CD's)



Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

X Basin : Tapi

Unit : Millimeter

SL.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Kim at Motinaroli	10/1990 to 5/2010	54.916	155.099	137.401	95.770	25.993	13.369	9.990	7.775	6.522	5.874	5.986	6.224
2	Dhadhar at Pingalwada	6/1989 to 5/2010	11.701	53.220	80.183	45.366	4.972	2.187	1.774	1.612	1.314	1.262	1.098	1.066
3	Ambica at Gadat	3/1979 to 5/2010	65.187	289.450	361.597	205.156	52.341	11.235	5.495	3.805	3.005	2.575	2.191	4.116
4	Damanganga at Nanipalsan	6/1991 to 6/2010	54.991	357.219	441.679	261.593	81.957	17.109	3.695	0.720	0.159	0.036	0.000	0.000
5	Purna at Mahuwa	6/1971 to 5/2010	44.567	191.696	253.017	149.614	33.926	7.291	3.557	2.093	1.583	1.415	1.254	1.243
6	Vaitarna at Durvesh	6/1971 to 5/2010	88.552	552.612	567.488	285.971	64.495	10.373	2.410	1.226	1.028	0.915	0.616	0.287
7	Wagh at Ozerkheda	6/1991 to 6/2010	101.119	498.905	577.311	296.132	84.953	16.518	4.175	1.294	0.399	0.223	0.088	0.034

Source : Executive Engineer, Tapi Division, CWC, Surat, Water Year Books of Independent Tapi Basin for the period of 1995-2010 (Data Received Soft Copy from Internet).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

X Basin : Tapi

Unit : Millimeter

SL.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	GIDHADE	6/1991 to 5/2012	4.015	20.092	38.601	38.238	7.262	1.061	0.976	0.165	0.020	0.004	0.003	0.099
2	Purna at Gopalkheda	6/1977 to 5/2012	5.739	20.229	38.561	25.035	9.556	2.346	2.153	0.984	0.867	0.598	0.865	0.414
3	Purna at Yerli	4/1973 to 5/2012	8.156	24.041	46.727	32.219	12.396	2.458	1.838	0.755	0.629	0.428	0.200	0.103
4	SARANGKHEDA	6/1977 to 5/2012	6.199	23.011	52.716	37.614	11.071	1.680	1.319	0.449	0.356	0.237	0.146	0.199
5	Tapi at Burhanpur	9/1972 to 5/2012	15.278	107.313	224.908	146.491	29.367	6.643	3.497	1.606	1.030	0.709	0.345	0.202

Source : Executive Engineer, Tapi Division, CWC, Surat, Water Year Books of Independent Tapi Basin for the period of 1995-2012 (Data Received Soft Copy from Internet).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

XI Basin : Narmada			Unit : Millimeter												
Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
1	Orsang at Chandawada	1980-81 To 2010-11	14.01	68.96	153.47	84.21	11.70	1.85	0.69	0.31	0.18	0.20	0.16	0.18	
2	Narmada at Garudeswar	1973-74 To 2010-11	8.40	50.02	116.30	89.06	24.83	9.29	7.42	5.42	4.66	3.46	2.85	2.54	
3	Hathni at Jobat	2001-02 To 2005-06	<----- Discharge started w.e.from 09.08.2001 and closed on 1.4.2006 ----->												
4	Goi at Pati	1999-00 To 2005-06, 2008-09 To 2010-11	10.55	14.66	47.6	59.86	16.25	4.93	1.73	0.40	0.10	0.03	0.00	0.00	
5	Uri at Dhulsar	2008-09 To 2010-11	3.75	6.22	47.39	32.81	7.50	0.25	0.06	0.00	0.00	0.00	0.00	0.00	
6	Narmada at Rajghat	1972-73 To 2006-07	10.44	67.41	153.68	110.35	25.81	10.44	8.90	7.01	6.34	5.19	3.83	3.01	
7	Narmada AT Mandleswar	1972-73 To 2010-11	11.31	67.90	150.10	106.54	31.34	12.55	11.17	8.88	7.22	6.42	5.20	4.19	
8	Kundi at Kogaon	1978-79 To 2010-11	15.46	33.93	81.38	78.10	23.58	4.80	1.51	0.62	0.55	0.19	0.13	0.09	
9	Chhota Tawa at Ginnore	1971-72 To 1998-99	18.15	93.16	7.42	4.59	1.49	0.35	0.18	0.20	0.13	0.10	0.08	0.07	
10	Narmada at Motakka	1919-00 To 2006-07	<----- Discharge started w.e. from 23.08.1999 and closed on 1.7.2007 ----->												
11	Narmada at Handia	1977-78 To 2010-11	11.98	76.61	159.34	99.15	27.70	12.87	12.83	9.44	8.90	7.93	5.94	4.74	
12	Ganjal at Chhidgaon	1977-78 To 2010-11	15.50	113.30	233.83	132.56	32.40	7.41	4.77	3.29	2.12	1.59	0.97	0.79	
13	Narmada at Hoshangabad	1972-73 To 2010-11	15.25	78.98	174.30	112.03	30.47	14.13	12.71	9.32	8.67	7.86	6.35	5.50	
14	Tawa at Tawakati	2001-02 To 2005-06	<----- Discharge started w.e.from 09.08.2001 and closed on 1.4.2006 ----->												
15	Machna at Shapur	2001-02 To 2005-06	<----- Discharge started w.e.from 20.06.2000 and closed on 1.4.2006 ----->												
16	Narmada at Sandia	1978-79 To 2010-11	11.03	69.27	140.22	98.30	28.57	15.67	14.67	10.48	10.04	9.21	7.97	7.08	
17	Shakkar at Gadarwara	1977-78 To 2010-11	16.28	108.07	226.55	152.63	33.03	10.12	6.99	4.46	3.87	2.82	1.85	1.47	
18	Narmada at Barmanghat	1972-73 To 2010-11	11.12	68.35	154.03	96.13	30.81	15.85	13.63	9.47	9.77	8.37	7.64	5.68	
19	Sher at Belkheri	1977-78 To 2010-11	16.07	107.14	190.91	109.21	20.58	7.63	5.34	2.35	2.13	1.82	0.90	0.71	
20	Hiran at Patan	1979-80 To 2010-11	8.76	59.67	139.46	111.76	32.00	10.70	6.23	4.50	3.55	2.75	1.84	1.19	
21	Banjar at Bamni	1999-00 To 2010-11	21.24	149.02	298.05	195.60	63.52	17.49	6.31	3.74	2.17	0.66	0.10	0.00	
22	Narmada at Jamtara	1972-73 To 2000-01	13.94	104.47	204.07	106.21	38.42	19.75	15.60	8.52	12.46	10.46	9.61	6.99	
23	Banjar at Hridayanagar	1977-78 To 2001-02	18.67	127.18	190.36	114.51	28.37	7.95	3.80	3.26	2.51	1.38	0.29	0.06	
24	Burhner at Mohgaon	1978-79 To 2010-11	19.59	126.31	201.83	120.36	28.94	7.75	7.66	5.36	3.82	1.55	0.49	0.23	
25	Narmada at Amgaon	2001-02 To 2005-06	<----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->												
26	Narmada at Manot	1977-78 To 2010-11	25.85	151.63	243.19	148.95	33.00	11.29	7.85	8.04	5.00	2.77	1.25	0.61	
27	Narmada at Dindori	1988-89 To 2010-11	26.04	107.95	170.19	113.34	30.41	14.69	10.06	9.64	6.09	4.59	2.67	2.17	

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganistion, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2010 to May, 2011) Narmada Basin.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

XI Basin : Narmada			Unit : Millimeter											
Sl.No.	Site Name	Reference Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Orsang at Chandawada	1980-81 To 2011-12	14.02	69.75	161.67	90.08	12.10	2.02	0.73	0.32	0.19	0.21	0.17	0.18
2	Narmada at Garudeswar	1973-74 To 2011-12	8.60	49.14	115.72	90.78	24.64	9.15	7.32	5.42	4.63	3.61	2.66	2.70
3	Hathni at Jobat	2001-02 To 2005-06	----- Discharge started w.e.from 09.08.2001 and closed on 1.4.2006 ----->											
4	Goi at Pati	99-00 to 2005-06,	10.55	14.66	47.6	59.86	16.25	4.93	1.73	0.40	0.10	0.03	0.00	0.00
5	Uri at Dhulsar	99-00 to 2005-06,	3.75	6.22	47.39	32.81	7.50	0.25	0.06	0.00	0.00	0.00	0.00	0.00
6	Narmada at Rajghat	1972-73 To 2006-07	10.44	67.41	153.68	110.35	25.81	10.44	8.90	7.01	6.34	5.19	3.83	3.01
7	Narmada AT Mandleswar	1972-73 To 2011-12	12.36	68.45	150.73	110.02	32.63	13.48	12.09	9.88	8.14	7.61	6.23	5.45
8	Kundi at Kogaon	1978-79 To 2011-12	15.00	34.59	86.27	84.74	23.72	5.16	1.55	0.60	0.53	0.19	0.13	0.09
9	Chhota Tawa at Ginnore	1971-72 To 1998-99	18.15	93.16	7.42	4.59	1.49	0.35	0.18	0.20	0.13	0.10	0.08	0.07
10	Narmada at Motakka	1919-00 To 2006-07	----- Discharge started w.e. from 23.08.1999 and closed on 1.7.2007 ----->											
11	Narmada at Handia	1977-78 To 2011-12	12.36	77.89	161.27	103.55	28.41	13.22	13.10	9.78	9.33	8.38	6.43	5.17
12	Ganjal at Chhidgaon	1977-78 To 2011-12	17.09	114.68	238.01	137.09	32.71	7.76	4.90	3.35	2.17	1.61	0.99	0.81
13	Narmada at Hoshangabad	1972-73 To 2011-12	15.60	80.15	174.30	116.20	30.85	14.44	13.00	9.62	9.03	8.19	6.82	5.85
14	Tawa at Tawakati	2001-02 To 2005-06	----- Discharge started w.e.from 09.08.2001 and closed on 1.4.2006 ----->											
15	Machna at Shapur	2001-02 To 2005-06	----- Discharge started w.e.from 20.06.2000 and closed on 1.4.2006 ----->											
16	Narmada at Sandia	1978-79 To 2011-12	11.63	71.53	143.35	103.62	29.16	16.19	15.05	10.59	10.42	9.65	8.45	7.39
17	Shakkar at Gadarwara	1977-78 To 2011-12	16.70	113.03	232.45	157.30	33.16	10.38	6.97	4.41	3.81	2.75	1.80	1.43
18	Narmada at Barmanghat	1972-73 To 2011-12	11.88	70.04	156.38	101.17	31.27	16.25	13.95	9.76	10.22	8.85	8.18	6.00
19	Sher at Belkheri	1977-78 To 2011-12	16.15	111.21	193.32	113.43	20.88	7.54	5.25	2.32	2.10	1.80	0.89	0.71
20	Hiran at Patan	1979-80 To 2011-12	10.02	67.04	144.01	120.27	33.58	11.28	6.36	4.65	3.55	2.73	1.81	1.16
21	Banjar at Bamni	1999-00 To 2011-12	20.40	163.06	321.12	216.40	63.89	17.94	6.74	5.23	2.70	0.70	0.09	0.00
22	Narmada at Jamtara	1972-73 To 2000-01	13.94	104.47	204.07	106.21	38.42	19.75	15.60	8.52	12.46	10.46	9.61	6.99
23	Banjar at Hridayanagar	1977-78 To 2001-02	18.67	127.18	190.36	114.51	28.37	7.95	3.80	3.26	2.51	1.38	0.29	0.06
24	Burhner at Mohgaon	1978-79 To 2011-12	20.04	129.60	209.45	131.36	29.33	7.98	7.70	5.63	3.91	1.58	0.50	0.23
25	Narmada at Amgaon	2001-02 To 2005-06	----- Discharge started w.e.from 07.09.2001 and closed on 1.4.2006 ----->											
26	Narmada at Manot	1977-78 To 2011-12	26.83	154.39	249.51	156.49	33.56	11.56	7.99	6.13	5.10	2.80	1.27	0.62
27	Narmada at Dindori	1988-89 To 2011-12	27.87	109.50	181.05	122.13	30.68	14.69	10.33	10.18	6.31	4.59	2.67	2.16

Source SE(C),Govt. of India, CWC, Office of the Chief Eng., Narmada Basin Oraganisation, Bhopal (MP) Received the Hard Copy from NBO, Dt.24.09.12 (June, 2011 to May, 2012) Narmada Basin.

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2010-11

XII Basin : Mahi and Sabarmati

Unit : Millimeter

Sl. No.	Site Name	Reference Period	Jun	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Anas at Chakaliya	33	3.37	13.60	70.53	31.84	5.97	2.99	2.16	1.93	1.66	1.98	1.89	1.95
2	Balaram at Chitrasani	20	16.90	112.22	254.39	134.70	21.57	4.05	3.06	0.54	0.26	0.15	0.04	0.19
3	Banas at Abu Road	33	2.85	13.94	65.11	30.17	4.27	2.10	1.73	1.06	0.83	0.93	1.07	1.16
4	Banas at Kamalpur	33	2.65	11.29	35.50	17.70	4.91	1.79	1.16	1.18	0.86	0.85	0.78	0.38
5	Banas at Sarotry	23	0.80	16.02	60.68	34.24	4.61	1.41	1.86	2.00	1.82	1.31	0.50	0.27
6	Bhadar at Ganod	29	8.03	85.39	137.99	65.39	19.92	2.44	1.23	0.55	0.39	0.16	0.02	0.01
7	Jakhm at Dhariawad	12	2.77	27.48	44.48	17.67	9.65	3.50	4.54	2.84	2.14	3.76	2.09	1.60
8	Luni at Balotra	22	2.61	16.01	28.56	15.53	2.61	0.38	0.20	0.13	0.07	0.09	0.01	0.00
9	Luni at Gandhav	20	3.87	24.43	50.05	27.11	7.98	1.63	0.70	0.51	0.08	0.59	0.14	0.01
10	Machhu at Gungan	20	2.67	7.78	26.81	22.04	4.67	1.31	1.19	1.18	1.18	1.42	1.48	1.49
11	Mahi at Khanpur	19	3.09	20.77	32.99	28.13	4.74	0.59	0.10	0.04	0.02	0.00	0.00	0.00
12	Mahi at Mataji	16	3.35	16.14	54.40	37.62	6.48	1.04	0.48	0.17	0.07	0.01	0.00	0.00
13	Mahi at Paderdibadi	40	1.80	11.61	13.03	18.83	1.68	0.68	0.41	0.32	0.20	0.12	0.08	0.08
14	Rupen at Sapawada	21	1.65	21.41	32.69	33.59	5.49	1.01	0.36	0.24	0.11	0.03	0.00	0.00
15	Sabarmati at Derol Bridge	22	1.32	23.66	36.92	43.78	10.53	5.78	4.15	4.05	3.26	3.27	2.95	2.88
16	Sabarmati at Kheroj	22	1.07	16.48	30.25	24.07	2.45	0.45	0.23	0.16	0.05	0.03	0.01	0.00
17	Sabarmati at Voutha	37	0.01	3.55	3.08	1.87	0.14	0.04	0.02	0.01	0.00	0.00	0.00	0.00
18	Shetrunji at Lowara	21	0.00	3.14	3.06	2.49	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	Som at Rangeli	41	10.81	20.36	13.82	18.64	2.12	1.48	0.12	0.05	0.02	0.01	0.01	0.09
20	Wakal at Kotra( Jotasan )	41	6.75	23.20	21.31	15.41	3.27	1.36	0.69	0.49	0.35	0.21	0.07	0.07
21	Watrak at Gadvel (Ratanpur)	41	6.65	28.99	19.24	19.15	2.10	0.73	0.15	0.15	0.12	0.09	0.03	0.02
22	Watrak at Kheda	22	1.67	10.63	16.21	6.14	0.30	0.09	0.06	0.04	0.10	0.03	0.00	0.00

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft &amp; Hard Copy from CD's for the period of 1970 - 2011 Mahi and Sabarmati Basin).

Table 8 : Monthly average flow per unit drainage area by site and river basin during 2011-12

XII Basin : Mahi and Sabarmati		Unit : Millimeter												
Sl. No.	Site Name	Reference Period	Jun	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	Anas at Chakaliya	6/1991 to 5/2012	16.057	106.734	244.561	131.586	21.133	3.894	2.904	0.510	0.246	0.138	0.041	0.184
2	Balaram at Chitrasani	6/1990 to 5/2012	1.459	19.382	30.984	30.518	5.009	0.895	0.322	0.212	0.093	0.022	0.000	0.000
3	Banas at Abu Road	6/1989 to 5/2012	1.020	15.638	29.332	23.704	2.343	0.427	0.217	0.156	0.043	0.029	0.011	0.003
4	Banas at Kamalpur	6/1971 to 5/2012	1.765	11.490	12.723	18.252	1.636	0.668	0.396	0.315	0.198	0.121	0.079	0.075
5	Banas at Sarotry	6/1989 to 5/2012	1.257	22.651	36.160	42.282	10.075	5.521	3.957	3.867	3.113	3.120	2.815	2.750
6	Bhadar at Ganod	11/1970 to 11/2011	6.579	22.703	21.851	16.668	3.189	1.281	0.670	0.480	0.342	0.205	0.065	0.064
7	Jakham at Dhariawad	6/1988 to 5/2012	0.767	15.321	58.598	34.843	4.491	1.467	1.897	2.020	1.838	1.244	0.478	0.258
8	Luni at Balotra	6/1990 to 2/2012	0.000	2.993	2.913	2.373	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	Luni at Gandhav	6/1974 to 7/2011	0.010	3.451	2.903	1.812	0.132	0.041	0.017	0.009	0.005	0.002	0.000	0.000
10	Machhu at Gungan	12/1970 to 5/2012	6.649	28.364	22.659	21.033	2.051	0.731	0.145	0.151	0.118	0.086	0.032	0.018
11	Mahi at Khanpur	12/1978 to 5/2012	3.285	13.215	68.654	31.288	5.843	2.920	2.028	1.891	1.642	1.936	1.857	1.910
12	Mahi at Mataji	6/1982 to 5/2012	7.756	82.556	134.910	66.563	19.414	2.406	1.240	0.571	0.404	0.168	0.019	0.006
13	Mahi at Paderdibadi	6/1978 to 5/2012	2.761	13.548	63.293	29.729	4.157	2.043	1.694	1.047	0.823	0.917	1.043	1.125
14	Rupen at Sapawada	8/1989 to 5/2012	1.588	10.165	16.898	5.925	0.329	0.099	0.056	0.043	0.093	0.029	0.000	0.000
15	Sabarmati at Derol Bridge	9/1991 to 5/2012	2.530	7.548	25.443	20.960	4.438	1.246	1.126	1.123	1.130	1.350	1.404	1.416
16	Sabarmati at Kheroj	6/1992 to 5/2012	2.927	20.150	33.838	29.155	5.031	0.837	0.329	0.081	0.021	0.002	0.000	0.001
17	Sabarmati at Voutha	8/1999 to 5/2012	2.731	25.282	42.304	17.865	8.928	3.397	4.339	2.838	2.182	3.615	2.113	1.672
18	Shetrunji at Lowara	11/1970 to 5/2012	10.541	20.752	14.580	19.618	2.169	1.466	0.127	0.046	0.018	0.012	0.005	0.089
19	Som at Rangeli	7/1978 to 5/2012	2.571	10.775	34.518	17.510	4.825	1.784	1.165	1.212	0.897	0.866	0.766	0.370
20	Wakal at Kotra( Jotasan )	6/1995 to 2/2012	3.139	16.759	54.493	37.568	6.473	1.108	0.615	0.184	0.068	0.014	0.000	0.000
21	Watrak at Gadvel (Ratanpur)	6/1991 to 5/2012	3.783	23.306	47.970	27.518	7.677	1.553	0.663	0.488	0.079	0.557	0.130	0.006
22	Watrak at Kheda	6/1989 to 5/2012	2.495	15.291	27.617	15.357	2.495	0.361	0.193	0.128	0.072	0.090	0.011	0.000

Source: Superintending Engineer, Mahi Division, CWC, Gandhi Nagar (Data Received in Soft & Hard Copy from CD's for the period of 1970 - 2012 Mahi and Sabarmati Basin).

**Table 9 : Time series of Sediment load by site in River Basin**

I Basin: Mahanadi		Unit: Million Metric Tonnes											
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Baronda			Rajim			Basantpur			Simga		
1	2002-2003	0.058	0.000	0.058	0.087	0.000	0.087	2.204	0.007	2.211	0.565	0.000	0.565
2	2003-2004	0.687	0.000	0.687	2.997	0.000	2.997	9.662	0.009	9.671	1.319	0.001	1.320
3	2004-2005	0.413	0.000	0.413	0.530	0.000	0.530	2.597	0.006	2.603	0.906	0.000	0.906
4	2005-2006	0.332	0.000	0.332	0.569	0.000	0.569	4.084	0.003	4.087	1.388	0.000	1.388
5	2006-2007	0.431	0.000	0.431	1.569	0.000	1.569	4.446	0.005	4.451	1.335	0.000	1.335
6	2007-2008	1.214	0.000	1.214	1.317	0.000	1.317	6.651	0.002	6.653	1.523	0.000	1.523
7	2008-2009	0.454	0.000	0.454	0.657	0.000	0.657	2.093	0.001	2.094	0.077	0.000	0.077
8	2009-2010	0.130	0.000	0.130	0.270	0.000	0.270	4.165	0.001	4.166	0.333	0.000	0.333
9	2010-2011	0.665	0.000	0.665	0.855	0.000	0.855	4.096	0.002	4.098	0.536	0.000	0.536
10	2011-2012	0.008	0.000	0.008	0.002	0.000	0.002	4.394	0.015	4.409	0.003	0.000	0.003
	Site Name	Andhiarkhore			Ghatora			Jondhra			Rampur		
1	2002-2003	0.635	0.000	0.635	0.108	0.000	0.108	1.119	0.000	1.119	0.086	0.000	0.086
2	2003-2004	0.461	0.000	0.461	0.137	0.000	0.137	3.094	0.002	3.096	4.244	0.000	4.244
3	2004-2005	0.383	0.000	0.383	0.119	0.000	0.119	3.094	0.003	3.097	0.287	0.000	0.287
4	2005-2006	0.528	0.000	0.528	0.164	0.000	0.164	5.875	0.000	5.875	0.338	0.000	0.338
5	2006-2007	0.088	0.000	0.088	0.039	0.000	0.039	4.144	0.000	4.144	0.750	0.000	0.750
6	2007-2008	0.131	0.000	0.131	0.062	0.000	0.062	4.596	0.000	4.596	0.844	0.000	0.844
7	2008-2009	0.024	0.000	0.024	0.048	0.000	0.048	2.940	0.002	2.942	5.227	0.000	5.227
8	2009-2010	0.021	0.000	0.021	0.041	0.000	0.041	1.733	0.000	1.733	0.211	0.000	0.211
9	2010-2011	0.772	0.000	0.772	1.129	0.000	1.129	4.726	0.000	4.726	0.030	0.000	0.030
10	2011-2012	0.148	0.000	0.148	0.393	0.000	0.393	4.353	0.000	4.353	0.043	0.000	0.043

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**Table 9 : Time series of Sediment load by site in River Basin**

I Basin: Mahanadi													Unit: Million Metric Tonnes	
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
	Site Name	Manendragarh			Bamnidhi			Kurubhata			Sundargarh			
1	2002-2003	0.036	0.000	0.036	0.148	0.002	0.150	1.768	0.000	1.768	0.648	0.000	0.648	
2	2003-2004	0.073	0.000	0.073	0.556	0.000	0.556	1.903	0.001	1.904	1.806	0.000	1.806	
3	2004-2005	0.030	0.000	0.030	0.247	0.003	0.250	0.628	0.002	0.630	0.945	0.000	0.945	
4	2005-2006	0.029	0.000	0.029	0.270	0.006	0.276	1.479	0.000	1.479	0.760	0.000	0.760	
5	2006-2007	0.022	0.000	0.022	0.205	0.004	0.209	1.234	0.000	1.234	1.112	0.000	1.112	
6	2007-2008	0.014	0.000	0.014	0.164	0.004	0.168	1.142	0.000	1.142	1.861	0.000	1.861	
7	2008-2009	0.040	0.000	0.040	0.094	0.001	0.095	1.326	0.000	1.326	2.397	0.000	2.397	
8	2009-2010	0.026	0.000	0.026	0.100	0.001	0.101	0.197	0.000	0.197	2.983	0.000	2.983	
9	2010-2011	0.064	0.000	0.064	0.153	0.000	0.153	0.198	0.000	0.198	1.078	0.000	1.078	
10	2011-2012	0.029	0.000	0.029	0.943	0.000	0.943	3.254	0.000	3.254	3.248	0.001	3.249	
	Site Name	Salebhata			Kantamal			Tikarapara			Kesinga			
1	2002-2003	0.219	0.000	0.219	1.972	0.004	1.976	2.051	0.12	2.171				
2	2003-2004	1.504	0.000	1.504	7.472	0.010	7.482	17.666	0.294	17.960				
3	2004-2005	0.409	0.000	0.409	9.016	0.052	9.068	7.735	0.185	7.920				
4	2005-2006	0.987	0.000	0.987	5.516	0.059	5.575	11.573	0.097	11.670				
5	2006-2007	0.853	0.000	0.853	14.586	0.005	14.591	7.815	0.163	7.978				
6	2007-2008	0.210	0.000	0.210	6.186	0.021	6.207	10.876	0.523	11.399	9.150	0.062	9.212	
7	2008-2009	0.747	0.000	0.747	9.084	0.000	9.084	12.497	0.435	12.932	3.435	0.004	3.439	
8	2009-2010	0.066	0.000	0.066	0.000	0.000	0.000	10.409	0.051	10.460	14.770	0.000	14.770	
9	2010-2011	0.106	0.000	0.106	1.616	0.007	1.623	5.711	0.058	5.769	1.741	0.018	1.759	
10	2011-2012	0.275	0.000	0.275	5.578	0.000	5.578	4.837	0.031	4.868	0.814	0.002	0.816	

Source: Suspended Sediment Year Book (2002 to 2012) Mahandi Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

II Basin : Subarnarekha, Burhabalang & Baitarni											Unit: Million Metric Tonnes		
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Subranrekha at Ghatsila			Kharkai at Adityapur			Baitarani at Anandpur			Subranrekha at Jamshedpur		
1	2002-2003	0.591	0.008	0.599	0.444	0.003	0.447	0.500	0.008	0.508	0.685	0.053	0.738
2	2003-2004	0.674	0.028	0.702	0.233	0.002	0.235	1.542	0.007	1.549	0.971	0.024	0.995
3	2004-2005	1.810	0.009	1.819	0.733	0.003	0.736	1.139	0.007	1.146	2.153	0.006	2.159
4	2005-2006	0.294	0.001	0.295	0.345	0.004	0.349	2.477	0.011	2.488	0.850	0.018	0.868
5	2006-2007	6.156	0.091	6.247	2.151	0.002	2.153	2.123	0.007	2.130	5.800	0.038	5.838
6	2007-2008	11.146	0.026	11.172	1.528	0.002	1.530	4.487	0.034	4.521	2.652	0.011	2.663
7	2008-2009	0.201	0.001	0.202	12.031	0.001	12.032	2.387	0.004	2.391	2.803	0.028	2.831
8	2009-2010	0.852	0.000	0.852	1.045	0.001	1.046	0.787	0.004	0.791	1.153	0.058	1.211
9	2010-2011	0.048	0.017	0.065	0.013	0.001	0.014	0.192	0.005	0.197	0.058	0.005	0.063
10	2011-2012	0.048	0.017	0.065	0.013	0.001	0.014	0.192	0.005	0.197	0.058	0.005	0.063
	Site Name	Baitarani at Champua			Burhabalang at Govindpur								
1	2002-2003	0.179	0.002	0.181									
2	2003-2004	0.574	0.001	0.575	0.912	0.025	0.937						
3	2004-2005	0.519	0.002	0.521	1.204	0.017	1.221						
4	2005-2006	0.584	0.002	0.586	1.373	0.015	1.388						
5	2006-2007	0.555	0.002	0.557	1.937	0.007	1.944						
6	2007-2008	0.865	0.003	0.868	2.174	0.020	2.194						
7	2008-2009	1.085	0.001	1.086	1.710	0.005	1.715						
8	2009-2010	0.178	0.001	0.179	1.394	0.006	1.400						
9	2010-2011	0.120	0.005	0.125	0.426	0.000	0.426						
10	2011-2012	0.821	0.005	0.826	0.016	0.002	0.018						

Source: Suspended Sediment Year Books (2002 to 2012 Subarnarekha, Burhabalang & Baitarni.



Table 9 : Time series of Sediment load by site in River Basin during 2011-12

III Basin: Brahmani

Unit: Million Metric Tonnes

Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Brahmani at Jenapur			Brahmani at Gomlai			Koel at Jaraikela			Sankh at Tilga		
1	2002-2003	1.869	0.012	1.881	3.872	0.001	3.873	0.990	0.000	0.990	1.297	0.000	1.297
2	2003-2004	6.004	0.039	6.043	5.947	0.006	5.953	N.A	N.A	N.A	2.643	0.026	2.669
3	2004-2005	2.576	0.041	2.617	4.090	0.005	4.095	N.A	N.A	N.A	1.249	0.003	1.252
4	2005-2006	4.467	0.046	4.513	2.279	0.012	2.291	N.A	N.A	N.A	1.421	0.002	1.423
5	2006-2007	4.728	0.053	4.781	7.288	0.006	7.294	N.A	N.A	N.A	1.203	0.001	1.204
6	2007-2008	7.671	0.019	7.69	13.553	0.007	13.56	N.A	N.A	N.A	1.301	0.000	1.301
7	2008-2009	5.978	0.025	6.003	8.105	0.007	8.112	<----Data not available ---->			1.117	0.000	1.117
8	2009-2010	2.120	0.015	2.135	3.876	0.004	3.880	<----Data not available ---->			1.469	0.000	1.469
9	2010-2011	0.301	0.040	0.341	1.302	0.004	1.306	<----Data not available ---->			0.721	0.001	0.722
10	2011-2012	2.330	0.270	2.6	10.747	0.006	10.753	<----Data not available ---->			0.721	0.001	0.722
	Site Name	Brahmani at Panposh											
1	2002-2003	5.722	0.007	5.729									
2	2003-2004	11.211	0.024	11.235									
3	2004-2005	7.359	0.018	7.377									
4	2005-2006	4.310	0.037	4.347									
5	2006-2007	8.494	0.014	8.508									
6	2007-2008	15.179	0.019	15.198									
7	2008-2009	11.015	0.019	11.034									
8	2009-2010	4.573	0.010	4.583									
9	2010-2011	2.130	0.011	2.141									
10	2011-2012	18.823	0.014	18.837									

Source: Suspended Sediment Year Books (2002 to 2012 Brahmani Basin).

**Table 9 : Time series of Sediment load by site in River Basin during 2011-12**

**IV Basin: Rushikulya, Vamsadhara, Saroda & Nagavali**

**Unit: Million Metric Tonnes**

Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Site Name	Rushikulya at Purushattampur			Vamsadhara at Kashinagar			Nagavali at Srikakulam		
1	2002-2003	0.725	0.000	0.725	0.481	0.000	0.481	0.376	0.002	0.378
2	2003-2004	3.638	0.027	3.665	6.648	0.045	6.693	2.412	0.127	2.539
3	2004-2005	0.866	0.000	0.866	2.332	0.008	2.34	2.686	0.016	2.702
4	2005-2006	5.268	0.006	5.274	2.315	0.015	2.33	3.742	0.009	3.751
5	2006-2007	5.490	0.001	5.491	11.315	0.016	11.331	9.674	0.092	9.766
6	2007-2008	3.380	0.001	3.381	6.433	0.051	6.484	6.430	0.033	6.463
7	2008-2009	0.729	0.000	0.729	5.956	0.003	5.959	1.429	0.036	1.465
8	2009-2010	0.946	0.000	0.946	3.386	0.012	3.398	0.675	0.006	0.681
9	2010-2011	1.281	0.055	1.336	2.026	0.023	2.049	0.503	0.002	0.505
10	2011-2012	0.815	0.000	0.815	1.243	0.014	1.257	0.640	0.002	0.642

Source: Suspended Sediment Year Books (2002 to 2012) Rushikulya, Vamsadhara, Saroda & Nagavali.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

V Godavari Basin											Unit: Million Metric Tonnes		
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>Site Name</b>	<b>Polavaram</b>			<b>Sabari at Konda</b>			<b>Perur</b>			<b>Indravati at Pathagudem</b>		
1	2002-2003	34.780	0.011	34.791	1.942	0.020	1.962	22.103	0.009	22.112	7.163	0.003	7.166
2	2003-2004	43.214	0.139	43.353	9.192	0.128	9.320	41.975	0.090	42.065	22.045	0.012	22.057
3	2004-2005	25.183	0.118	25.301	5.464	0.084	5.548	17.061	0.017	17.078	12.513	0.001	12.514
4	2005-2006	69.708	0.218	69.926	2.595	0.093	2.688	54.087	0.002	54.089	11.659	0.000	11.659
5	2006-2007	62.373	0.160	62.533	40.954	0.137	41.091	211.994	0.010	212.004	24.353	0.011	24.364
6	2007-2008	44.728	0.180	44.908	10.306	0.213	10.519	31.520	0.001	31.521	25.505	0.008	25.513
7	2008-2009	24.420	0.028	24.448	4.501	0.119	4.620	23.618	0.007	23.625	7.807	0.004	7.811
8	2009-2010	12.067	0.027	12.094	2.031	0.027	2.058	6.801	0.003	6.804	5.237	0.000	5.237
9	2010-2011	76.467	0.135	76.602	24.421	0.423	24.844	74.426	0.205	74.631	15.620	0.008	15.628
10	2011-2012	18.025	0.110	18.135	2.149	0.174	2.323	59.054	0.008	59.062	7.144	0.000	7.144
	<b>Site Name</b>	<b>Indravati at Jagadapur</b>			<b>Wardha at Banni</b>			<b>Pranhita at Tekra</b>			<b>Paddavagu at Bhatpalli</b>		
1	2002-2003	1.247	0.000	1.247	31.306	0.001	31.307	32.158	0.007	32.165	0.598	0.000	0.598
2	2003-2004	3.680	0.000	3.680	7.953	0.003	7.956	34.330	0.005	34.335	2.177	0.001	2.178
3	2004-2005	2.035	0.001	2.036	0.823	0.007	0.830	4.010	0.015	4.025	0.320	0.006	0.326
4	2005-2006	1.627	0.000	1.627	14.632	0.005	14.637	27.786	0.008	27.794	1.146	0.005	1.151
5	2006-2007	5.087	0.000	5.087	18.000	0.002	18.002	50.732	0.009	50.741	0.874	0.001	0.875
6	2007-2008	2.829	0.002	2.831	2.643	0.002	2.645	45.513	0.019	45.532	0.211	0.001	0.212
7	2008-2009	1.197	0.000	1.197	0.498	0.001	0.499	15.197	0.001	15.198	0.129	0.004	0.129
8	2009-2010	0.930	0.000	0.930	0.078	0.002	0.080	6.723	0.006	6.729	0.024	0.000	0.024
9	2010-2011	1.425	0.000	1.425	7.885	0.074	7.959	20.410	0.045	20.455	0.287	0.010	0.297
10	2011-2012	0.605	0.000	0.605	3.473	0.032	3.505	31.397	0.022	31.419	0.060	0.006	0.066

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Table 9 : Time series of Sediment load by site in River Basin during 2011-12

V Godavari Basin											Unit: Million Metric Tonnes		
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Wainganga at Ashti			Penganga at PG Bridge			Unna at Nandgaon			Wardha at Hivra		
1	2002-2003	12.810	0.002	12.812	9.731	0.003	9.734	1.032	0.000	1.032	1.142	0.000	1.142
2	2003-2004	14.203	0.003	14.206	2.027	0.000	2.027	0.113	0.000	0.113	0.108	0.001	0.109
3	2004-2005	2.532	0.005	2.537	0.149	0.001	0.150	0.022	0.002	0.024	0.128	0.002	0.130
4	2005-2006	15.226	0.007	15.233	11.201	0.001	11.202	0.113	0.001	0.114	1.039	0.000	1.039
5	2006-2007	13.687	0.011	13.698	11.495	0.002	11.497	0.023	0.002	0.025	1.475	0.000	1.475
6	2007-2008	18.077	0.009	18.086	0.988	0.001	0.989	0.056	0.000	0.056	2.002	0.000	2.002
7	2008-2009	3.864	0.001	3.865	0.752	0.000	0.752	0.031	0.000	0.031	0.003	0.000	0.003
8	2009-2010	5.247	0.010	5.257	0.650	0.000	0.650	0.007	0.000	0.007	0.001	0.000	0.001
9	2010-2011	3.372	0.016	3.388	11.127	0.001	11.128	0.922	0.012	0.934	0.088	0.000	0.088
10	2011-2012	5.346	0.010	5.356	2.893	0.001	2.894	0.491	0.003	0.494	1.452	0.000	1.452
	Site Name	Kanhana at Satrapur			Manijira at Saigaon			Godavari at Mancherla			Godavari at Dhalegaon		
1	2002-2003	0.701	0.005	0.706	0.003	0.000	0.003	1.274	0.000	1.274	0.365	0.000	0.365
2	2003-2004	1.929	0.006	1.935	0.019	0.000	0.019	0.546	0.001	0.547	0.099	0.000	0.099
3	2004-2005	0.184	0.001	0.185	0.018	0.000	0.018	0.549	0.002	0.551	0.115	0.000	0.115
4	2005-2006	2.978	0.013	2.991	0.739	0.000	0.739	2.551	0.005	2.556	1.963	0.000	1.963
5	2006-2007	2.217	0.004	2.221	0.224	0.000	0.224	2.560	0.006	2.566	3.705	0.000	3.705
6	2007-2008	1.995	0.008	2.003	0.303	0.000	0.303	0.039	0.004	0.043	0.302	0.000	0.302
7	2008-2009	0.014	0.002	0.016	0.707	0.000	0.707	0.275	0.002	0.277	0.127	0.000	0.127
8	2009-2010	2.081	0.006	2.087	0.001	0.000	0.001	0.022	0.000	0.022	0.069	0.000	0.069
9	2010-2011	1.526	0.003	1.529	1.399	0.005	1.404	1.584	0.005	1.589	0.400	0.000	0.400
10	2011-2012	1.389	0.021	1.410	0.219	0.000	0.219	0.301	0.001	0.302	0.034	0.000	0.034

Source: Suspended Sediment Year Books (2002 to 2012 Godavari Basin).

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

VI Krishna Basin													Unit: Million Metric Tonnes	
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
	Site Name	Wadenapalli			Bawapuram			Yadgir			Malkhed			
1	2002-2003	0.033	0.003	0.036	0.128	0.001	0.129	0.152	0.005	0.157	0.118	0.000	0.118	
2	2003-2004	0.021	0.005	0.026	0.059	0.006	0.065	0.205	0.022	0.227	0.023	0.000	0.023	
3	2004-2005	0.057	0.007	0.064	1.031	0.007	1.038	1.372	0.001	1.373	0.015	0.000	0.015	
4	2005-2006	1.645	0.007	1.652	4.072	0.007	4.079	17.936	0.001	17.937	0.909	0.001	0.910	
5	2006-2007	0.800	0.009	0.809	0.524	0.001	0.525	7.426	0.000	7.426	0.003	0.000	0.003	
6	2007-2008	1.200	0.032	1.232	0.962	0.025	0.987	1.964	0.002	1.966	0.039	0.011	0.050	
7	2008-2009	0.641	0.123	0.764	0.081	0.007	0.088	0.745	0.000	0.745	0.098	0.001	0.099	
8	2009-2010	2.544	0.62	3.164	1.380	0.004	1.384	13.191	0.004	13.195	0.442	0.003	0.445	
9	2010-2011	0.511	0.012	0.523	0.012	0.000	0.012	1.651	0.010	1.661	0.535	0.005	0.540	
10	2011-2012	0.836	0.039	0.875	0.014	0.000	0.014	1.103	0.004	1.107	0.105	0.002	0.107	
	Site name	Takali			Cholachagudda			Kurundwad			Karad			
1	2002-2003	0.001	0.000	0.001	1.736	0.006	1.742	<----- Data not available ----->			0.027	0.003	0.030	
2	2003-2004	0.000	0.000	0.000	1.184	0.168	1.352	<----- Data not available ----->			0.065	0.003	0.068	
3	2004-2005	0.461	0.000	0.461	3.045	0.017	3.062	2.466	0.000	2.466	1.254	0.005	1.259	
4	2005-2006	0.744	0.000	0.744	2.917	0.054	2.971	10.051	0.000	10.051	2.24	0.010	2.250	
5	2006-2007	0.194	0.000	0.194	2.539	0.000	2.539	13.996	0.000	13.996	3.358	0.012	3.370	
6	2007-2008	0.206	0.000	0.206	8.460	0.000	8.460	3.295	0.000	3.295	0.745	0.010	0.755	
7	2008-2009	0.060	0.000	0.060	0.608	0.000	0.608	2.613	0.000	2.613	0.263	0.010	0.273	
8	2009-2010	0.462	0.000	0.462	0.549	0.000	0.549	2.014	0.000	2.014	0.105	0.004	0.109	
9	2010-2011	0.108	0.000	0.108	0.939	0.000	0.939	1.711	0.000	1.711	0.358	0.000	0.358	
10	2011-2012	0.331	0.000	0.331	0.178	0.000	0.178	1.987	0.000	1.987	0.731	0.000	0.731	

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Table 9 : Time series of Sediment load by site in River Basin during 2011-12

VI Krishna Basin		Unit: Million Metric Tonnes											
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site name	Marol			Haralahalli			Byladahalli			Honali		
1	2002-2003	0.135	0.000	0.135	0.187	0.000	0.187	0.006	0.000	0.006	0.172	0.002	0.174
2	2003-2004	0.158	0.000	0.158	0.127	0.000	0.127	0.006	0.000	0.006	0.127	0.002	0.129
3	2004-2005	0.225	0.000	0.225	0.081	0.002	0.083	0.007	0.000	0.007	0.38	0.003	0.383
4	2005-2006	0.974	0.000	0.974	0.719	0.004	0.723	4.200	0.200	4.400	0.915	0.004	0.919
5	2006-2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	2007-2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	2008-2009	0.463	0.000	0.463	2.259	0.015	2.274	1.200	0.100	1.300	0.786	0.011	0.797
8	2009-2010	0.725	0.000	0.725	1.447	0.007	1.454	1.100	0.000	1.100	0.534	0.060	0.594
9	2010-2011	0.417	0.007	0.424	0.721	0.018	0.739	0.015	0.001	0.016	0.266	0.003	0.269
10	2011-2012	0.417	0.004	0.421	0.555	0.019	0.574	0.004	0.001	0.005	0.387	0.008	0.395
	Site name	Shimoga											
1	2002-2003	0.234	0.002	0.236									
2	2003-2004	0.245	0.000	0.245									
3	2004-2005	0.129	0.000	0.129									
4	2005-2006	1.109	0.004	1.113									
5	2006-2007	0.000	0.001	0.001									
6	2007-2008	0.000	0.000	0.000									
7	2008-2009	0.555	0.000	0.555									
8	2009-2010	1.223	0.000	1.223									
9	2010-2011	0.181	0.001	0.182									
10	2011-2012	0.161	0.001	0.162									

Source: Suspended Sediment Year Books (2002 to 2012 Krishna Basin).

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

VII Basin : Cauvery

Unit: Million Metric Tonnes

Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	<b>Site Name</b>	<b>Kudige</b>			<b>Muthankera</b>			<b>T.Narsinpur</b>			<b>Kollegal</b>		
1	2002-2003	0.057	0.001	0.058	0.110	0.002	0.112	N.A.	N.A.	N.A.	0.055	0.009	0.064
2	2003-2004	0.040	0.002	0.042	0.069	0.008	0.077	0.042	0.007	0.049	0.029	0.005	0.034
3	2004-2005	0.015	0.002	0.017	0.173	0.002	0.175	0.130	0.005	0.135	0.034	0.008	0.042
4	2005-2006	0.215	0.015	0.230	0.253	0.340	0.593	0.284	0.027	0.311	0.228	0.015	0.243
5	2006-2007	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			0.145	0.011	0.156
6	2007-2008	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			0.280	0.017	0.297
7	2008-2009	0.004	0.002	0.006	0.181	0.003	0.184	0.016	0.006	0.022	0.093	0.10	0.193
8	2009-2010	0.199	0.004	0.203	0.161	0.010	0.171	0.168	0.004	0.172	0.057	0.008	0.065
9	2010-2011	0.056	0.002	0.058	0.105	0.008	0.113	0.033	0.008	0.041	0.032	0.007	0.039
10	2011-2012	0.062	0.001	0.063	0.105	0.002	0.107	0.259	0.004	0.263	0.046	0.004	0.050
	<b>Site Name</b>	<b>T.K. Halli</b>			<b>Biligundulu</b>			<b>Savandapur</b>			<b>Kodumudi</b>		
1	2002-2003	0.004	0.002	0.006	0.113	0.006	0.119	0.009	0.002	0.011	0.031	0.019	0.050
2	2003-2004	0.003	0.002	0.005	0.054	0.008	0.062	0.002	0.006	0.008	0.021	0.017	0.038
3	2004-2005	0.007	0.002	0.009	0.326	0.110	0.436	0.005	0.021	0.026	0.049	0.034	0.083
4	2005-2006	0.015	0.004	0.019	0.874	0.030	0.904	0.014	0.003	0.017	0.443	0.038	0.481
5	2006-2007	Sediment Observation not done			0.129	0.016	0.145	0.073	0.006	0.079	0.136	0.056	0.192
6	2007-2008	Sediment Observation not done			0.577	0.055	0.632	0.020	0.006	0.026	0.675	0.054	0.729
7	2008-2009	0.009	0.002	0.011	0.416	0.015	0.431	0.001	0.005	0.006	0.191	0.044	0.235
8	2009-2010	0.027	0.004	0.031	0.268	0.011	0.279	0.006	0.004	0.010	0.168	0.038	0.206
9	2010-2011	0.022	0.003	0.025	0.080	0.024	0.104	0.028	0.002	0.030	0.108	0.042	0.150
10	2011-2012	0.016	0.003	0.019	0.134	0.013	0.147	0.007	0.002	0.009	0.199	0.059	0.258
	<b>Site Name</b>	<b>Thengudi</b>			<b>Musiri</b>			<b>Nallamaranpatty</b>			<b>Thengumarahada</b>		
1	2002-2003	0.000	0.001	0.001	0.039	0.019	0.058	0.002	0.000	0.002	0.014	0.001	0.015
2	2003-2004	0.000	0.000	0.000	0.028	0.014	0.042	0.000	0.000	0.000	0.004	0.002	0.006
3	2004-2005	0.004	0.000	0.004	0.146	0.072	0.218	0.010	0.000	0.010	0.012	0.001	0.013
4	2005-2006	0.005	0.001	0.006	0.559	0.111	0.670	0.031	0.026	0.057	0.030	0.002	0.032
5	2006-2007	0.002	0.000	0.002	0.292	0.034	0.326	0.001	0.000	0.001	0.005	0.003	0.008
6	2007-2008	0.001	0.001	0.002	0.387	0.087	0.474	0.016	0.282	0.298	0.020	0.005	0.025
7	2008-2009	0.003	0.003	0.006	0.170	0.040	0.210	0.015	0.001	0.016	0.009	0.002	0.011
8	2009-2010	0.003	0.002	0.005	0.107	0.022	0.129	0.006	0.000	0.006	0.046	0.004	0.050
9	2010-2011	0.002	0.001	0.003	0.132	0.048	0.180	0.000	0.000	0.000	0.026	0.004	0.030
10	2011-2012	0.001	0.001	0.002	0.105	0.034	0.139	0.005	0.004	0.009	0.015	0.005	0.020

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Table 9 : Time series of Sediment load by site in River Basin during 2011-12

VII Basin : Cauvery

Unit : Millian Metric Tones

Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Site Name	Nellithurai			Urachikottai			M.H.Halli		
1	2002-2003	<----- Data not available ----->			0.025	0.012	0.037	0.001	0.001	0.002
2	2003-2004	0.001	0.001	0.002	0.016	0.005	0.021	0.004	0.001	0.005
3	2004-2005	0.082	0.010	0.092	0.029	0.017	0.046	0.005	0.002	0.007
4	2005-2006	0.065	0.001	0.066	0.324	0.015	0.339	0.014	0.002	0.016
5	2006-2007	0.040	0.006	0.046	0.034	0.003	0.037	Sediment Observation not done		
6	2007-2008	0.050	0.000	0.050	0.053	0.001	0.054	Sediment Observation not done		
7	2008-2009	0.015	0.001	0.016	0.004	0.001	0.005	0.002	0.002	0.004
8	2009-2010	0.040	0.000	0.040	0.005	0.002	0.007	0.011	0.003	0.014
9	2010-2011	0.041	0.004	0.045	0.004	0.002	0.006	0.005	0.003	0.008
10	2011-2012	0.040	0.008	0.048	0.008	0.009	0.017	0.008	0.002	0.010

Source: Suspended Sediment and Bedmaterial Data Book 2002-2012) Cauvery Basin.



**Table 9 : Time series of Sediment load by site in River Basin**

Unit: Million Metric Tonnes

**VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari**

Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<b>Site Name</b>		<b>Gundalakamma at Thammavaram</b>			<b>Pennar at Chennur</b>			<b>Kunderu at Alladupalli</b>			<b>Ponniar at Gummanur</b>		
1	2002-2003	0.003	0.000	0.003	0.229	0.000	0.229	0.200	0.000	0.200	0.000	0.000	0.000
2	2003-2004	0.009	0.000	0.009	0.285	0.001	0.286	0.331	0.002	0.333	0.002	0.000	0.002
3	2004-2005	0.004	0.003	0.007	0.583	0.006	0.589	0.286	0.006	0.292	0.015	0.001	0.016
4	2005-2006	0.080	0.012	0.092	1.137	0.025	1.162	0.557	0.013	0.570	0.207	6.000	6.207
5	2006-2007	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done		
6	2007-2008	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done		
7	2008-2009	Sediment Observation not done			0.312	0.012	0.324	0.001	0.000	0.001	0.013	0.001	0.014
8	2009-2010	Sediment Observation not done			1.821	0.016	1.837	0.396	0.019	0.415	0.007	0.001	0.008
9	2010-2011	Sediment Observation not done			0.933	0.066	0.999	0.365	0.184	0.549	0.004	0.003	0.007
10	2011-2012	Sediment Observation not done			0.474	0.012	0.486	0.365	0.059	0.424	0.007	0.002	0.009
<b>Site Name</b>		<b>Suriliyar at Theni</b>			<b>Thampaparani at Murappandu</b>			<b>Vaigai at Ambasamundram</b>			<b>Ponniyar at Vazhavachanur</b>		
1	2002-2003	0.012	0.009	0.021	0.006	0.004	0.010	0.003	0.010	0.013	0.000	Sed. Obs. Not done	0.000
2	2003-2004	0.010	0.007	0.017	0.002	0.003	0.005	0.032	0.001	0.033	0.000	0.001	0.001
3	2004-2005	0.022	0.024	0.046	0.054	0.008	0.062	0.115	0.006	0.121	0.007	0.001	0.008
4	2005-2006	0.062	0.052	0.114	0.004	0.019	0.023	0.058	0.083	0.141	0.090	0.015	0.105
5	2006-2007	0.050	0.009	0.059	Sediment Observation not done			0.053	0.003	0.056	Sediment Observation not done		
6	2007-2008	0.156	0.033	0.189	Sed. Obs. Not done	0.002	0.002	0.037	0.131	0.168	Sediment Observation not done		
7	2008-2009	0.036	0.003	0.039	0.007	0.011	0.018	0.032	0.003	0.035	Sediment Obsn. Not done	0.000	0.000
8	2009-2010	0.028	0.010	0.038	0.006	0.004	0.010	0.014	0.004	0.018	0.000	0.001	0.001
9	2010-2011	0.033	0.013	0.046	0.002	0.003	0.005	0.010	0.016	0.026	0.009	0.006	0.015
10	201-2011	0.039	0.009	0.048	0.006	0.002	0.008	0.088	0.016	0.104	0.002	0.004	0.006
<b>Site Name</b>		<b>Gundlakamma at Marella</b>											
1	2002-2003												
2	2003-2004												
3	2004-2005												
4	2005-2006												
5	2006-2007												
6	2007-2008	0.033	0.023	0.056									
7	2008-2009	0.043	0.016	0.059									
8	2009-2010	0.054	0.166	0.220									
9	2010-2011	0.072	0.015	0.087									
10	2011-2012	0.008	0.003	0.011									

Source: Sediment Year Book (2002 to 2012) East Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi													Unit: Million Metric Tonnes	
Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
<b>Site Name</b>		<b>Nethravathi at Bantwal</b>			<b>Payaswani at Erinijipuzha</b>			<b>Valapatanam at Perumannu</b>			<b>Chaliyar at Kuniyil</b>			
1	2002-2003	0.442	0.000	0.442	0.082	0.001	0.083	0.137	0.002	0.139	0.067	0.000	0.067	
2	2003-2004	0.650	0.000	0.650	0.112	0.001	0.113	0.054	0.008	0.062	0.049	0.005	0.054	
3	2004-2005	0.883	0.000	0.883	0.121	0.002	0.123	0.281	0.003	0.284	0.044	0.000	0.044	
4	2005-2006	1.646	0.025	1.671	0.181	0.009	0.190	0.358	0.030	0.388	0.315	0.042	0.357	
5	2006-2007	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			
6	2007-2008	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			
7	2008-2009	Sediment Observation not done			0.108	0.001	0.109	0.091	0.001	0.092	0.111	Sediment Obsn. Not done	0.111	
8	2009-2010	Sediment Observation not done			0.147	0.002	0.149	0.241	0.002	0.243	0.256	0.001	0.257	
9	2010-2011	Sediment Observation not done			0.167	0.002	0.169	0.104	0.002	0.106	0.172	0.001	0.173	
10	2011-2012	Sediment Observation not done			0.145	0.001	0.146	0.131	0.001	0.132	0.255	0.001	0.256	
<b>Site Name</b>		<b>Bharathapuzha at Kumbidi</b>			<b>Pulanthode at Pulamanthole</b>			<b>Chalakudi at Arangaly</b>			<b>Periyar at Neeleswaram</b>			
1	2002-2003	0.150	0.004	0.154	0.054	0.001	0.055	0.020	0.002	0.022	0.053	0.002	0.055	
2	2003-2004	0.081	0.007	0.088	0.023	0.004	0.027	0.014	0.003	0.017	0.048	0.009	0.057	
3	2004-2005	0.266	0.003	0.269	0.090	0.001	0.091	0.067	0.002	0.069	0.089	0.003	0.092	
4	2005-2006	0.302	0.033	0.335	0.119	0.010	0.129	0.066	0.002	0.068	0.127	0.017	0.144	
5	2006-2007	0.309	0.005	0.314	Sediment Observation not done			Sediment Observation not done			0.076	Sediment Obsn. Not done	0.076	
6	2007-2008	0.551	0.020	0.571	Sediment Observation not done			Sediment Observation not done			0.146	Sediment Obsn. Not done	0.146	
7	2008-2009	0.126	0.004	0.130	Sediment Observation not done			0.035	0.001	0.036	0.054	Sediment Obsn. Not done	0.054	
8	2009-2010	0.385	0.004	0.389	0.109	0.002	0.111	0.097	0.001	0.098	0.120	0.002	0.122	
9	2010-2011	0.142	0.007	0.149	0.112	0.003	0.115	0.056	0.002	0.058	0.056	0.003	0.059	
10	2010-2012	0.401	0.004	0.405	0.104	0.001	0.105	0.059	0.000	0.059	0.049	0.005	0.054	
<b>Site Name</b>		<b>Muvattupuzha at Ramamangalam</b>			<b>Kaliyar at Kalampur</b>			<b>Meenachil at Kidangoor</b>			<b>Manimala at Kallooppara</b>			
1	2002-2003	0.167	0.011	0.178	0.023	0.000	0.023	0.041	0.003	0.044	0.019	0.001	0.020	
2	2003-2004	0.095	0.011	0.106	0.024	0.000	0.024	0.059	0.015	0.074	0.019	0.005	0.024	
3	2004-2005	0.086	0.014	0.100	0.028	0.000	0.028	0.037	0.002	0.039	0.016	0.001	0.017	
4	2005-2006	0.104	0.024	0.128	0.047	0.000	0.047	0.025	0.004	0.029	0.048	0.018	0.066	
5	2006-2007	Sediment Observation not done			Sediment Observation not done			0.015	0.001	0.016	0.025	0.001	0.026	
6	2007-2008	Sediment Observation not done			Sediment Observation not done			0.028	0.001	0.029	0.073	0.001	0.074	
7	2008-2009	0.077	0.007	0.084	0.019	0.000	0.019	0.012	0.001	0.013	0.026	0.000	0.026	
8	2009-2010	0.080	0.008	0.088	0.023	0.000	0.023	0.012	0.001	0.013	0.031	0.001	0.032	
9	2010-2011	0.103	0.013	0.116	0.027	0.000	0.027	0.015	0.001	0.016	0.043	0.001	0.044	
10	2011-2012	0.078	0.013	0.091	0.006	0.000	0.006	0.015	0.001	0.016	0.038	0.001	0.039	

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

Basin : West Flowing Rivers from Kanyakumari to Tapi													Unit: Million Metric Tonnes		
Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
Site Name		Kallada at Pattazhy			Aliyar at Ambarampalayam			Pumba at Malakkara			Achankovil at Thumpamon				
1	2002-2003	0.013	0.002	0.015				0.034	0.000	0.034	0.015	0.000	0.015		
2	2003-2004	0.010	0.005	0.015	0.002	0.001	0.003	0.047	0.005	0.052	0.011	0.008	0.019		
3	2004-2005	0.016	0.004	0.020	0.013	0.002	0.015	0.045	0.003	0.048	0.022	0.000	0.022		
4	2005-2006	0.022	0.009	0.031	0.005	0.003	0.008	0.124	0.007	0.131	0.028	0.008	0.036		
5	2006-2007	0.020	0.002	0.022	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done				
6	2007-2008	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done				
7	2008-2009	0.007	0.002	0.009	0.002	0.001	0.003	0.022	0.000	0.022	0.036	0.000	0.036		
8	2009-2010	0.013	0.006	0.019	0.009	0.002	0.011	0.032	0.001	0.033	0.029	0.001	0.030		
9	2010-2011	0.087	0.015	0.102	0.005	0.003	0.008	0.050	0.001	0.051	0.085	0.003	0.088		
10	2011-2012	0.032	0.008	0.040	0.008	0.003	0.011	0.037	0.001	0.038	0.020	0.001	0.021		
Site Name		Vamanapuram at Ayilam			Kadalundi at Karathodu										
1	2002-2003	0.016	0.000	0.016	0.045	0.000	0.045								
2	2003-2004	0.013	0.007	0.020	0.021	0.000	0.021								
3	2004-2005	0.025	0.009	0.034	0.052	0.000	0.052								
4	2005-2006	0.015	0.009	0.024	0.061	0.004	0.065								
5	2006-2007	0.039	0.000	0.039	Sediment Observation not done										
6	2007-2008	Sediment Observation not done			Sediment Observation not done										
7	2008-2009	0.013	0.000	0.013	Sediment Observation not done										
8	2009-2010	0.017	0.002	0.019	Sediment Observation not done										
9	2010-2011	0.061	0.002	0.063	0.053	0.001	0.054								
10	2011-2012	0.009	0.004	0.013	0.000	0.000	0.000								

Source: Sediment Year Book (2002 to 2012) West Flowing Rivers.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

X Basin : Tapi													Unit: Million Metric Tonnes	
Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
<b>Site Name</b>		<b>Tapi at Dedtali</b>			<b>Tapi at Burhanpur</b>			<b>Panjhara at Morane</b>			<b>Tapi at Sarankheda</b>			
1	2002-2003	1.796	0.000	1.796	4.928	0.002	4.930	13.656	0.000	13.656	43.493	0.000	43.493	
2	2003-2004	1.680	0.000	1.680	2.348	0.003	2.351	0.138	0.000	0.138	7.669	0.000	7.669	
3	2004-2005	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			
4	2005-2006	Sediment Observation not done			1.056	0.001	1.057	Sediment Observation not done			7.495	0.000	7.495	
5	2006-2007	Sediment Observation not done			4.001	0.001	4.002	Sediment Observation not done			27.657	0.000	27.657	
6	2007-2008	Sediment Observation not done			11.278	0.001	11.279	Sediment Observation not done			27.782	0.000	27.782	
7	2008-2009	Sediment Observation not done			2.348	0.001	2.349	Sediment Observation not done			2.779	0.000	2.779	
8	2009-2010	Sediment Observation not done			1.269	0.011	1.280	Sediment Observation not done			5.015	0.000	5.015	
9	2010-2011	Sediment Observation not done			2.947	0.000	2.947	Sediment Observation not done			10.276	0.000	10.276	
10	2011-2012	Sediment Observation not done			4.789	0.000	4.789	Sediment Observation not done			5.232	0.000	5.232	
<b>Site Name</b>		<b>Purna at Gopalkheda</b>			<b>Purna at Yearli</b>			<b>Girna at Dapuri</b>			<b>Tapi at Savkheda</b>			
1	2002-2003	1.219	0.000	1.219	8.230	0.000	8.230	0.062	0.042	0.001	13.656	0.000	13.656	
2	2003-2004	0.030	0.000	0.030	0.215	0.000	0.215	0.078	0.000	0.078	4.255	0.000	4.255	
3	2005-2006	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			
4	2005-2006	0.987	0.000	0.987	2.110	0.003	2.113	Sediment Observation not done			Sediment Observation not done			
5	2006-2007	1.449	0.000	1.449	30.361	0.000	30.361	Sediment Observation not done			Sediment Observation not done			
6	2007-2008	2.300	0.006	2.306	11.279	0.000	11.279	Sediment Observation not done			Sediment Observation not done			
7	2008-2009	0.230	0.000	0.230	0.668	0.000	0.668	Sediment Observation not done			Sediment Observation not done			
8	2009-2010	0.508	0.000	0.508	0.558	0.001	0.559	Sediment Observation not done			Sediment Observation not done			
9	2010-2011	5.757	0.000	5.757	5.777	0.000	5.777	Sediment Observation not done			Sediment Observation not done			
10	2011-2012	2.016	0.000	2.016	1.281	0.000	1.281	Sediment Observation not done			Sediment Observation not done			

Source: Sediment Data Book (2002 to 2012) Tapi Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

XI Basin : Narmada											Unit: Million Metric Tonnes		
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Orsang at Chandwada			Narmada at Garudeshwar			Narmada at Rajghat			Narmada at Mandleshwar		
1	2002-2003	0.732	0.000	0.732	3.720	0.000	3.720	36.003	0.027	36.030	23.246	0	23.246
2	2003-2004	1.735	0.000	1.735	4.835	0.000	4.835	29.422	0.041	29.463	12.527	0	12.527
3	2004-2005	3.832	0.000	3.832	2.603	0.000	2.603	8.643	0.039	8.682	5.792	0.000	5.792
4	2005-2006	0.005	0.000	0.005	2.678	0.085	2.763	7.873	0.164	8.037	3.756	0.018	3.774
5	2006-2007	2.269	0.000	2.269	6.639	0.060	6.699	6.569	0.0216	6.591	23.348	0.070	23.418
6	2007-2008	1.191	0.000	1.191	3.310	0.043	3.353	0.014	0.000	6.591	3.620	0.062	3.682
7	2008-2009	0.913	0.000	0.913	0.075	0.003	0.078	-	-	-	0.357	0.258	0.615
8	2009-2010	0.085	0.000	0.085	0.738	0.008	0.746	-	-	-	1.251	0.383	1.634
9	2010-2011	0.676	0.000	0.676	0.312	0.000	0.312	-	-	-	2.825	0.386	3.211
10	2011-2012	0.258	0.000	0.258	0.084	0.000	0.084	-	-	-	5.269	0.276	5.545
	Site Name	Narmada at Handia			Narmada at Hoshangabad			Narmada at Sandia			Burhner at Mohgaon		
1	2002-2003	42.985	0.000	42.985	12.492	0.000	12.492	13.837	0.000	13.837	0.950	0.000	0.852
2	2003-2004	91.150	0.000	91.150	24.976	0.000	24.976	36.417	0.000	36.417	4.910	0.000	4.47
3	2004-2005	20.422	0.000	20.422	11.095	0.000	11.095	11.432	0.000	11.432	3.346	0.000	2.402
4	2005-2006	41.467	0.098	41.565	41.755	0.113	41.868	26.940	0.200	27.140	9.694	0.002	9.696
5	2006-2007	45.196	0.293	45.489	21.224	0.063	21.287	17.843	0.125	17.968	3.637	0.003	3.640
6	2007-2008	8.966	0.386	9.352	3.245	0.048	3.293	0.226	0.011	0.237	1.021	0.001	27.782
7	2008-2009	5.446	0.128	5.574	8.451	0.043	8.494	1.249	0.049	1.298	0.705	0.002	0.707
8	2009-2010	20.454	0.148	20.602	14.346	0.013	14.359	47.170	0.042	47.212	0.646	0.000	0.646
9	2010-2011	8.459	0.184	8.643	2.678	0.084	2.762	4.083	0.422	4.505	2.986	0.000	2.986
10	2011-2012	20.530	0.047	20.577	11.068	0.122	11.190	37.841	0.497	38.338	2.680	0.005	2.685

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Table 9 : Time series of Sediment load by site in River Basin during 2011-12

XI Basin : Narmada											Unit: Million Metric Tonnes		
Sl. No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Shakkar at Gadarwara			Narmada at Barmanghat				Banjar at Bamni		Narmada at Manot		
1	2002-2003	0.815	0.000	0.815	8.769	0.000	8.769	0.368	0.000	0.368	1.841	0.000	1.847
2	2003-2004	0.728	0.000	0.728	9.592	0.000	9.592	0.783	0.000	0.783	4.006	0.000	0.009
3	2004-2005	0.157	0.000	0.157	2.583	0.000	2.583	0.323	0.000	0.323	9.624	0.000	9.226
4	2005-2006	0.745	0.000	0.745	15.179	0.080	15.259	1.640	0.000	1.640	10.702	0.003	10.705
5	2006-2007	2.654	0.000	2.654	3.190	0.041	3.231	0.325	0.000	0.325	2.399	0.002	2.401
6	2007-2008	0.740	0.000	0.740	1.070	0.077	1.147	0.172	0.000	0.172	1.844	0.002	1.846
7	2008-2009	0.115	0.000	0.115	2.081	0.059	2.140	0.209	0.000	0.209	1.966	0.001	1.967
8	2009-2010	5.462	0.000	5.462	18.821	0.079	18.900	0.137	0.000	0.137	0.821	0.002	0.823
9	2010-2011	0.663	0.000	0.663	1.663	0.160	1.823	0.186	0.000	0.186	0.876	0.002	0.878
10	2011-2012	0.612	0.000	0.612	3.014	0.029	3.043	0.220	0.001	0.221	2.759	0.003	2.762

Source: Sediment Data Book (2002 to 2012) Narmada Basin.

Table 9 : Time series of Sediment load by site in River Basin during 2011-12

XII Basin : Mahi and Sabarmati											Unit: Million Metric Tonnes		
Sl.No	Year	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual	Monsoon	Non-Monsoon	Annual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Site Name	Khanpur			Vaitarana at Durvesh			Padaradibadi			Mataji		
1	2002-2003	0.217	0.001	0.218	1.496	0.000	1.496	0.000	0.000	0.000	0.217	0.000	0.217
2	2003-2004	0.558	0.052	0.610	1.508	0.001	1.509	0.013	0.000	0.013	3.958	0.000	3.958
3	2004-2005	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done		
4	2005-2006	0.498	0.005	0.503	1.819	0.000	1.819	0.214	0.000	0.214	7.378	0.000	7.378
5	2006-2007	24.257	0.000	24.257	2.649	0.000	2.649	5.760	0.000	5.760	4.262	0.000	4.262
6	2007-2008	1.876	0.005	1.881	1.571	0.000	1.571	0.157	0.000	0.157	2.046	0.000	2.046
7	2008-2009	0.069	0.002	0.071	1.829	0.000	1.829	0.013	0.000	0.013	0.046	0.000	0.046
8	2009-2010	0.002	0.000	0.002	0.677	0.000	0.677	0.006	0.000	0.006	2.311	0.000	2.311
9	2010-2011	0.111	0.000	0.111	1.589	0.001	1.590	0.003	0.000	0.003	0.082	0.000	0.082
10	2011-2012	0.905	0.000	0.905	2.257	0.001	2.258	0.046	0.000	0.046	0.231	0.000	0.231
	Site Name	Ambica at Gadat			Banas at Kamalpur			Bhadar at Ganod			Purna at Mahuwa		
1	2002-2003	0.364	0.000	0.364	0.000	0.000	0.000	0.187	0.000	0.187	0.701	0.000	0.701
2	2003-2004	0.756	0.000	0.756	0.158	0.000	0.158	0.072	0.000	0.072	1.441	0.000	1.441
3	2004-2005	Sediment Observation not done			Sediment Observation not done			Sediment Observation not done			Sediment Observation not done		
4	2005-2006	1.539	0.000	1.539	0.029	0.000	0.029	0.039	0.000	0.039	2.418	0.000	2.418
5	2006-2007	0.805	0.000	0.805	0.770	0.000	0.770	0.434	0.000	0.434	0.869	0.000	0.869
9	2007-2008	0.401	0.000	0.401	0.815	0.000	0.815	1.330	0.000	1.330	0.604	0.000	0.604
10	2008-2009	0.583	0.000	0.583	0.064	0.000	0.064	0.503	0.000	0.503	0.332	0.000	0.332
8	2009-2010	0.174	0.000	0.174	0.004	0.000	0.004	0.049	0.000	0.049	0.059	0.000	0.059
9	2011-2012	0.150	0.000	0.150	0.174	0.000	0.174	0.070	0.000	0.070	0.154	0.000	0.154
10	2011-2012	0.427	0.000	0.427	0.043	0.000	0.043	0.007	0.000	0.007	0.137	0.000	0.137
	Site Name	Shetrunji at Lowara			Sabarmati at Derol Bridge								
1	2002-2003	2.496	0.000	2.496	0.000	0.000	0.000						
2	2003-2004	0.147	0.000	0.147	0.000	0.000	0.000						
3	2004-2005	Sediment Observation not done			Sediment Observation not done								
4	2005-2006	1.932	0.000	1.932	0.001	0.000	0.001						
5	2006-2007	1.475	0.000	1.475	0.615	0.000	0.615						
6	2007-2008	3.122	0.000	3.122	0.030	0.000	0.030						
7	2008-2009	3.018	0.000	3.018	0.000	0.000	0.000						
8	2009-2010	0.457	0.000	0.457	0.000	0.000	0.000						
9	2010-2011	0.359	0.000	0.359	0.001	0.000	0.001						
10	2011-2012	1.199	0.000	1.199	0.016	0.000	0.016						

Source: Sediment Data Book (2002 to 2012) Mahi & Others Flowing River Basins.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

I Basin : Mahanadi		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>Pairi at Baronda</b>												
01-10 days	N.A.	1655	45383	8118	82	66	0	0	N.A.	N.A.	N.A.	N.A.
11-20 days	N.A.	9737	2279	4428	119	25	0	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	53	5426	2117	740	191	8	0	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	18	1869	5531	1476	44	11	0	0	N.A.	N.A.	N.A.	N.A.
<b>Mahanadi at Rajim</b>												
01-10 days	N.A.	1905	18956	34851	126	377	25	6	2	N.A.	N.A.	N.A.
11-20 days	N.A.	15358	1526	3592	183	818	36	3	N.A.	N.A.	N.A.	N.A.
R - days	43	18479	720	1169	183	174	10	2	N.A.	N.A.	N.A.	N.A.
Monthly	14	3971	2356	4401	55	152	8	1	1	N.A.	N.A.	N.A.
<b>Mahanadi at Basantpur</b>												
01-10 days	0	4772	63219	92523	12147	314	23	23	9	5	2	14
11-20 days	0	18320	15852	105185	7368	94	75	10	10	5	12	3
R - days	0	36497	35334	84076	1124	94	12	22	21	7	8	5
Monthly	0	6621	12712	31309	2293	56	12	6	4	2	2	2
<b>Seonath at Simga</b>												
01-10 days	N.A.	125	12360	12441	121	53	2	11	0	0	0	7
11-20 days	N.A.	1392	3233	6483	114	25	2	6	0	0	0	3
R - days	46	18071	2874	3128	124	16	1	5	0	0	0	3
Monthly	15	2176	2052	2450	40	10	1	2	0	0	0	1
<b>Hamp at Andhiyarkore</b>												
01-10 days	N.A.	364	1191	2974	4	3	1	0	0	N.A.	N.A.	N.A.
11-20 days	N.A.	515	336	1743	2	2	1	0	0	N.A.	N.A.	N.A.
R - days	449	922	241	399	10	2	1	0	0	N.A.	N.A.	N.A.
Monthly	150	200	196	568	2	1	0	0	0	N.A.	N.A.	N.A.

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin

I		Basin : Mahanadi											Unit : Tonnes per day
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
<b>Seonath at Ghatora</b>													
01-10 days	N.A.	0	1644	1272	15	3	1	N.A.	N.A.	0	N.A.	N.A.	
11-20 days	N.A.	1181	877	3430	13	2	N.A.	N.A.	N.A.	0	N.A.	N.A.	
R - days	N.A.	639	831	2646	9	1	N.A.	N.A.	N.A.	0	N.A.	N.A.	
Monthly	N.A.	202	372	816	4	1	0	N.A.	N.A.	0	N.A.	N.A.	
<b>Seonath at Jondhra</b>													
01-10 days	N.A.	729	79105	65185	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
11-20 days	N.A.	29849	49530	66067	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
R - days	N.A.	74912	46185	49483	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
Monthly	N.A.	11721	19424	20082	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
<b>Jonk at Rampur</b>													
01-10 days	N.A.	89	211	309	15	10	0	0	N.A.	N.A.	N.A.	N.A.	
11-20 days	N.A.	716	155	1477	8	7	0	N.A.	N.A.	N.A.	N.A.	N.A.	
R - days	N.A.	675	31	494	6	0	0	N.A.	N.A.	N.A.	N.A.	N.A.	
Monthly	N.A.	164	44	253	3	2	0	0	N.A.	N.A.	N.A.	N.A.	
<b>Hasdeo at Manendragarh</b>													
01-10 days	N.A.	43	N.A.	674	30	1	0	N.A.	N.A.	0	N.A.	0	
11-20 days	N.A.	1260	N.A.	1209	7	1	0	N.A.	N.A.	0	N.A.	0	
R - days	17	2912	N.A.	533	0	1	0	N.A.	N.A.	0	N.A.	0	
Monthly	6	468	N.A.	268	4	0	0	N.A.	N.A.	0	N.A.	0	
<b>Hasdeo at Bammidhi</b>													
01-10 days	0	203	5268	1567	91	7	2	4	1	1	1	0	
11-20 days	23	1285	1488	1690	55	4	5	0	1	1	2	0	
R - days	28	1326	1359	638	5	6	2	3	3	1	1	0	
Monthly	6	313	902	433	17	2	1	1	1	0	0	0	
<b>Mand at Kurubhata</b>													
01-10 days	0	412	6662	747	0	7	0	0	N.A.	N.A.	N.A.	N.A.	
11-20 days	0	2464	1066	2645	0	0	0	0	N.A.	N.A.	N.A.	N.A.	
R - days	N.A.	884	1682	2959	0	0	0	0	N.A.	N.A.	N.A.	N.A.	
Monthly	0	418	1046	706	0	1	0	0	N.A.	N.A.	N.A.	N.A.	
<b>IB at Sundargarh</b>													
01-10 days	0	1561	17861	5405	203	N.A.	2	N.A.	N.A.	N.A.	N.A.	N.A.	
11-20 days	153	22216	2612	7861	81	N.A.	16	N.A.	N.A.	N.A.	N.A.	N.A.	
R - days	7375	20310	11576	16870	18	N.A.	1	N.A.	N.A.	N.A.	N.A.	N.A.	
Monthly	836	4899	3561	3348	34	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin

I Basin : Mahanadi		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Ong at Salebhata												
01-10 days	0	N.A.	2578	570	7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
11-20 days	0	N.A.	363	3438	7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	2	N.A.	303	3020	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	0	N.A.	360	781	2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Tel at Kesinga												
01-10 days	0	0	87493	30461	477	N.A.	818	0	0	0	0	0
11-20 days	0	0	6204	24447	12025	N.A.	814	0	0	0	0	0
R - days	N.A.	0	5769	3579	2778	N.A.	170	0	0	0	0	0
Monthly	0	0	11052	6499	1698	N.A.	200	0	0	0	0	0
Tel at Kantamal												
01-10 days	0	N.A.	N.A.	65395	929	1338	59	N.A.	1481	0	N.A.	N.A.
11-20 days	0	N.A.	N.A.	63279	19506	955	291	N.A.	416	0	N.A.	N.A.
R - days	0	N.A.	N.A.	11441	395	1067	37	N.A.	588	0	N.A.	N.A.
Monthly	0	N.A.	N.A.	15568	2314	373	43	N.A.	276	0	N.A.	N.A.
Mahanadi at Tikarpara												
01-10 days	353	6516	208044	37823	8908	2269	517	371	598	195	159	276
11-20 days	239	21539	42736	63844	9184	2337	681	513	283	135	291	283
R - days	1053	62888	32944	55498	10007	791	851	331	437	234	277	467
Monthly	183	10105	31525	17463	3122	600	228	135	146	63	81	114

Source: Suspended Sediment Data Year Book (2010 to 2011) Mahanadi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

I Basin : Mahanadi		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>Pairi at Baronda</b>												
01-10 days	0	N.A.	N.A.	N.A.	51	7	N.A.	0	N.A.	N.A.	N.A.	N.A.
11-20 days	0	N.A.	N.A.	N.A.	34	2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	N.A.	N.A.	N.A.	N.A.	12	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	0	N.A.	N.A.	N.A.	11	1	N.A.	0	N.A.	N.A.	N.A.	N.A.
<b>Mahanadi at Rajim</b>												
01-10 days	N.A.	N.A.	N.A.	N.A.	96	22	1	0	N.A.	N.A.	N.A.	N.A.
11-20 days	0	N.A.	N.A.	N.A.	75	13	0	0	N.A.	N.A.	N.A.	N.A.
R - days	0	N.A.	N.A.	N.A.	32	4	0	0	N.A.	N.A.	N.A.	N.A.
Monthly	0	N.A.	N.A.	N.A.	23	4	0	0	N.A.	N.A.	N.A.	N.A.
<b>Mahanadi at Basantpur</b>												
01-10 days	3	127	17297	254913	3672	137	21	434	475	260	223	N.A.
11-20 days	13	889	26955	47349	1191	72	24	381	3044	228	217	N.A.
R - days	255	38018	21444	21005	54	77	9	405	3349	211	183	N.A.
Monthly	30	4337	7300	35919	546	32	6	136	763	78	69	N.A.
<b>Seonath at Simga</b>												
01-10 days	N.A.	N.A.	N.A.	N.A.	207	31	5	3	0	N.A.	N.A.	N.A.
11-20 days	N.A.	N.A.	N.A.	N.A.	141	9	3	4	0	N.A.	N.A.	N.A.
R - days	N.A.	N.A.	N.A.	N.A.	59	5	2	4	0	N.A.	N.A.	N.A.
Monthly	N.A.	N.A.	N.A.	N.A.	45	5	1	1	0	N.A.	N.A.	N.A.
<b>Hamp at Andhiyarkore</b>												
01-10 days	N.A.	N.A.	789	14785	9	7	3	2	0	N.A.	N.A.	N.A.
11-20 days	N.A.	N.A.	441	1647	8	7	1	1	0	N.A.	N.A.	N.A.
R - days	N.A.	N.A.	347	300	7	5	0	1	0	N.A.	N.A.	N.A.
Monthly	N.A.	N.A.	175	1859	3	2	0	0	0	N.A.	N.A.	N.A.

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin

I		Basin : Mahanadi										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
<b>Seonath at Ghatora</b>													
01-10 days	N.A.	N.A.	676	28698	129	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	
11-20 days	N.A.	335	5447	2207	193	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	
R - days	N.A.	563	754	463	116	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	
Monthly	N.A.	150	764	3485	49	N.A.	N.A.	N.A.	N.A.	N.A.	0	N.A.	
<b>Seonath at Jondhra</b>													
01-10 days	N.A.	24	20059	198473	5197	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	
11-20 days	N.A.	141	47610	60449	3269	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	
R - days	13	19693	45035	31511	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	
Monthly	4	2206	12523	32270	1411	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0	
<b>Jonk at Rampur</b>													
01-10 days	N.A.	N.A.	N.A.	475	4	0	0	0	0	N.A.	N.A.	N.A.	
11-20 days	N.A.	N.A.	N.A.	2324	3	0	0	0	0	N.A.	N.A.	N.A.	
R - days	N.A.	N.A.	N.A.	2271	1	0	0	0	N.A.	N.A.	N.A.	N.A.	
Monthly	N.A.	N.A.	N.A.	563	1	0	0	0	0	N.A.	N.A.	N.A.	
<b>Hasdeo at Manendragarh</b>													
01-10 days	0	72	351	937	23	0	0	N.A.	N.A.	0	0	0	
11-20 days	6	84	422	321	8	0	0	N.A.	0	0	0	0	
R - days	234	130	166	109	1	0	N.A.	N.A.	0	0	0	0	
Monthly	27	32	104	152	4	0	0	N.A.	0	0	0	0	
<b>Hasdeo at Bammidhi</b>													
01-10 days	1	116	2097	60494	819	3	1	22	14	12	N.A.	N.A.	
11-20 days	4	708	5224	15362	330	2	3	15	13	10	N.A.	N.A.	
R - days	84	1173	2295	5255	7	5	1	25	12	11	N.A.	N.A.	
Monthly	10	222	1068	9012	128	1	1	7	4	4	N.A.	N.A.	
<b>Mand at Kurubhata</b>													
01-10 days	0	1679	19729	184647	305	0	0	0	0	0	0	0	
11-20 days	0	4698	111383	26548	154	0	0	0	0	0	0	0	
R - days	1640	19504	3716	3947	43	0	0	0	0	0	0	0	
Monthly	182	2876	14981	23905	56	0	0	0	0	0	0	0	
<b>IB at Sundargarh</b>													
01-10 days	0	1830	10765	164084	194	0	2	142	3	0	0	0	
11-20 days	0	8360	92229	10873	67	6	3	10	9	0	0	0	
R - days	19278	39987	6639	19728	18	5	0	12	1	0	0	0	
Monthly	2142	5575	12181	21632	31	1	1	18	1	0	0	0	

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin

I Basin : Mahanadi		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Ong at Salebhata												
01-10 days	0	4	57	24747	5	0	0	0	0	0	0	0
11-20 days	0	22	230	3667	2	0	0	0	0	0	0	0
R - days	N.A.	41	833	1162	0	0	0	0	0	0	0	0
Monthly	0	7	124	3286	1	0	0	0	0	0	0	0
Tel at Kesinga												
01-10 days	0	4118	8816	26223	935	32	64	12	5	14	53	7
11-20 days	1001	983	5187	17493	2985	7	35	7	13	14	2	7
R - days	2076	836	14987	12413	116	10	25	14	7	5	20	34
Monthly	342	660	3221	6237	448	5	14	4	3	4	8	5
Tel at Kantamal												
01-10 days	0	12121	44666	294332	2101	0	4	7	N.A.	N.A.	N.A.	N.A.
11-20 days	14609	4785	32110	46915	308	37	6	N.A.	N.A.	N.A.	N.A.	N.A.
R - days	15825	3634	89878	90823	25	18	1	N.A.	N.A.	N.A.	N.A.	N.A.
Monthly	3382	2282	18517	48008	270	6	1	2	N.A.	N.A.	N.A.	N.A.
Mahanadi at Tikarpara												
01-10 days	546	5627	18492	228940	7846	2198	652	527	233	186	162	146
11-20 days	2533	6821	32978	118573	4253	1759	434	560	184	118	129	197
R - days	3770	12220	64303	83784	2944	1319	391	436	172	115	128	165
Monthly	761	2741	12864	47922	1671	586	164	169	65	47	47	56

Source: Suspended Sediment Data Year Book (2011 to 2012) Mahanadi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

II Basin : Subernarekha, Burhabalang & Baitarni												Unit : Tonnes per day
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
a) Basin : Subernarekha												
Subarnarekha at Jamshedpur												
01-10 days	52	61	81	786	289	50	48	29	38	26	24	22
11-20 days	52	64	86	1380	170	337	60	24	32	25	17	21
R - days	58	62	536	1012	121	45	39	24	30	23	21	23
Monthly	54	62	244	1059	191	144	49	26	33	25	21	22
Subarnarekha at Ghatsila												
01-10 days	14	241	316	154	130	60	34	44	174	91	225	105
11-20 days	10	81	259	1291	154	101	37	81	69	93	141	48
R - days	47	71	192	1497	120	53	26	76	13	169	148	58
Monthly	24	129	254	981	134	71	32	67	88	119	171	70
Kharkai at Adityapur												
01-10 days	2	5	107	97	41	32	10	4	2	1	1	1
11-20 days	2	6	67	405	35	20	9	4	2	1	1	1
R - days	3	17	133	188	37	12	5	3	2	1	1	1
Monthly	2	10	103	230	38	21	8	4	2	1	1	1
b) Burhabalang												
Govindpur												
01-10 days	45	81	7889	2807	252	75	8	0	0	0	1	0
11-20 days	66	103	1183	19862	219	48	8	0	0	0	1	0
R - days	548	129	765	835	92	17	1	0	0	0	1	0
Monthly	220	105	3198	7835	185	47	6	0	0	0	1	0
c) Basin: Baitarani												
Baitarani at Anandpur												
01-10 days	32	258	1951	1292	446	118	84	39	17	17	15	24
11-20 days	25	223	1687	4814	498	89	67	28	16	13	20	26
R - days	85	2325	2613	1796	345	5	48	24	34	11	24	32
Monthly	47	980	2101	2634	427	71	66	30	22	14	20	27
Baitarani at Champua												
01-10 days	3	618	1168	648	157	53	10	5	3	2	6	81
11-20 days	312	212	1323	331389	87	27	9	4	2	2	46	164
R - days	684	1711	1887	438	101	16	6	4	3	4	40	76
Monthly	333	875	1473	110825	115	32	8	4	3	3	31	106

Source: Suspended Sediment Year Books (2010 to 2011) Subernarekha, Burhabalang & Baitarni.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

II Basin : Subernarekha, Burhabalang & Baitarni												Unit : Tonnes per day
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
a) Basin : Subernarekha												
Subarnarekha at Jamshedpur												
01-10 days	27	2055	6157	42085	4209	1310	543	124	92	65	47	41
11-20 days	18358	3364	72524	41412	4118	1004	450	130	85	55	49	40
R - days	7561	5377	19928	65271	1956	722	335	106	82	49	46	39
Monthly	8649	3656	32452	49589	3380	1012	439	120	86	56	47	40
Subarnarekha at Ghatsila												
01-10 days	238	8100	8398	27276	2927	40	23	12	21	17	15	11
11-20 days	17552	7666	62055	33416	2945	35	25	14	18	16	11	15
R - days	10508	7374	20248	38375	561	28	20	13	19	13	7	10
Monthly	9433	7702	29912	33022	2093	34	23	13	19	15	11	12
Kharkai at Adityapur												
01-10 days	2	32	43	358	167	105	11	1	1	0	0	0
11-20 days	1120	33	418	216	295	60	10	1	1	0	0	0
R - days	659	67	62	471	188	29	8	1	0	0	0	0
Monthly	594	45	171	348	216	65	10	1	1	0	0	0
b) Burhabalang												
Govindpur												
01-10 days	2	58	35	466	15	158	38	8	4	1	2	1
11-20 days	29	17	116	91	6	97	51	5	1	1	7	13
R - days	31	10	70	360	3	36	23	3	2	1	3	2
Monthly	21	28	74	306	8	97	37	5	2	1	4	5
c) Basin: Baitarani												
Baitarani at Anandpur												
01-10 days	73	1923	2616	31699	8584	742	260	212	100	62	30	34
11-20 days	12112	3925	11925	30544	3191	409	227	371	85	54	40	182
R - days	2822	3535	6522	157275	1660	313	192	109	85	46	32	22
Monthly	5002	3141	7005	73173	4387	488	225	227	90	54	34	77
Baitarani at Champua												
01-10 days	80	1473	3677	17522	2453	175	58	81	15	16	15	27
11-20 days	7298	1692	12177	13038	603	129	41	177	13	13	9	17
R - days	1129	1822	7130	17678	467	72	23	33	10	15	9	6
Monthly	2836	1667	7644	16079	1152	125	40	95	13	15	11	16

Source: Suspended Sediment Year Books (2011 to 2012) Subernarekha, Burhabalang & Baitarni.

**Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11**

<b>III Basin : Brahamani</b>		<b>Unit : Tonnes per day</b>										
<b>Site / Period</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>	<b>(13)</b>
<b>Brahmani at Tilga</b>												
01-10 days	0	4895	3270	6089	1167	93	44	0	0	0	0	0
11-20 days	0	13009	10513	14812	308	49	58	0	0	0	0	0
R - days	0	6523	8241	1201	325	31	9	0	0	0	0	0
Monthly	0	8090	7370	7367	591	58	36	0	0	0	0	0
<b>Brahmani at Panposh</b>												
01-10 days	29	9278	10615	30873	3893	1947	136	75	55	31	29	28
11-20 days	47	21357	8673	48131	4230	754	214	40	22	31	26	43
R - days	4877	12712	25036	16467	9274	149	195	22	30	31	23	43
Monthly	1651	14393	15106	31824	5911	950	182	45	36	31	26	38
<b>Brahmani at Gomlai</b>												
01-10 days	11	3562	10328	11916	286	126	32	11	17	13	9	14
11-20 days	27	7631	6871	39819	398	107	80	14	16	8	9	51
R - days	1733	12405	23749	6425	1039	24	9	9	8	10	16	30
Monthly	590	8012	13975	19387	589	86	39	11	14	10	11	32
<b>Brahmani at Jenapur</b>												
01-10 days	154	333	6801	2975	1467	277	68	58	111	338	304	307
11-20 days	100	141	3184	3885	1378	135	81	63	74	594	180	372
R - days	134	2343	2276	2822	1017	91	62	112	104	670	230	157
Monthly	129	984	4029	3227	1279	168	70	79	96	538	238	275

Source: Suspended Sediment Data Year Books (2010 to 2011) Brahamani Basin.



Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

III Basin : Brahamani			Unit : Tonnes per day									
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Brahmani at Tilga												
01-10 days	0	2699	20704	19026	1319	48	4	1190	0	16	5	0
11-20 days	13060	3925	34457	10678	1055	78	0	242	0	1	3	4
R - days	18869	19963	10144	29454	428	9	0	46	10	0	0	1
Monthly	10643	9220	21393	19719	918	45	1	478	3	5	3	2
Brahmani at Panposh												
01-10 days	35	14635	102704	341353	24014	2506	130	271	37	22	23	37
11-20 days	52626	20045	322726	254521	10754	860	181	357	22	15	20	34
R - days	131180	103323	76737	393271	11515	350	76	61	47	18	33	30
Monthly	61280	47850	164465	329715	15301	1239	127	224	35	18	25	34
Brahmani at Gamlai												
01-10 days	19	10388	64151	95423	8465	278	23	60	24	11	58	20
11-20 days	73092	14737	88259	77563	2255	126	18	136	19	7	27	7
R - days	233388	65948	35259	293058	1954	25	38	29	17	13	23	53
Monthly	102166	31506	61676	155348	4151	143	27	74	20	10	36	28
Brahmani at Jenapur												
01-10 days	75	6071	8762	36587	12406	1346	1855	2006	829	957	946	2771
11-20 days	2059	6597	18289	34124	4135	2793	1750	3068	772	932	657	2276
R - days	6080	7010	16365	63477	2074	2216	2287	1438	635	502	2364	582
Monthly	2738	6574	14533	44729	6072	2118	1974	2147	0	787	1322	1835

Source: Suspended Sediment Data Year Books (2011 to 2012) Brahamani Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

IV Basin : Rushikulya, Vamsadhra, Saroda & Nagavali												
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Kashinagar (Vamsadhara)												
01-10 days	70	5355	47974	22013	1942	2715	218	0	0	0	14	310
11-20 days	807	4984	11920	34286	24474	1995	94	0	0	0	190	64
R - days	977	20617	5844	8588	4793	15	2	0	228	0	570	637
Monthly	618	10319	21913	21629	10403	1575	105	0	76	0	258	337
urushottampur (Rushikulya)												
01-10 days	0	2022	12593	20905	871	44561	2062	16	7	1	20	33
11-20 days	0	163	2995	10315	7858	11756	3177	15	6	1	5	14
R - days	0	1544	4005	1877	4750	853	94	10	7	1	9	13
Monthly	0	1243	6531	11032	4493	19057	1778	14	7	1	11	20
Srikakulam (Nagavali)												
01-10 days	1	118	1356	8898	1115	1256	24	21	2	3	1	7
11-20 days	2	70	1156	19626	2888	1017	47	14	1	2	1	10
R - days	4	791	5670	4975	592	80	42	6	1	2	9	6
Monthly	2	326	2727	11166	1532	784	38	14	1	2	4	8

Source: Suspended Sediment Data Year Books (2010 to 2011) Rushikulya, Vamsadhra, Saroda & Nagavali.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

IV Basin : Rushikulya, Vamsadhra, Saroda & Nagavali												
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Kashinagar (Vamsadhara)												
01-10 days	536	866	4624	73011	341	139	17	19	0	0	0	804
11-20 days	916	1013	7342	10663	349	85	16	17	0	0	0	0
R - days	1170	995	18347	1719	253	22	13	9	0	0	486	0
Monthly	874	958	10104	28464	314	82	15	15	0	0	162	268
urushottampur (Rushikulya)												
01-10 days	7	1246	2827	40943	24	2	6	1	2	0	0	0
11-20 days	11	1191	1381	3893	7	1	3	31	0	0	0	0
R - days	16	357	26284	639	11	3	2	1	0	0	0	0
Monthly	11	931	10164	15158	14	2	4	11	1	0	0	0
Srikakulam (Nagavali)												
01-10 days	4	15	590	24551	44	32	15	23	10	30	0	0
11-20 days	12	23	1578	9791	109	65	23	16	0	7	0	0
R - days	5	9	22624	2016	181	39	13	12	1	3	0	0
Monthly	7	16	8264	12119	111	45	17	17	4	13	0	0

Source: Suspended Sediment Data Year Books (2011 to 2012) Rushikulya, Vamsadhra, Saroda & Nagavali.

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

V		Basin : Godavari										
		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Godavari at Plolavaram												
01-10 days	337	27163	2133993	1638597	34652	9981	1273	1528	887	630	628	410
11-20 days	811	317018	646339	1203651	9006	9388	1084	681	579	376	756	275
R - days	4976	763246	413693	266918	40953	4186	1326	635	681	641	625	332
Monthly	2041	381855	1043676	1036389	28615	7852	1231	938	717	552	670	339
Sabari at Konta												
01-10 days	967	18553	750340	549339	10389	9984	2614	2301	2297	2028	2866	2247
11-20 days	4474	27734	55370	347012	13157	10551	2549	2403	2162	1877	2563	2086
R - days	6528	448119	80704	40682	9113	5300	2386	2213	2020	2846	2504	1817
Monthly	3990	173941	288543	312344	10829	8612	2512	2303	2164	2270	2644	2042
Godavari at Perur												
01-10 days	5	17503	2161729	2365339	48093	13561	4002	1701	820	992	500	292
11-20 days	6	62877	435791	1058705	20819	9944	2951	1371	815	690	325	191
R - days	285	441099	362912	311060	41706	6561	2385	1009	989	618	455	136
Monthly	99	182448	966685	1245035	37029	10022	3089	1349	871	762	427	204
Indravati at Pathagudem												
01-10 days	0	14471	455673	348175	13116	1320	405	8	0	0	0	0
11-20 days	0	39507	105617	147058	13209	2641	295	0	0	0	0	0
R - days	6247	182651	116654	71118	12144	1279	92	0	0	0	0	0
Monthly	2082	82224	222455	188784	12801	1747	258	3	0	0	0	0
Indravati at Jagdalpur												
01-10 days	0	0	46705	31327	1216	0	0	0	0	0	0	0
11-20 days	0	1317	6270	23165	8811	0	0	0	0	0	0	0
R - days	0	11581	4065	5154	1213	0	0	0	0	0	0	0
Monthly	0	4534	18531	19882	3665	0	0	0	0	0	0	0
Pranahita at Tekra												
01-10 days	0	16948	551754	501021	32298	6662	1580	267	147	163	0	0
11-20 days	0	53536	192466	195861	22762	3181	722	257	250	101	0	0
R - days	399	130321	172969	105807	20261	2396	530	192	282	16	0	0
Monthly	133	68980	301447	267563	24951	4080	931	237	224	91	0	0
Peddavagu at Bhatpally												
01-10 days	0	642	1952	1748	266	191	106	78	45	56	42	25
11-20 days	42	236	1658	1192	288	205	100	52	48	53	40	25
R - days	88	15340	1910	739	300	170	86	47	53	40	43	19
Monthly	43	5726	1842	1226	285	189	97	59	49	49	42	23

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

V		Basin : Godavari										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Wardha at Bamni													
01-10 days	0	16101	202114	205600	1029	1116	724	1088	483	449	162	99	
11-20 days	0	1109	68653	123654	2388	1697	611	552	479	156	97	42	
R - days	140	48999	88670	9534	2534	1129	567	510	585	293	103	358	
Monthly	47	22938	118808	112929	2001	1314	632	710	513	299	121	173	
Penganga at P.G.Bridge													
01-10 days	0	305437	221261	55417	2220	127	30	7	3	3	3	3	
11-20 days	0	2531	50680	76504	650	327	11	6	5	4	5	3	
R - days	0	255241	100176	5145	1232	94	7	5	13	4	3	2	
Monthly	0	189914	123269	45689	1363	183	16	6	7	4	4	3	
Wunna at Nandgaon													
01-10 days		167	18817	12979	490	48	50	112	103	94	24	14	
11-20 days	0	1305	5128	14427	141	150	89	100	79	63	32	0	
R - days	115	3057	30991	765	113	62	120	63	145	62	50	0	
Monthly	38	1560	18721	9390	244	87	87	91	108	73	35	5	
Wardha at Hivra													
01-10 days	0	88	1446	2485	5	0	0	0	0	0	0	0	
11-20 days	7	0	574	2359	0	0	0	0	0	0	0	0	
R - days	3	89	1546	41	1	0	0	0	0	0	0	0	
Monthly	3	60	1200	1628	2	0	0	0	0	0	0	0	
Wainganga at Asthi													
01-10 days	16	11460	100668	85805	1297	273	315	153	64	70	13	13	
11-20 days	23	27493	28948	35131	955	182	230	138	82	63	9	1	
R - days	265	15756	11580	12457	1634	341	85	108	175	35	18	0	
Monthly	101	18156	45921	44464	1306	265	206	132	105	55	13	5	
Kanhani at Satrapur													
01-10 days	1	29740	43033	18103	1093	48	42	16	17	14	4	5	
11-20 days	1	377	15942	18362	333	87	26	16	13	13	3	14	
R - days	213	1837	13477	7467	506	377	15	15	13	11	11	16	
Monthly	72	10367	23806	14644	640	171	27	16	14	13	6	12	
Godavari at Mancherla													
01-10 days	0	6	12267	67453	4630	787	123	24	20	38	14	12	
11-20 days	0	138	3173	34637	1734	551	63	17	19	24	14	9	
R - days	0	2664	8847	16439	3391	203	36	16	49	19	15	4	
Monthly	0	992	8120	39510	3256	514	73	19	29	27	14	8	

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

V		Basin : Godavari										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	16	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Manjira at Saigaon													
01-10 days	0	14266	845	7866	8736	435	466	0	0	0	0	0	
11-20 days	0	978	11019	12849	348	1106	0	0	0	0	0	0	
R-days	0	1180	56512	14686	2049	1101	0	0	0	0	0	0	
Monthly	0	5336	23880	11800	3657	881	150	0	0	0	0	0	
Godavari at Dhalegaon													
01-10 days	0	30473	0	1686	130	0	0	0	0	0	0	0	
11-20 days	0	609	1624	1416	0	0	0	0	0	0	0	0	
R-days	0	0	2060	1632	135	0	0	0	0	0	0	0	
Monthly	0	10026	1255	1578	90	0	0	0	0	0	0	0	

Source: Suspended Sediment Data Year Books (2010 to 2011) Godavari Basin.

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

V		Basin : Godavari										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Godavari at Plolavaram													
01-10 days	499	2739	61482	746907	10199	1072	682	809	579	583	852	415	
11-20 days	1047	12308	145917	320930	2975	1195	1139	647	515	330	491	575	
R - days	1157	64168	264696	128868	2408	810	594	641	426	484	504	517	
Monthly	901	27623	160827	398902	5104	1026	798	697	509	466	616	503	
Sabari at Konta													
01-10 days	2541	4299	17424	84240	4355	1143	526	999	765	1184	1336	1211	
11-20 days	3992	5588	12421	21595	4325	1404	580	806	764	1094	1036	1155	
R - days	3302	6859	13048	24183	1397	669	673	811	922	1256	764	1192	
Monthly	3278	5623	14257	43339	3296	1072	596	870	813	1181	1045	1186	
Godavari at Perur													
01-10 days	21	4009	105559	3387001	14776	1640	218	70	51	13	4	2	
11-20 days	159	61068	238269	955994	9241	968	96	101	53	8	3	1	
R - days	1135	144050	638747	260081	3601	466	64	63	30	5	2	1	
Monthly	438	72107	337564	1534359	9025	1025	124	78	45	9	3	1	
Indravati at Pathagudem													
01-10 days	0	524	11150	460083	1303	0	0	0	0	0	0	0	
11-20 days	0	5645	18220	112814	882	0	0	0	0	0	0	0	
R - days	0	6821	56611	33751	241	0	0	0	0	0	0	0	
Monthly	0	4410	29562	202216	790	0	0	0	0	0	0	0	
Indravati at Jagdalpur													
01-10 days	0	0	2829	21096	352	0	0	0	0	0	0	0	
11-20 days	0	782	1546	12907	159	0	0	0	0	0	0	0	
R - days	0	346	10889	8445	0	0	0	0	0	0	0	0	
Monthly	0	375	5275	14149	165	0	0	0	0	0	0	0	
Pranahita at Tekra													
01-10 days	15	1050	159595	1588691	13803	2683	301	247	196	37	10	0	
11-20 days	26	35174	239512	453039	9471	1461	253	351	172	21	6	0	
R - days	297	144949	323688	111883	5962	897	316	151	88	12	3	0	
Monthly	113	63119	243601	717871	9623	1680	291	246	154	23	6	0	
Peddavagu at Bhatpally													
01-10 days	16	138	344	1180	211	49	46	42	29	24	30	0	
11-20 days	25	185	540	587	110	44	41	41	124	28	39	0	
R - days	96	343	1508	267	67	48	37	38	47	22	27	0	
Monthly	46	226	820	678	127	47	41	40	67	25	32	0	

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

V		Basin : Godavari										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Wardha at Bamni													
01-10 days	245	848	5001	199321	1689	275	331	287	264	241	93	0	
11-20 days	241	13513	3027	34692	977	236	342	255	253	228	20	0	
R - days	447	1041	73428	4094	477	295	247	273	225	132	12	0	
Monthly	311	5002	28645	79369	1029	269	305	272	248	198	42	0	
Penganga at P.G.Bridge													
01-10 days	1	6651	30239	9529	201	17	9	8	2	3	0	0	
11-20 days	6	87666	1240	18896	114	7	16	17	9	6	0	0	
R - days	42	2214	118902	1420	56	7	12	8	6	5	0	0	
Monthly	16	31210	52346	9948	121	10	12	11	6	5	0	0	
Wunna at Nandgaon													
01-10 days	0	10	622	42857	66	13	40	29	34	33	10	1	
11-20 days	8	96	1768	2480	23	32	31	34	37	19	0	0	
R - days	16	111	569	271	12	39	29	33	24	2	0	0	
Monthly	8	74	973	15203	33	28	33	32	32	17	3	0	
Wardha at Hivra													
01-10 days	-	9	6	111969	3	0	0	0	0	0	0	0	
11-20 days	-	14	1166	2197	1	0	0	0	0	0	0	0	
R - days	11	4	27079	11	0	0	0	0	0	0	0	0	
Monthly	0	9	9987	38059	1	0	0	0	0	0	0	0	
Wainganga at Asthi													
01-10 days	5	966	41962	197907	3199	2020	151	171	95	8	26	5	
11-20 days	223	11370	47276	79668	3361	1552	96	180	39	7	12	4	
R - days	927	54319	54619	21191	2612	280	115	42	14	24	5	3	
Monthly	385	23254	48167	99589	3043	1284	120	128	51	13	14	4	
Kanhani at Satrapur													
01-10 days	593	610	6394	34398	1401	302	143	239	245	154	10	7	
11-20 days	6482	2128	4007	38249	705	284	150	233	239	63	13	5	
R - days	2290	5380	27288	5063	379	183	149	232	186	14	9	8	
Monthly	3122	2792	13038	25903	814	256	147	235	225	75	11	7	
Godavari at Mancherla													
01-10 days	3	228	772	12101	493	94	15	6	3	2	2	1	
11-20 days	3	713	456	3220	307	84	15	5	3	2	2	1	
R-days	2	383	8608	1493	197	49	9	3	2	2	1	1	
Monthly	3	439	3451	5605	328	76	13	5	3	2	2	1	

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

V		Basin : Godavari											Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	16	March	April	May		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
Manjira at Saigaon														
01-10 days	0	299	853	2808	388	0	0	0	0	0	0	0		
11-20 days	0	1006	211	1585	0	0	0	0	0	0	0	0		
R - days	0	903	11923	597	0	0	0	0	0	0	0	0		
Monthly	0	741	4574	1663	125	0	0	0	0	0	0	0		
Godavari at Dhalegaon														
01-10 days	0	0	0	655	0	0	0	0	0	0	0	0		
11-20 days	0	0	0	422	0	0	0	0	0	0	0	0		
R - days	0	0	2096	0	0	0	0	0	0	0	0	0		
Monthly	0	0	744	359	0	0	0	0	0	0	0	0		

Source: Suspended Sediment Data Year Books (2011 to 2012) Godavari Basin.

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VI		Basin : Krishna											Unit : Tonnes per day
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Krishna at Wadenapalli													
01-10 days	3	28	62	15696	11504	373	167	78	75	64	63	9	
11-20 days	4	48	105	13682	1420	898	72	143	61	83	37	5	
R - days	4	25	175	6565	321	94	45	108	49	79	32	5	
Monthly	4	33	116	11981	4283	455	93	110	62	75	44	6	
Tungabhadra at Bawapuram													
01-10 days	4	1	0	129	236	34	9	3	1	0	0	0	
11-20 days	8	0	15	88	31	127	4	2	0	0	0	0	
R - days	2	4	411	70	13	20	3	2	0	0	1	0	
Monthly	5	2	151	96	91	60	5	2	0	0	0	0	
Tungabhadra at Marol													
0													
01-10 days	0	822	8200	4205	5372	1573	669	0	0	0	0	0	
11-20 days	1482	491	2104	1761	1283	1829	0	0	0	0	0	0	
R - days	798	4909	1858	3058	600	634	0	0	0	0	0	0	
Monthly	760	2165	3983	3008	2360	1345	216	0	0	0	0	0	
Tungabhadra at Haralahalli													
01-10 days	28	1255	11050	7994	9696	3224	496	167	8	0	36	96	
11-20 days	637	611	2001	2455	1154	4302	222	57	10	0	134	79	
R - days	975	12567	4403	5520	1021	1451	201	38	0	0	134	94	
Monthly	547	5061	5772	5323	3862	2992	303	86	6	0	101	90	
Haridra at Byladahalli													
01-10 days	0	18	34	73	302	137	25	1	0	0	0	0	
11-20 days	0	10	18	66	29	151	7	1	0	0	0	2	
R - days	2	45	183	285	53	67	3	0	0	0	0	11	
Monthly	1	25	82	141	126	118	11	1	0	0	0	5	
Tungabhadra at Honnali													
01-10 days	9	319	5257	2875	2466	593	49	30	20	5	21	10	
11-20 days	149	100	368	631	154	1275	36	10	18	5	15	10	
R - days	147	6625	2456	2113	67	96	56	11	10	6	14	9	
Monthly	102	2486	2686	1873	869	655	47	17	16	5	17	10	
Tungabhadra at Shimoga													
01-10 days	0	452	3059	1535	1295	128	69	0	0	0	0	0	
11-20 days	362	337	788	490	97	133	34	0	0	0	0	0	
R - days	480	4219	2231	1525	135	138	19	0	0	0	0	0	
Monthly	281	1752	2033	1183	497	133	40	0	0	0	0	0	
Bhima at Yadgir													
01-10 days	0	575	2045	16418	16226	1288	787	0	0	0	0	0	
11-20 days	0	341	6046	19585	4214	1635	246	0	0	0	0	0	
R - days	0	1528	61995	15070	9447	1381	0	0	0	0	0	0	
Monthly	0	838	24608	17024	9946	1435	333	0	0	0	0	0	

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VI		Basin : Krishna										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Kagna at Malkhed													
01-10 days	1	1194	1610	4929	1094	1656	43	45	25	23	8	9	
11-20 days	12	394	1953	8761	1171	493	44	42	30	10	7	7	
R- days	38	3060	16322	7855	730	245	53	58	16	12	7	8	
Monthly	17	1598	6941	7182	990	798	47	49	24	15	7	8	
Bhima at Takali													
01-10 days	0	0	322	387	5518	0	0	0	0	0	0	0	
11-20 days	0	0	0	1264	117	0	0	0	0	0	0	0	
R-days	0	0	384	2816	0	0	0	0	0	0	0	0	
Monthly	0	0	240	1489	1818	0	0	0	0	0	0	0	
Talaprabha at Cholachagudda													
01-10 days	0	0	9	586	5514	14091	0	0	0	0	0	0	
11-20 days	0	15083	4360	66	2763	4831	0	0	0	0	0	0	
R-days	2426	26	37602	1985	374	357	0	0	0	0	0	0	
Monthly	809	4875	14752	879	2803	6426	0	0	0	0	0	0	
Krishna at Kurundwad													
01-10 days	0	2062	25613	20961	15414	21	0	0	0	0	0	0	
11-20 days	6941	2319	10177	11568	3956	0	0	0	0	0	0	0	
R-days	4133	44746	6167	9231	2451	0	0	0	0	0	0	0	
Monthly	3691	17291	13733	13920	7118	7	0	0	0	0	0	0	
Krishna at Karad													
01-10 days	0	497	5748	6292	1776	217	7	0	0	0	0	0	
11-20 days	1705	615	967	2304	370	373	0	0	0	0	0	0	
R-days	833	10522	806	928	427	221	0	0	0	0	0	0	
Monthly	846	4092	2452	3175	844	270	2	0	0	0	0	0	

Source : Suspended Sediment Data books (2010 to 2011) Krishna Basin.

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VI		Basin : Krishna										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Krishna at Wadenapalli													
01-10 days	6	66	804	47566	2150	811	379	443	93	178	297	34	
11-20 days	6	124	968	18183	2563	2675	453	437	100	210	32	30	
R - days	3	837	869	2738	2324	533	407	138	96	440	34	29	
Monthly	5	358	880	22829	2345	1340	413	333	96	281	121	31	
Tungabhadra at Bawapuram													
01-10 days	24	0	56	841	1	9	4	0	0	0	0	0	
11-20 days	2	0	137	151	3	5	0	0	0	0	0	0	
R - days	1	0	107	60	7	4	0	1	17	0	0	0	
Monthly	9	0	100	351	4	6	1	0	5	0	0	0	
Tungabhadra at Marol													
0													
01-10 days	0	2367	4423	7272	910	894	299	0	0	0	0	0	
11-20 days	1195	3789	2651	3210	1796	369	99	0	0	0	0	0	
R - days	2288	4698	2192	1594	1086	151	0	0	0	0	0	0	
Monthly	1161	3653	3060	4025	1258	471	128	0	0	0	0	0	
Tungabhadra at Haralahalli													
01-10 days	332	789	6545	12846	537	479	170	12	8	156	29	194	
11-20 days	1220	11524	2364	2393	1434	221	101	0	70	2	67	146	
R-days	2912	7104	2240	856	614	119	38	13	205	1	583	73	
Monthly	1488	6493	3669	5365	854	273	101	8	91	51	226	136	
Haridra at Byladahalli													
01-10 days	55	7	58	32	19	12	0	0	0	0	0	10	
11-20 days	4	16	22	20	51	5	0	0	0	5	6	10	
R - days	6	14	53	17	32	1	0	0	5	1	50	9	
Monthly	22	12	45	23	34	6	0	0	2	5	19	10	
Tungabhadra at Honnali													
01-10 days	12	496	5281	10367	34	26	13	30	60	63	42	44	
11-20 days	465	5235	2635	2367	362	11	7	29	132	49	33	51	
R - days	2825	4187	3305	257	562	6	4	38	83	42	82	33	
Monthly	1101	3334	3726	4330	327	14	8	33	92	51	52	42	
Tungabhadra at Shimoga													
01-10 days	23	260	1115	2245	83	54	23	2	3	1	3	3	
11-20 days	562	3965	468	542	62	42	9	1	3	3	5	2	
R - days	2059	2414	1474	167	87	40	4	1	2	2	6	1	
Monthly	881	2219	1034	985	78	45	12	1	3	2	5	2	
Bhima at Yadgir													
01-10 days	0	0	6117	71676	687	590	222	0	0	0	0	0	
11-20 days	0	0	548	21932	831	526	89	0	0	0	0	0	
R - days	0	0	3221	2649	556	608	0	0	0	0	0	0	
Monthly	0	0	3293	32086	687	575	100	0	0	0	0	0	

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VI		Basin : Krishna										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Kagna at Malkhed													
01-10 days	13	33	1223	1444	113	77	20	14	15	8	5	3	
11-20 days	14	15	421	852	100	76	29	10	13	7	6	3	
R- days	7	2792	2329	297	87	60	14	8	11	7	4	3	
Monthly	11	1006	1357	864	100	71	21	11	13	7	5	3	
Bhima at Takali													
01-10 days	0	0	0	32056	0	0	0	0	0	0	0	0	
11-20 days	0	0	0	824	0	0	0	0	0	0	0	0	
R-days	0	0	0	177	0	0	0	0	0	0	0	0	
Monthly	0	0	0	11019	0	0	0	0	0	0	0	0	
lalaprabha at Cholachagudda													
01-10 days	0	736	50	1016	740	274	-	-	-	-	-	-	
11-20 days	0	16	59	2367	9105	204	-	-	-	-	-	-	
R-days	0	0	1429	329	866	392	-	-	-	-	-	-	
Monthly	0	243	542	1237	3483	290	-	-	-	-	-	-	
Krishna at Kurundwad													
01-10 days	0	8181	19692	54822	268	0	0	0	0	0	0	0	
11-20 days	9594	20847	10374	7266	0	0	0	0	0	0	0	0	
R-days	19148	23004	19958	1212	0	0	0	0	0	0	0	0	
Monthly	9581	17527	16781	21100	86	0	0	0	0	0	0	0	
Krishna at Karad													
01-10 days	0	828	4106	33188	142	191	0	0	0	0	0	0	
11-20 days	33	3913	3961	1445	499	76	0	0	0	0	0	0	
R-days	248	7416	14126	474	292	0	0	0	0	0	0	0	
Monthly	94	4161	7615	11702	310	89	0	0	0	0	0	0	

Source : Suspended Sediment Data books (2011 to 2012) Krishna Basin.

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VII Basin : Cauvery		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
hirumalairajanan at Thengudi												
01-10 days	0	0	0	2	5	17	61	7	2	1	0	0
11-20 days	0	0	0	8	8	18	21	5	1	0	0	0
R - days	0	0	0	6	40	67	30	5	1	0	0	0
Monthly	0	0	0	5	18	34	37	6	1	0	0	0
Cauvery at Musiri												
01-10 days	10	14	302	513	989	218	2102	226	21	34	6	13
11-20 days	27	90	281	1345	1122	530	453	886	27	10	6	7
R - days	24	253	421	709	2544	3478	315	406	31	12	121	14
Monthly	20	123	337	856	1584	1409	936	503	26	18	44	11
naravathy at Nallamaranpatty												
01-10 days	0	0	0	0	0	2	22	1	0	0	0	0
11-20 days	0	0	0	0	0	2	6	0	0	0	0	0
R - days	0	0	0	0	1	12	4	0	0	0	0	0
Monthly	0	0	0	0	0	5	10	0	0	0	0	0
Cauvery at Kodumudi												
01-10 days	100	106	346	873	1461	516	489	333	108	158	99	93
11-20 days	114	117	636	1110	901	506	398	663	162	158	96	91
R - days	95	309	739	752	1221	693	328	350	153	131	145	169
Monthly	103	182	579	912	1195	572	403	445	141	148	113	119
Bhavani at Savandapur												
01-10 days	28	6	8	1	244	1800	12	12	10	8	7	3
11-20 days	11	18	13	1	13	400	21	13	9	6	7	5
R - days	7	6	3	25	16	180	6	9	15	7	20	24
Monthly	15	10	8	9	89	793	13	11	11	7	11	11

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VII Basin : Cauvery		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Moyar at Thengumarahada												
01-10 days	47	32	35	32	44	236	45	5	12	11	16	124
11-20 days	31	91	39	35	10	129	13	8	8	14	12	6
R - days	32	279	1073	159	55	87	13	6	11	23	28	25
Monthly	37	139	405	75	37	151	23	6	10	16	19	51
Bhavani at Nellithurai												
01-10 days	13	150	215	77	656	214	78	37	11	346	54	23
11-20 days	219	169	268	100	135	577	63	2	24	46	32	3
R - days	65	145	272	228	201	318	20	1	500	12	6	2
Monthly	99	154	252	135	326	370	53	13	167	131	31	9
Cauvery at Urachikottai												
01-10 days	1	6	24	34	25	11	26	22	0	8	0	0
11-20 days	9	4	32	34	40	8	20	35	7	9	0	0
R - days	8	16	31	34	38	1	18	19	11	7	2	0
Monthly	6	9	29	34	34	7	21	25	6	8	1	0
Cauvery at Biligundulu												
01-10 days	373	26	310	309	379	2569	339	112	43	79	51	228
11-20 days	53	387	98	252	130	1053	205	53	36	47	98	141
R - days	35	185	407	365	243	710	77	91	56	49	397	264
Monthly	154	199	276	309	250	1444	203	86	45	58	182	213
Shimsha at T.K.Halli												
01-10 days	101	3	6	49	425	575	53	14	8	9	7	6
11-20 days	21	74	10	74	67	302	49	11	4	3	6	5
R - days	7	7	104	175	61	90	33	11	19	8	53	34
Monthly	43	27	42	99	180	322	45	12	10	7	22	16
Cauvery at Kollegal												
01-10 days	36	17	243	144	147	854	124	32	20	21	21	27
11-20 days	20	18	71	133	106	502	56	15	17	21	22	39
R - days	15	95	200	141	238	217	38	20	22	24	65	63
Monthly	24	45	172	139	166	524	72	22	20	22	36	44
Kabini at T.Narasipur												
01-10 days	45	13	299	258	211	334	98	53	21	38	22	27
11-20 days	26	14	115	195	136	260	54	22	25	41	34	38
R - days	14	218	408	206	227	195	68	29	33	33	72	33
Monthly	28	86	278	220	192	263	73	34	26	37	43	33
Kabini at Muthankera												
01-10 days	74	337	1097	306	505	1049	37	26	9	8	8	16
11-20 days	676	349	286	329	128	1220	35	19	7	2	21	13
R - days	295	2008	546	265	553	214	26	7	14	10	533	10
Monthly	348	934	640	300	400	828	32	17	10	7	187	13

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VII		Basin : Cauvery										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Hemavathi at Mukundur Hosahalli													
01-10 days	14	11	34	19	26	38	23	20	15	20	21	13	
11-20 days	16	8	34	21	47	46	22	20	13	20	20	15	
R - days	10	46	24	31	24	53	21	19	20	21	16	18	
Monthly	13	22	30	24	32	46	22	20	16	20	19	15	
Cauvery at Kudige													
01-10 days	38	253	735	322	173	209	63	19	8	0	0	0	
11-20 days	252	89	120	127	113	142	48	15	2	0	0	0	
R - days	87	1608	579	139	239	101	29	11	0	0	0	0	
Monthly	126	681	481	196	177	151	46	15	3	0	0	0	

Source: Suspended Sediment and Bedmaterial Data Book for 2010-2011 (Cauvery Basin)



Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VII Basin : Cauvery		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
hirumalairajanar at Thengudi												
01-10 days	0	1	3	2	9	20	11	7	3	0	0	0
11-20 days	1	3	6	5	6	8	13	3	1	0	0	0
R - days	0	2	9	9	15	20	6	4	1	0	0	0
Monthly	0	2	6	5	10	16	10	5	2	0	0	0
Cauvery at Musiri												
01-10 days	278	916	516	637	539	786	673	232	149	54	28	28
11-20 days	632	492	739	671	561	326	567	453	80	53	30	26
R - days	537	516	539	569	314	791	442	313	62	38	34	33
Monthly	482	637	596	626	466	634	557	332	98	48	31	29
naravathy at Nallamaranpatty												
01-10 days	0	0	0	0	0	17	364	0	0	0	0	0
11-20 days	0	0	0	0	0	1	1	0	0	0	0	0
R - days	0	0	0	0	0	494	0	0	0	0	0	0
Monthly	0	0	0	0	0	171	118	0	0	0	0	0
Cauvery at Kodumudi												
01-10 days	471	1625	1033	1214	1339	469	635	440	236	173	107	97
11-20 days	997	939	1165	1721	1715	765	837	869	174	167	116	97
R - days	1177	1194	818	1511	509	993	687	568	160	135	112	110
Monthly	882	1251	999	1482	1166	742	719	624	191	158	112	102
Bhavani at Savandapur												
01-10 days	22	24	12	18	17	189	16	11	10	9	10	2
11-20 days	19	25	8	16	16	23	11	18	10	12	7	2
R - days	17	18	8	16	173	97	17	12	14	10	9	3
Monthly	19	22	9	17	72	103	15	14	11	10	9	2

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VII Basin : Cauvery		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Moyar at Thengumarahada												
01-10 days	206	22	26	396	45	55	39	21	19	12	18	18
11-20 days	44	44	76	95	83	34	18	15	15	15	63	24
R - days	32	36	56	58	78	69	18	20	8	18	133	19
Monthly	94	34	53	183	69	53	25	19	14	15	71	20
Bhavani at Nellithurai												
01-10 days	651	93	204	496	19	382	138	29	41	50	36	20
11-20 days	462	139	78	105	68	88	28	18	77	64	2	45
R - days	135	209	132	87	371	205	21	32	36	42	56	30
Monthly	416	149	138	229	160	225	61	27	52	52	31	32
Cauvery at Urachikottai												
01-10 days	16	49	32	85	97	0	59	117	36	18	6	14
11-20 days	29	41	34	76	78	59	151	146	8	14	9	31
R - days	36	46	19	68	22	34	96	138	11	5	30	22
Monthly	27	45	28	76	64	31	102	134	19	12	15	22
Cauvery at Biligundulu												
01-10 days	303	506	689	4611	439	913	232	106	58	58	73	83
11-20 days	75	707	530	434	640	466	64	49	18	69	39	94
R - days	198	381	303	354	404	338	57	51	28	28	87	64
Monthly	192	526	501	1800	491	572	116	68	35	51	66	80
Shimsha at T.K.Halli												
01-10 days	38	14	48	53	159	400	65	18	12	8	0	8
11-20 days	9	11	72	60	273	25	19	7	5	3	2	15
R - days	12	25	52	32	179	80	26	19	3	0	33	3
Monthly	20	17	57	48	203	168	36	15	7	4	12	8
Cauvery at Kollegal												
01-10 days	35	179	477	1254	138	255	58	17	13	14	18	16
11-20 days	34	339	256	226	137	108	27	13	12	15	16	28
R - days	112	315	259	136	160	114	24	15	14	16	25	19
Monthly	60	279	328	539	145	159	36	15	13	15	20	21
Kabini at T.Narasipur												
01-10 days	35	149	691	2355	213	337	40	12	3	8	25	19
11-20 days	33	813	460	723	248	75	30	11	9	17	42	30
R - days	87	672	16535	287	323	104	18	10	9	16	65	22
Monthly	52	549	6239	1122	263	172	29	11	7	14	44	24
Kabini at Muthankera												
01-10 days	880	140	1215	1415	123	751	40	12	5	4	6	8
11-20 days	1588	1862	760	523	1049	63	25	3	9	3	12	12
R - days	876	900	1242	108	1242	52	20	4	5	2	42	4
Monthly	1115	0	1078	682	819	289	28	6	6	3	20	8

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VII		Basin : Cauvery										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	7	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Hemavathi at Mukundur Hosahalli													
01-10 days	17	11	55	144	18	40	20	21	7	7	5	37	
11-20 days	17	24	70	78	27	29	23	14	7	7	4	5	
R - days	18	35	67	37	30	26	18	7	8	6	4	5	
Monthly	17	24	64	86	25	32	20	14	7	0	4	0	
Cauvery at Kudige													
01-10 days	134	268	911	968	97	133	17	6	3	1	5	5	
11-20 days	549	947	256	216	157	53	12	3	1	0	1	6	
R - days	490	454	250	95	165	20	7	2	1	3	2	2	
Monthly	391	553	465	426	140	69	12	4	2	1	3	4	

Source: Suspended Sediment and Bedmaterial Data Book for 2011-2012 (Cauvery Basin)

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari												Unit : Tonnes per day
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Gundlakamma at Marella												
01-10 days	23	40	39	325	321	1507	431	99	58	39	70	9
11-20 days	33	96	51	1022	123	628	159	95	42	53	60	3
R - days	22	58	2062	358	199	280	141	70	47	58	22	3
Monthly	26	64	761	568	214	805	240	87	49	50	51	5
Pennar at Chennur												
01-10 days	7	173	942	6226	2077	5647	1595	447	330	164	14	57
11-20 days	105	13934	2490	14642	1175	10236	1257	383	241	170	26	15
R - days	32	3802	18190	4793	4401	1768	993	425	282	101	23	13
Monthly	48	5900	7562	8554	2611	5884	1272	419	284	144	21	28
Kunderu at Alladupalli												
01-10 days	0	38	635	3101	1305	1298	1620	1414	1824	915	124	337
11-20 days	5	1692	1044	6934	780	1617	1659	1905	1429	1192	126	123
R - days	2	2628	8347	2308	2165	1311	1284	2090	1354	635	190	88
Monthly	2	1491	3503	4114	1441	1409	1513	1812	1542	905	147	180
Ponnaiyar at Vazhavachanur												
01-10 days	0	1	1	1	2	179	299	29	8	11	3	2
11-20 days	0	3	1	6	1	142	84	16	3	8	2	1
R - days	4	1	2	3	3	531	37	13	40	40	6	2
Monthly	1	2	1	3	2	284	137	19	16	20	4	2
Ponnaiyar at Gummanur												
01-10 days	25	18	8	13	24	73	21	11	4	7	0	24
11-20 days	31	4	6	2	27	77	15	5	1	1	1	18
R - days	9	5	22	36	7	61	15	2	8	1	102	28
Monthly	22	9	12	17	19	70	17	6	4	3	34	23
Suruliyar at Theni												
01-10 days	2	42	128	100	306	127	565	103	48	16	3	2
11-20 days	2	49	156	60	85	174	109	106	44	20	3	0
R - days	3	200	105	207	124	1427	117	47	72	6	14	0
Monthly	2	100	129	122	170	576	259	84	54	14	7	1
Vaigai at Ambasamudram												
01-10 days	0	0	0	0	3	4	812	9	0	0	0	0
11-20 days	0	0	0	0	0	84	527	2	0	0	0	0
R - days	0	0	0	1	3	856	227	0	0	0	0	0
Monthly	0	0	0	0	1	105	174	1	0	0	0	0
Pambraparani at Murappanadu												
01-10 days	9	18	7	6	4	13	173	10	19	4	2	10
11-20 days	7	11	9	8	3	13	5	7	9	19	6	12
R - days	6	11	7	7	11	40	5	3	9	11	8	11
Monthly	7	13	8	7	6	22	59	7	12	11	5	11

Source: Suspended Sediment and Bedmaterial Data Book for 2010-2011 (East Flowing Rivers from Mahanadi to Kanyakumari)

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Gundlakamma at Marella													
01-10 days	22	1	3	8	35	78	38	38	9	4	1	0	
11-20 days	8		2	88	222	73	22	50	12	4	0	6	
R - days	3	53	20	36	117	99	37	17	7	4	0	0	
Monthly	11	19	9	44	124	83	32	34	9	4	0	2	
Pennar at Chennur													
01-10 days	31	16	522	3763	7690	369	409	115	26	7	1	3	
11-20 days	13	14	4910	8199	978	187	219	133	14	2	1	4	
R - days	5	375	18113	1079	438	621	200	59	9	1	2	4	
Monthly	16	143	8179	4347	2952	392	274	101	17	3	1	4	
Kunderu at Alladupalli													
01-10 days	147	213	1582	3412	2825	738	1032	791	278	139	17	21	
11-20 days	127	145	3245	7003	939	484	842	567	202	88	0	0	
R - days	54	434	10894	1164	771	1082	1042	585	163	1	17	0	
Monthly	109	269	5423	3860	1488	768	974	646	216	74	11	7	
Ponnaiyar at Vazhavachanur													
01-10 days	1	0	0	0	2	52	58	81	4	25	3	2	
11-20 days	0	0	5	1	10	12	50	29	3	55	5	1	
R - days	0	0	2	1	5	80	72	16	1	16	3	0	
Monthly	0	0	2	1	6	48	60	41	3	31	4	1	
Ponnaiyar at Gummanur													
01-10 days	43	29	21	20	56	34	13	14	1	1	1	70	
11-20 days	18	12	68	35	110	10	15	10	1	0	0	37	
R - days	39	52	52	22	26	18	6	2	2	0	6	24	
Monthly	33	32	47	26	63	21	11	8	1	0	2	43	
Suruliyar at Theni													
01-10 days	0	91	106	137	54	279	271	116	10	2	2	3	
11-20 days	129	109	144	114	559	178	163	100	20	2	2	3	
R - days	146	134	117	90	493	990	176	34	6	1	2	4	
Monthly	92	112	122	114	373	482	202	82	12	2	2	3	
Vaigai at Ambasamudram													
01-10 days	0	0	0	0	0	2444	715	211	9	0	0	0	
11-20 days	0	0	0	0	163	601	382	87	0	0	0	0	
R - days	0	0	0	0	2521	2818	139	39	0	0	0	0	
Monthly	0	0	0	0	947	1954	403	110	3	0	0	0	
Pambraparani at Murappanadu													
01-10 days	11	8	4	11	5	29	48	17	8	8	2	1	
11-20 days	17	4	3	10	8	3	13	11	14	6	3	7	
R - days	12	12	6	4	32	396	10	5	6	3	2	6	
Monthly	13	8	4	8	16	143	23	11	9	6	2	5	

Source: Suspended Sediment and Bedmaterial Data Book for 2011-2012 (East Flowing Rivers from Mahanadi to Kanyakumari)

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Pulanthode at Pulamanthole													
01-10 days	43	511	407	210	1393	2605	48	20	5	6	3	22	
11-20 days	506	907	252	333	237	992	31	10	3	3	7	4	
R - days	337	439	357	219	839	498	19	8	9	7	120	7	
Monthly	295	613	339	254	824	1365	32	13	6	5	43	11	
Aliyar at Ambrampalayam													
01-10 days	6	5	7	13	11	11	90	13	13	8	3	5	
11-20 days	7	4	9	9	8	117	30	15	8	9	3	2	
R - days	8	7	7	18	12	196	17	12	11	11	10	10	
Monthly	7	5	8	13	10	108	45	13	11	9	5	6	
Chalakudy at Arangaly													
01-10 days	26	116	153	79	1211	268	131	8	0	0	0	0	
11-20 days	248	168	137	68	161	569	77	3	0	0	0	0	
R - days	177	319	124	696	104	930	19	0	0	0	0	0	
Monthly	150	205	138	281	479	589	74	4	0	0	0	0	
Periyar at Neeleswaram													
01-10 days	210	534	132	81	419	159	97	12	2	4	2	5	
11-20 days	1393	124	226	94	202	243	60	6	2	1	2	6	
R - days	804	200	114	222	124	266	35	1	4	2	33	21	
Monthly	802	283	156	132	244	223	63	6	3	2	12	11	
vattupuzha at Ramamangalam													
01-10 days	476	468	178	64	674	280	40	28	113	76	132	80	
11-20 days	1244	631	684	167	119	505	66	34	103	85	81	77	
R - days	1318	578	277	523	887	1028	63	34	81	71	91	69	
Monthly	1013	560	376	251	571	604	57	32	100	77	101	75	
Kaliyar at Kalampur													
01-10 days	14	178	35	21	136	171	5	0	3	0	0	0	
11-20 days	543	153	184	76	46	73	0	0	0	0	0	0	
R - days	189	146	109	140	150	274	0	0	0	0	0	14	
Monthly	249	159	109	79	112	173	2	0	1	0	0	5	

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Chaliyar at Kuniyil													
01-10 days	0	356	1269	441	1347	1340	67	0	0	0	0	0	
11-20 days	1061	1601	468	1596	123	1007	60	0	0	0	0	0	
R - days	309	2033	854	978	1273	685	0	0	0	0	0	0	
Monthly	457	1353	863	1005	926	1011	41	0	0	0	0	0	
Bharathapuzha at Kumbidi													
01-10 days	25	1522	1389	488	846	726	181	48	14	59	7	29	
11-20 days	814	917	548	435	347	632	83	37	5	1	2	3	
R - days	898	1692	862	357	813	514	64	29	97	3	25	7	
Monthly	579	1387	931	427	673	624	108	38	37	20	11	13	
Meenachil at Kidangoor													
01-10 days	60	75	19	32	184	34	13	3	0	1	1	13	
11-20 days	182	130	79	33	38	96	7	2	0	0	9	4	
R - days	94	66	69	139	61	135	4	1	1	0	40	28	
Monthly	112	90	56	68	93	88	8	2	0	0	17	15	
Payaswani at Erinjipuzha													
01-10 days	4	384	1365	857	747	960	46	12	5	1	0	4	
11-20 days	65	654	542	950	89	349	32	9	2	1	0	4	
R - days	524	4605	2517	765	371	201	24	7	1	0	0	1	
Monthly	198	1969	1508	857	401	503	34	9	3	1	0	3	
Valapatanam at Perumannu													
01-10 days	6	244	1882	465	424	366	42	15	3	4	3	5	
11-20 days	291	228	264	422	190	197	31	24	3	4	2	5	
R - days	181	3716	424	162	302	144	15	22	4	4	4	5	
Monthly	159	1471	843	350	305	236	29	20	3	4	3	5	
Manimala at Kallooppara													
01-10 days	117	58	22	18	949	43	14	3	0	1	0	10	
11-20 days	536	327	422	30	41	301	3	1	0	0	6	2	
R - days	144	140	109	140	153	713	2	0	2	0	33	7	
Monthly	266	174	182	63	374	352	6	1	1	0	13	6	
Pamba at Malakkara													
01-10 days	236	93	45	54	496	29	9	4	0	0	0	13	
11-20 days	398	717	724	21	69	101	4	2	0	0	0	0	
R - days	77	492	163	370	77	714	3	1	0	0	38	18	
Monthly	237	436	306	148	210	281	5	2	0	0	13	11	
Achankovil at Thumpamon													
01-10 days	59	84	14	28	2214	252	146	31	0	0	0	4	
11-20 days	136	647	632	47	105	335	29	6	0	0	0	0	
R - days	60	233	107	188	165	3174	7	1	0	0	42	12	
Monthly	85	318	246	88	807	1254	59	12	0	0	14	6	

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Kadalundi at Karathodu													
01-10 days	0	260	156	86	864	484	40	3	0	0	0	0	
11-20 days	289	288	138	185	259	510	17	0	0	0	0	0	
R-days	168	363	160	86	506	350	9	0	0	0	0	0	
Monthly	152	306	152	119	542	448	22	1	0	0	0	0	
Kallada at Pattazhy													
01-10 days	129	80	39	62	3854	232	175	83	30	54	94	60	
11-20 days	241	307	203	124	711	382	96	69	10	56	60	36	
R-days	184	85	171	469	302	1120	51	4	175	233	124	57	
Monthly	185	155	139	218	1580	578	106	50	68	118	93	51	
Vamanapuram at Ayilam													
01-10 days	48	72	78	17	2823	85	105	22	0	0	0	0	
11-20 days	134	509	277	34	79	621	43	11	0	0	0	0	
R- days	78	78	62	358	80	666	33	6	0	0	0	0	
Monthly	87	215	137	136	965	457	59	13	0	0	0	0	

Source: Suspended Sediment Data Year Books (2010 to 2011) West Flowing Rivers from Kanyakumari to Tapi



Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

IX		Basin : West Flowing Rivers from Kanyakumari to Tapi										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
<b>Nehravathi at Bantwal</b>													
01-10 days							53	8	5	1	1	4	
11-20 days	Sediment Observation not done	Sediment Observation not done	Sediment Observation not done	Sediment Observation not done	Sediment Observation not done	Sediment Observation not done	32	5	3	1	1	3	
R-days							11	4	1	1	3	1	
Monthly							31	6	3	1	2	3	
<b>Pulanthode at Pulamanthole</b>													
01-10 days	1158	198	548	1862	35	877	26	8	4	1	6	7	
11-20 days	1159	626	778	555	563	58	17	6	3	4	1	5	
R - days	300	572	365	108	426	29	14	5	5	2	22	7	
Monthly	872	469	557	842	344	321	19	6	4	2	10	6	
<b>Aliyar at Ambrampalayam</b>													
01-10 days	9	13	19	43	15	390	39	19	19	14	5	8	
11-20 days	10	14	12	43	14	28	31	19	17	16	4	9	
R - days	12	13	11	18	14	102	28	21	19	13	11	14	
Monthly	10	13	14	35	14	173	33	20	18	14	7	10	
<b>Chalakudy at Arangaly</b>													
01-10 days	404	80	776	1508	41	167	7	0	0	0	0	0	
11-20 days	292	571	559	577	42	38	8	0	0	0	0	0	
R - days	123	207	282	63	144	10	2	0	0	0	0	0	
Monthly	273	283	531	716	78	72	6	0	0	0	0	0	
<b>Periyar at Neeleeswaram</b>													
01-10 days	339	81	547	797	10	128	40	18	28	36	32	32	
11-20 days	165	434	461	606	19	38	17	5	29	27	28	39	
R - days	93	293	582	78	85	39	7	13	22	33	102	28	
Monthly	199	270	532	494	40	68	21	12	26	32	54	33	
<b>vattupuzha at Ramamangalam</b>													
01-10 days	1159	191	1379	893	77	389	117	24	59	81	46	78	
11-20 days	468	542	172	420	604	27	53	57	110	95	47	61	
R - days	165	592	225	55	233	75	22	44	95	98	130	62	
Monthly	597	447	580	456	302	164	63	42	88	92	74	67	
<b>Kaliyar at Kalampur</b>													
01-10 days	26	28	81	65	1	14	1	0	0	0	0	0	
11-20 days	4	71	71	27	26	3	0	0	0	0	0	0	
R - days	17	55	105	6	8	0	0	0	0	0	0	0	
Monthly	16	51	86	33	12	6	0	0	0	0	0	0	

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Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Chaliyar at Kuniyil													
01-10 days	2578	260	2042	4483	61	855	79	0	0	0	0	0	
11-20 days	5695	2203	877	1065	898	116	31	0	0	0	0	0	
R - days	884	1242	1218	166	413	84	0	0	0	0	0	0	
Monthly	3052	1235	1374	1905	456	352	35	0	0	0	0	0	
Bharathapuzha at Kumbidi													
01-10 days	467	391	4173	14598	151	5707	189	21	4	1	1	3	
11-20 days	1064	853	2328	3393	407	297	62	8	4	1	0	4	
R - days	246	972	3221	511	614	249	30	3	4	0	8	4	
Monthly	592	746	3240	0	398	2084	92	10	4	1	3	4	
Meenachil at Kidangoor													
01-10 days	338	30	133	93	5	58	21	5	0	0	0	14	
11-20 days	116	142	92	64	52	16	3	1	0	0	1	2	
R - days	54	85	81	16	66	5	2	1	0	0	10	2	
Monthly	169	86	101	58	42	26	8	2	0	0	4	6	
Payaswani at Erinjipuzha													
01-10 days	84	370	3855	1286	63	764	29	13	4	0	0	0	
11-20 days	800	1496	1037	675	368	68	28	9	3	0	0	0	
R - days	1235	1088	748	124	162	48	19	7	1	0	0	0	
Monthly	706	988	1843	695	197	293	25	10	3	0	0	0	
Valapatanam at Perumannu													
01-10 days	295	142	1556	2719	12	115	13	17	6	5	4	3	
11-20 days	944	2599	438	566	57	28	8	10	5	3	4	3	
R - days	658	1075	1441	137	66	13	18	6	5	4	2	4	
Monthly	632	1266	1155	1141	46	52	13	11	5	4	3	3	
Manimala at Kalloppara													
01-10 days	1135	19	941	436	1	136	74	17	0	0	0	8	
11-20 days	101	212	133	96	70	6	2	1	0	0	3	2	
R - days	43	169	210	8	68	3	8	0	0	0	25	1	
Monthly	426	134	421	180	47	48	27	6	0	0	9	4	
Pamba at Malakkara													
01-10 days	1159	25	505	512	6	130	11	9	0	0	0	12	
11-20 days	106	432	198	84	47	20	6	0	0	0	0	5	
R - days	25	161	151	23	38	12	11	0	0	0	14	1	
Monthly	430	205	280	206	31	54	9	3	0	0	5	6	
Achankovil at Thumpamon													
01-10 days	366	14	315	245	8	57	21	15	0	0	0	17	
11-20 days	273	138	81	79	140	3	1	1	0	0	6	4	
R - days	22	88	115	24	15	22	8	0	0	0	66	0	
Monthly	220	80	169	116	53	27	10	5	0	0	24	7	

Table : 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Kadalundi at Karathodu													
01-10 days	305	135	483	1054	23	561	22	0	0	0	0	0	
11-20 days	555	508	290	340	209	41	4	0	0	0	0	0	
R-days	363	528	197	66	177	34	0	0	0	0	0	0	
Monthly	408	395	319	487	138	212	8	0	0	0	0	0	
Kallada at Pattazhy													
01-10 days	449	38	176	449	38	176	254	38	332	20	22	36	
11-20 days	190	406	147	190	406	147	315	59	59	24	42	14	
R-days	33	136	96	33	136	96	60	235	83	30	34	8	
Monthly	224	191	138	224	191	140	205	115	161	25	33	19	
Vamanapuram at Ayilam													
01-10 days	366	10	17	59	6	21	23	66	0	0	0	12	
11-20 days	112	81	12	47	7	8	6	3	0	0	0	0	
R-days	17	32	20	12	20	68	268	0	0	0	38	0	
Monthly	165	41	16	39	11	32	104	22	0	0	13	4	

Source: Suspended Sediment Data Year Books (2011 to 2012) West Flowing Rivers from Kanyakumari to Tapi

**Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11**

X		Basin : Tapi											Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
Tapi at Burhanpur														
01-10 days	0	28367	64088	108700	191	13	12	3	0	0	0	0		
11-20 days	0	5292	25103	8810	102	122	4	1	0	0	0	0		
R - days	49	31486	16824	501	52	173	7	0	0	0	0	0		
Monthly	16	22030	34741	39337	113	103	8	1	0	0	0	0		
Purna at Gopalkheda														
01-10 days	0	66654	177445	149038	83	8	4	0	0	0	0	0		
11-20 days	0	3621	49286	9515	24	322	1	0	0	0	0	0		
R - days	929	75194	31984	182	761	31	0	0	0	0	0	0		
Monthly	310	49351	84488	52912	305	120	2	0	0	0	0	0		
Purna at Yerli														
01-10 days	0	75784	157339	121566	236	26	1	0	0	0	0	0		
11-20 days	1610	6215	64969	2447	92	113	1	0	0	0	0	0		
R - days	978	58353	55036	492	132	97	0	0	0	0	0	0		
Monthly	863	47157	91241	41502	153	79	1	0	0	0	0	0		
Tapi at Sarangkhedha														
01-10 days	0	50661	386904	207350	0	0	0	0	0	0	0	0		
11-20 days	0	30071	90189	133683	0	0	0	0	0	0	0	0		
R - days	0	55905	60733	448	0	0	0	0	0	0	0	0		
Monthly	0	45880	175451	113827	0	0	0	0	0	0	0	0		

Source: Suspended Sediment and Bedmaterial Data Book (2010 to 2011) Tapi Basin.

**Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12**

X		Basin : Tapi										
		Unit : Tonnes per day										
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Tapi at Burhanpur												
01-10 days		2435	33423	57969	561	21	0	0	N.A	N.A	N.A	N.A
11-20 days	11207	51122	31473	3548	94	3	0	0	N.A	N.A	N.A	N.A
R - days	1828	26055	234532	737	39	0	0	0	N.A	N.A	N.A	N.A
Monthly	4345	26522	104155	20751	225	8	0	0	N.A	N.A	N.A	N.A
Purna at Gopalkheda												
01-10 days		4594	997	85713	35	0	N.A	N.A	N.A	N.A	N.A	N.A
11-20 days	252	5276	2696	5314	15	0	N.A	N.A	N.A	N.A	N.A	N.A
R - days	22	2381	86378	196	5	0	N.A	N.A	N.A	N.A	N.A	N.A
Monthly	91	4029	31842	30408	18	0	N.A	N.A	N.A	N.A	N.A	N.A
Purna at Yerli												
01-10 days	N.A	13422	329	51978	129	0	N.A	N.A	N.A	N.A	N.A	N.A
11-20 days	N.A	13675	246	4009	45	0	N.A	N.A	N.A	N.A	N.A	N.A
R - days	N.A	1109	49633	556	16	0	N.A	N.A	N.A	N.A	N.A	N.A
Monthly	N.A	9134	17797	18848	62	0	N.A	N.A	N.A	N.A	N.A	N.A
Tapi at Sarangkhedha												
01-10 days		7612	9768	90145	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
11-20 days	2078	73343	7065	5101	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
R - days	7	36666	291596	697	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Monthly	695	39125	108900	31981	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

Source: Suspended Sediment and Bedmaterial Data Book (2011 to 2012) Tapi Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

XI		Basin : Narmada										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Orsang at Chandwada													
01-10 days	0	69	55110	6245	48	0	0	0	0	0	0	0	
11-20 days	54	167	140	1620	0	0	0	0	0	0	0	0	
R - days	0	3343	363	127	0	0	0	0	0	0	0	0	
Monthly	18	1193	18538	2664	16	0	0	0	0	0	0	0	
Narmada at Gurudeshwar													
01-10 days	3	5089	122	8413	397	50	15	0	0	0	0	0	
11-20 days	14	882	2512	6445	16	5	3	0	0	0	0	0	
R - days	7	68	4272	2387	9	38	2	0	0	0	0	0	
Monthly	8	2013	2302	5748	141	31	7	0	0	0	0	0	
Narmada at Mandleshwar													
01-10 days	1557	2747	2025	200429	3902	1530	1123	1655	6198	1883	1173	1036	
11-20 days	1650	6137	4435	40386	2202	1622	2119	2218	4958	1548	951	1704	
R - days	1451	1837	2873	5490	909	741	1490	2012	1556	1407	1313	3731	
Monthly	1553	3574	3111	82102	2338	1298	1577	1962	4237	1613	1146	2157	
Narmada at Handia													
01-10 days	124	433	171339	265453	6405	513	325	4038	3095	401	212	559	
11-20 days	291	7005	86665	86903	2634	1222	290	639	3062	328	429	274	
R - days	375	45596	54915	108659	2121	493	1088	343	500	258	2262	216	
Monthly	263	17678	104306	153672	3720	743	568	1673	2219	329	968	350	
Narmada at Hoshangabad													
01-10 days	86	241	62159	52067	913	332	217	319	1022	512	420	444	
11-20 days	353	1477	26829	9250	1080	271	382	488	645	294	455	685	
R - days	195	47886	12135	45732	478	219	412	434	259	410	475	491	
Monthly	211	16535	33708	35683	824	274	337	414	642	405	450	540	
Narmada at Sandia													
01-10 days	171	244	21096	132881	9856	5299	2715	4686	3363	1740	1046	687	
11-20 days	670	309	25635	52848	6536	4582	2305	4251	4041	1859	906	644	
R - days	427	31430	12286	82193	5729	3488	5131	3365	1785	1609	757	638	
Monthly	423	10661	19672	89307	7374	4456	3384	4101	3063	1736	903	656	

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

XI		Basin : Narmada										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Shakkar at Gadarwara													
01-10 days	0	70	16790	9473	95	5	1	0	0	0	0	0	
11-20 days	1	613	13193	1634	61	5	0	0	0	0	0	0	
R - days	0	4471	14886	657	75	7	0	0	0	0	0	0	
Monthly	0	1718	14956	3921	77	6	0	0	0	0	0	0	
Narmada at Barmanghat													
01-10 days	549	738	16138	40324	4446	1212	631	1147	1323	1234	836	433	
11-20 days	249	2028	19715	30723	2374	1153	1344	814	737	157	724	320	
R - days	303	6154	7552	28059	2105	904	1617	948	1128	728	517	355	
Monthly	367	2973	14468	33035	2975	1090	1197	970	1063	706	692	369	
Banjar at Bamini													
01-10 days	0	124	3484	1819	46	5	0	0	0	0	0	0	
11-20 days	0	1101	3187	1474	19	5	0	0	0	0	0	0	
R - days	14	5918	507	264	20	2	0	0	0	0	0	0	
Monthly	5	2381	2393	1186	28	4	0	0	0	0	0	0	
Burhner at Mohgaon													
01-10 days	0	8168	43629	160055	152	27	10	4	2	2	1	0	
11-20 days	0	9222	6618	3305	56	27	9	4	2	1	0	0	
R - days	4503	47713	11632	585	64	13	8	3	2	1	0	0	
Monthly	1501	21701	20626	54648	91	22	9	4	2	1	0	0	
Narmada ar Manot													
01-10 days		143	16092	23277	208	51	28	19	6	7	2	2	
11-20 days		1820	6170	5075	45	61	40	14	9	6	1	1	
R - days	30	27499	2563	1463	68	42	36	11	8	3	4	0	
Monthly	10	9821	8275	9938	107	51	35	15	8	5	2	1	

Source : Suspended Sediment Data Year Book (2010 to 2011) Narmada Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

XI		Basin : Narmada										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Orsang at Chandwada													
01-10 days	N.A	279	5159	5131	21	1	1	0	0	0	0	0	
11-20 days	N.A	7	4373	488	7	1	1	0	0	0	0	0	
R - days	N.A	232	9218	146	3	1	1	0	0	0	0	0	
Monthly	N.A	173	6250	1922	10	1	1	0	0	0	0	0	
Narmada at Gurudeshwar													
01-10 days	0	122	101	2551	329	0	1	1	1	5	1	7	
11-20 days	47	131	452	1328	39	0	1	1	1	2	7	7	
R - days	878	268	1689	444	1	1	1	2	1	0	1	3	
Monthly	308	174	747	1441	123	0	1	1	1	2	3	6	
Narmada at Mandleshwar													
01-10 days	2849	3328	9107	71431	4316	1597	1160	1763	1022	2085	1412	2871	
11-20 days	3505	2113	11278	48473	2165	1299	1028	1313	1465	1130	1230	2754	
R - days	3377	26633	285404	14997	2353	1193	1367	1287	860	1083	1366	1649	
Monthly	3244	10691	101930	44967	2945	1363	1185	1454	1116	1433	1336	2425	
Narmada at Handia													
01-10 days	140	25082	236373	343984	15398	618	318	163	230	330	406	276	
11-20 days	171	82913	266622	312410	4950	410	193	149	312	248	346	249	
R - days	24309	374190	224882	78498	1632	341	170	155	316	391	333	99	
Monthly	8207	160728	242626	244964	7327	456	227	156	286	323	362	208	
Narmada at Hoshangabad													
01-10 days	194	16536	183209	80564	2251	1438	851	386	561	621	511	659	
11-20 days	180	55233	147454	73373	1466	669	1493	447	1423	354	425	479	
R - days	52658	368876	61590	15701	916	1306	616	465	612	1168	901	92	
Monthly	17677	146882	130751	56546	1544	1138	987	433	865	714	612	410	
Narmada at Sandia													
01-10 days	841	14159	384800	657708	43238	6749	4423	1599	2086	1938	4130	4178	
11-20 days	1005	106596	577938	554148	21418	5912	3259	1567	1951	2017	4116	2901	
R - days	69710	544711	506215	161671	15592	4991	2236	1315	1907	4471	4320	641	
Monthly	23852	221822	489651	457842	26749	5884	3306	1494	1981	2809	4189	2573	

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Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

XI		Basin : Narmada										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Shakkar at Gadarwara													
01-10 days		2171	7521	11078	30	3	0	0	0	0	N.A	N.A	
11-20 days	1	10261	991	5494	12	1	0	0	0	0	N.A	N.A	
R - days	817	12722	7668	412	6	0	0	0	0	0	N.A	N.A	
Monthly	273	8385	5393	5661	16	1	0	0	0	0	N.A	N.A	
Narmada at Barmanghat													
01-10 days	249	3668	34376	25520	829	260	219	121	208	179	214	217	
11-20 days	653	19413	37708	30858	355	281	107	76	171	157	194	135	
R - days	24085	93352	14741	3703	292	260	156	88	178	234	181	47	
Monthly	8329	38811	28942	20027	492	267	161	95	186	190	196	133	
Banjar at Bamini													
01-10 days		132	6127	4698	200	15	1	113	5	1	N.A	N.A	
11-20 days		535	2325	1644	113	7	1	3	3	0	N.A	N.A	
R - days	74	3807	1289	478	42	3	1	10	1	0	N.A	N.A	
Monthly	25	1447	1205	707	52	3	1	4	1	0	N.A	N.A	
Burhneer at Mohegoan													
01-10 days	58	6642	68744	67756	213	47	12	368	35	5	1	0	
11-20 days	33	38043	21797	20541	196	27	9	17	16	3	1	0	
R - days	13666	17527	8871	957	95	17	7	58	9	2	0	0	
Monthly	4586	20737	33137	29751	168	30	9	148	20	3	1	0	
Narmada ar Manot													
01-10 days	1	4271	99338	45585	157	78	32	72	17	7	1	0	
11-20 days	70	9990	41673	15244	169	43	26	16	23	3	1	0	
R - days	21896	23792	9089	1021	109	32	16	34	11	2	0	0	
Monthly	7322	12684	50033	20617	145	51	25	41	17	4	1	0	

Source : Suspended Sediment Data Year Book 2011 to 2012) Narmada Basin.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11

XII		Basin : Mahi and Sabarmati											Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
Mahi at Mataji														
01-10 days	0	0	265	922	0	0	0	0	0	0	0	0		
11-20 days	0	0	293	1032	0	0	0	0	0	0	0	0		
R - days	0	128	5070	14	0	0	0	0	0	0	0	0		
Monthly	0	43	1876	656	0	0	0	0	0	0	0	0		
Mahi at Paderdibadi														
01-10 days	0	0	24	47	0	0	0	0	0	0	0	0		
11-20 days	0	0	6	149	0	0	0	0	0	0	0	0		
R - days	0	7	5	12	0	0	0	0	0	0	0	0		
Monthly	0	2	12	69	0	0	0	0	0	0	0	0		
Mahi at Khanpur														
01-10 days	1	1	3203	5721	4	1	1	1	1	1	1	1		
11-20 days	1	1	22	2030	6	1	1	1	1	1	1	0		
R - days	0	6	37	63	2	1	1	1	1	1	1	0		
Monthly	1	3	1087	2605	4	1	1	1	1	1	1	0		
Banas at Kamalpur														
01-10 days	214	0	286	110	1	0	0	0	0	0	0	0		
11-20 days	0	0	98	42	0	0	0	0	0	0	0	0		
R - days	0	24134	0	0	0	0	0	0	0	0	0	0		
Monthly	71	8045	128	51	0	0	0	0	0	0	0	0		
Bhadar at Ganod														
01-10 days	0	0	302	4367	1	0	0	0	0	0	0	0		
11-20 days	0	530	27	7690	0	0	0	0	0	0	0	0		
R - days	0	205	1131	23	0	0	0	0	0	0	0	0		
Monthly	0	245	487	4027	0	0	0	0	0	0	0	0		
Shetrunji at Lowara														
01-10 days	0	4357	2894	10503	86	0	0	0	0	0	0	0		
11-20 days	0	207	455	3840	3	0	0	0	0	0	0	0		
R - days	0	5449	8080	373	69	0	0	0	0	0	0	0		
Monthly	0	3338	3810	4905	53	0	0	0	0	0	0	0		

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**Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2010-11**

<b>XII</b>		<b>Basin : Mahi and Sabarmati</b>											<b>Unit : Tonnes per day</b>	
<b>Site / Period</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>		
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>	<b>(9)</b>	<b>(10)</b>	<b>(11)</b>	<b>(12)</b>	<b>(13)</b>		
<b>Derol Bridge at Sabarmati</b>														
01-10 days	0	0	3	0	0	0	0	0	0	0	0	0		
11-20 days	0	0	3	2	0	0	0	0	0	0	0	0		
R - days	0	137	0	0	0	0	0	0	0	0	0	0		
Monthly	0	46	2	1	0	0	0	0	0	0	0	0		
<b>Purna at Mahuwa</b>														
01-10 days	0	30	5887	2777	3	0	0	0	0	0	0	0		
11-20 days	0	6	148	196	1	0	0	0	0	0	0	0		
R - days	22	5033	683	21	1	0	0	0	0	0	0	0		
Monthly	7	1690	2239	998	2	0	0	0	0	0	0	0		
<b>Ambika at Gadat</b>														
01-10 days	0	0	4785	4492	38	0	0	0	0	0	0	0		
11-20 days	0	0	683	552	14	0	0	0	0	0	0	0		
R - days	0	1885	1947	220	11	0	0	0	0	0	0	0		
Monthly	0	628	2472	1755	21	0	0	0	0	0	0	0		
<b>Vaitarna at Durvesh</b>														
01-10 days	0	2494	44474	33613	630	310	78	0	0	0	0	0		
11-20 days	0	6061	2528	4136	438	342	29	0	0	0	0	0		
R - days	0	35755	19585	2208	556	242	4	0	0	0	0	0		
Monthly	0	14770	22196	13319	541	298	37	0	0	0	0	0		

Source: Suspended Sediment and Bedmaterial Data Book (2010 to 2011) Mahi, Sabarmati & Other Basins.

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

XII Basin : Mahi and Sabarmati												Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Mahi at Mataji													
01-10 days	N.A	0	6164	4165	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	302	5195	1636	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	510	4602	0	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	271	5320	1934	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
Mahi at Paderdibadi													
01-10 days	N.A	0	792	1045	4	0	0	0	0	0	0	0	
11-20 days	N.A	83	625	803	2	0	0	0	0	0	0	N.A	
R - days	N.A	136	987	13	0	0	0	0	0	0	0	N.A	
Monthly	N.A	73	801	620	2	0	0	0	0	0	0	0	
Mahi at Khanpur													
01-10 days	0	56	7	9449	8	2	2	0	0	0	0	0	
11-20 days	0	34	6125	23435	10	2	0	0	0	0	0	0	
R - days	0	2	46625	59	2	1	0	0	0	0	0	0	
Monthly	0	31	17586	10981	7	2	1	0	0	0	0	0	
Banas at Kamalpur													
01-10 days	N.A	1604	2145	0	0	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	0	151	2027	0	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	0	0	0	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	535	765	676	0	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Bhadar at Ganod													
01-10 days	N.A	21	47	132	46	7	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	29	52	75	22	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	22	32	127	27	8	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	22	27	75	78	25	7	N.A	N.A	N.A	N.A	N.A	N.A	
Shetrunji at Lowara													
01-10 days	N.A	46	1589	17148	19	0	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	57344	64	1917	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	2224	35570	235	0	0	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	19871	12408	6433	6	0	N.A	N.A	N.A	N.A	N.A	N.A	

Contd..

Table 10 : Ten daily and monthly average Sediment Load by site and river basin during 2011-12

XII		Basin : Mahi and Sabarmati										Unit : Tonnes per day	
Site / Period	June	July	August	September	October	November	December	January	February	March	April	May	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Derol Bridge at Sabarmati													
01-10 days	N.A	858	390	17	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	80	638	6	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	175	72	2	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	371	367	8	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Purna at Mahuwa													
01-10 days	0	1	1011	1140	11	0	0	0	0	0	0	0	
11-20 days	0	919	3986	214	8	0	0	0	0	0	0	0	
R - days	0	1820	3997	28	1	0	0	0	0	0	0	0	
Monthly	0	913	2998	461	7	0	0	0	0	0	0	0	
Ambika at Gadat													
01-10 days	N.A	N.A	2223	2671	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	3821	4267	2915	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	1835	25223	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	#VALUE!	10571	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Vaitarna at Durvesh													
01-10 days	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
11-20 days	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
R - days	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	
Monthly	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	

Source: Suspended Sediment and Bedmaterial Data Book 2011 to 2012) Mahi, Sabarmati & Other Basins.

## Tolerance and Classification

As per ISI-IS: 2296-1982, the tolerance limits of parameters are specified as per classified use of water (Table 1,2,3,4,5) below) depending on various uses of water. The following classifications have been adopted in India.

### Class of Water

<b>Classification</b>	<b>Type of use</b>
<b>Class A</b>	Drinking water source without conventional treatment but after disinfection
<b>Class B</b>	Outdoor bathing
<b>Class C</b>	Drinking water source with conventional treatment followed by disinfection
<b>Class D</b>	Fish culture and wild life propagation
<b>Class E</b>	Irrigation, industrial cooling or controlled water disposal

## TOLERANCE

**TABLE 11(i) : TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – A**

S. No. (1)	Characteristic (2)	Tolerance Limit (3)
(i)	pH	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l,	6.0
(iii)	Bio-chemical Oxygen Demand	2.0
(iv)	Total Coliform Organisms, MPN/100 ml, Max	50
(v)	Colour, Hazen units, Max	10
(vi)	Odour	unobjectionable
(vii)	Taste	Agreeable taste
(viii)	Total Dissolved Solids, mg/l, Max	500
(ix)	Total Hardness (as CaCO <sub>3</sub>	300
(x)	Calcium Hardness (as CaCO <sub>3</sub> ),mg/l,Max	200
(xi)	Magnesium (as CaCO <sub>3</sub> ), mg/l, Max	100
(xii)	Copper (as Cu), mg/l, Max	1.5
(xiii)	Iron (as Fe), mg/l,Max	0.3
(xiv)	Manganese (as Mn), mg/l Max	0.5
(xv)	Chlorides (as Cl), mg/l, Max	250
(xvi)	Sulphate (as SO <sub>4</sub> ), mg/l, Max	400
(xvii)	Nitrates (as NO <sub>2</sub> ), mg/l, Max	20
(xviii)	Fluorides (as F,) mg/l, Max	1.5
(xix)	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	0.002
(xx)	Mercury (as Hg), mg/l, Max	0.001
(xxi)	Cadmium (as Cd), mg/l, Max	0.01
(xxii)	Selenium (as Se), mg/l, Max	0.01
(xxiii)	Arsenic (as As), mg/l, Max	0.05
(xxiv)	Cyanides (as CN), mg/l, Max	0.05
(xxv)	Lead ( as Pb ), mg/l, Max	0.1
(xxvi)	Zinc (as Zn), mg/l, Max	15
(xxvii)	Chromium (as Cr <sup>6+</sup> ), mg/l, Max	0.05
(xxviii)	Anionic detergents, (as MBAS), mg/l, Max	0.2
(xxix)	Poly-nuclear aromatic hydrocarbons (PAH),	0.2
(xxx)	Mineral oil, mg/l, Max	0.01
(xxxii)	Barium (as Ba), mg/l, Max	1.0
(xxxiii)	Silver (as Ag), mg/l, Max	0.05
(xxxiv)	Pesticides	Absent
(xxxv)	Alpha emitters, uc/ml, Max	10 <sup>-9</sup>
(xxxvi)	Beta emitters, uc/ml, Max	10 <sup>-8</sup>

**TABLE 11(ii) : TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – B**

<b>S. No.</b>	<b>Characteristic</b>	<b>Tolerance Limit</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(i)	pH	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, Max	5.0
(iii)	Biochemical Oxygen Demand (5 days at 20 °C )	3.0
(iv)	Total Coliform Organisms, MPN/100 ml, Max	500
(v)	Fluorides (as F)<mg/l, Max	1.5
(vi)	Colour, Hazen units, Max	300
(vii)	Cyanides (as CN), mg/l, Max	0.05
(viii)	Arsenic (as AS), mg/l, Max	0.2
(ix)	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l, Max	0.005
(x)	Chromium (as Cr <sup>6+</sup> ), mg/l,Max	1.0
(xi)	Anionic detergents (as MBAS),mg/l, Max	1.0
(xii)	Alpha emitters, uc/ml, Max	10 <sup>-8</sup>



**TABLE 11(iii): TOLERANCE LIMITS FOR INLAND SURFACE WQTERS, CLASS- C**

<b>S.No.</b> <b>(1)</b>	<b>Characteristic</b> <b>(2)</b>	<b>Tolerance Limit</b> <b>(3)</b>
(i)	pH Value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l Minimum	4.0
(iii)	Biochemical Oxygen Demand	3.0
(iv)	Total coliform organism, MPN/100 ml, Max	5000
(v)	Colour, Hazen units, Max	300
(vi)	Fluorides (as F), mg/l, Max	1.5
(vii)	Cadmium (as Cd), mg/l, Max	0.01
(viii)	Chlorides (as Cl), mg/l, Max	600
(ix)	Chromium ( as Cr <sup>6+</sup> ), mg/l, Max	0.05
(x)	Cyanides ( as CN), mg/l, Max	0.05
(xi)	Total Dissolved Solids, mg/l, Max	1500
(xii)	Selenium (as Se), mg/l, Max	0.05
(xiii)	Sulphates (as SO <sub>4</sub> ), mg/l, Max	400
(xiv)	Lead (as Pb), mg/l, Max	0.01
(xv)	Copper (as Cu), mg/l, Max	1.5
(xvi)	Arsenic (as As), mg/, Max	0.2
(xvii)	Iron (as Fe), mg/l, Max	50
(xviii)	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	0.005
(xix)	Zinc (as Zn), mg/l, Max	15
(xx)	Insecticides, mg/l, Max	Absent
(xxi)	Anionic detergents (as MBAS), mg/l, Max	1.0
(xxii)	Oils and grease, mg/l, max	0.1
(xxiii)	Nitrates (as NO <sub>3</sub> ), mg/l, Max	50
(xxiv)	Alpha emititers, (c/mg, Max	10 <sup>-9</sup>
(xxv)	Beta emitters, c/ml, Max	10 <sup>-8</sup>

**TABLE 11(iv) :TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – D**

<b>S. No.</b>	<b>Characteristic</b>	<b>Tolerance Limit</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(i)	pH value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, Min,	4.0
(iii)	Free Ammonia (as N), mg/l, Max	1.2
(iv)	Electrical Conductance at 25° C, $\mu$ S Max	1000
(v)	Free Carbon Dioxide (as CO <sub>2</sub> )	6.0
(vi)	Oils and Grease, mg/l, Max	0.1
(vii)	Alpha emitters, $\mu$ c/ml, Max	10 <sup>-9</sup>
(viii)	Beta emitters, $\mu$ c/ml max	10 <sup>-8</sup>

**TABLE 11(v) :TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – E**

<b>S. No.</b>	<b>Characteristic</b>	<b>Tolerance Limit</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
(i)	pH value	6.0 to 8.5
(ii)	Electrical Conductance at 25° C, $\mu$ S Max	2250
(iii)	Sodium Adsorption Ratio, Max	26
(iv)	Boron (as B), mg/l, Max	2.0
(v)	Total Dissolved Solids, (inorganic), mg/l, Max	2100
(vi)	Sulphates (as $SO_4$ ), mg/l, Max	1000
(vii)	Chlorides (as Cl), mg/l, Max	600
(viii)	Sodium Percentage, Max	60
(ix)	Alpha emitters, $\mu$ c/ml, Max	$10^{-9}$
(x)	Beta emitters, $\mu$ c/ml, Max	$10^{-8}$

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-11

I Basin : Mahanadi							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value (3)	Date (4)	Value (5)	Date (6)	Value (7)	Date (8)
1	Baronda			DO=5.8	01.07.2010		
2	Ranjim	DO=4.8	01.03.2011	DO=5.0 DO=4.8	01.07.2010 02.05.2010	DO=4.4	01.02.2011
3	Basantpur	DO=4.0 DO=4.8	01.06.2010 01.05.2011	DO=4.2 DO=5.2	01.07.2010 01.10.2010	BOD=2.0	12.11.2010
4	Pathardih			DO=5.7 DO=5.6 DO=5.6	02.08.2010 01.09.2010 01.10.2010		
5	Simga	BOD=2.0 BOD=4.0	01.04.2011 01.05.2011	BOD=2.9	01.07.2010	BOD=3.9	01.02.2011
6	Andharkore	DO=2.6 DO=4.0	01.03.2011 01.05.2011	BOD=2.6 DO=5.8	01.07.2010 01.07.2010		
7	Ghatora			DO=4.7 DO=5.0	01.09.2010 01.10.2010	BOD=2.3 BOD=2.4 DO=4.4 DO=5.4 DO=5.8	01.11.2010 01.02.2010 01.11.2010 01.12.2010 01.11.2010
8	Jondhra			DO=5.7 DO=5.6	01.08.2010 01.09.2010		
9	Rampur			BOD=2.0 DO=4.5	01.09.2010 01.09.2010		
10	Mahendergarh			DO=5.3	01.08.2010		
11	Bamnidhi	BOD=13.0 DO=4.8	01.03.2011 01.06.2010	DO=4.3 DO=4.5	01.07.2011 01.10.2011	DO=0.3	01.02.2011
12	Kesinga	DO=5.2	01.06.2010				
13	Salebhata	DO=5.5	01.04.2011				
14	Kantamal	BOD=2.5 DO=5.1	01.05.2011 01.06.2011				
15	Tikapara						

Source: Water Quality Data Book (June, 2010 to May, 2011) Mhanadi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

I Basin : Mahanadi							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Ranjim			DO=5.4 DO=5.8	01.08.2011 01.10.2011		
2	Basantpur	BOD=2.0	01.06.2011				
3	Pathardih			DO=5.6 DO=5.1 DO=3.8	01.10.2011 01.08.2011 02.09.2011	BOD=2.5	01.12.2011
4	Simga	DO=3.8 BOD=2.9	01.06.2011 01.06.2011	DO=4.7 DO=5.8 BOD=4.2 DO=2.8	01.07.2011 02.09.2011 01.07.2011 01.08.2011	pH=8.5 DO=5.9 BOD=2.1	01.02.2012 02.01.2012 01.02.2012
5	Andhiarkore			DO=6.0 DO=5.0	01.07.2011 01.08.2011	DO=5.9 BOD=2.0 BOD=2.9	02.01.2012 01.12.2011 02.01.2012
6	Ghatora			DO=5.8	02.09.2011	DO=5.6	01.11.2011
7	Jondhra			DO=5.1 DO=5.9	01.07.2011 02.09.2011		
8	Rampur			DO=4.5 DO=5.9	01.08.2011 01.10.2011		
9	Bamnidhi	DO=5.1	01.06.2011			BOD=2.3 DO=4.7	01.12.2011 01.12.2011

Contd..

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

I Basin : Mahanadi							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
10	Bamnidhi	DO=5.1	01.06.2011			BOD=2.3 DO=4.7	01.12.2011 01.12.2011
11	Kantamal	BOD=2.8 DO=5.7	01.06.2011 01.06.2011	DO=5.6 DO=5.8	01.07.2011 01.09.2011		
12	Tikapara	pH=8.5	01.06.2011	pH=8.6 pH=8.5	01.07.2011 01.09.2011		

Source: Water Quality Data Book (June, 2011 to May, 2012) Mhanadi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-11

II Basin : Subernarekha, Baitarani & Burhabalang							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Ghatshila	BOD=2.3	01.03.2011	pH=8.7 DO=5.2 DO=5.2 DO=20.0	01.07.2010 01.07.2010 02.08.2010 01.09.2010	BOD=2.3	01.01.2011
2	Ghatshila Road Bridge	DO=5.2 BOD=2.4 BOD=2.7	02.05.2011 01.06.2011 01.03.2011	pH=8.9 DO=5.0 DO=1.0 BOD=2.2 BOD=2.4 BOD=20.0	01.07.2010 02.08.2010 01.09.2010 01.07.2010 02.08.2010 01.09.2010	BOD=2.5	01.01.2011
3	Baridhi Nala	pH=9.0 BOD=179.0 BOD=18.0 BOD=58.0 BOD=39.0 DO=1.4 DO=0.0	01.05.2011 01.06.2010 01.03.2011 01.04.2011 01.05.2011 01.06.2010 02.06.2011	pH=8.8 BOD=40.0 BOD=20.0 BOD=60.0 BOD=42.0 DO=1.4 DO=1.6 DO=0.0	01.07.2010 01.07.2010 02.08.2010 01.09.2010 01.10.2010 01.07.2010 02.08.2010 01.09.2010	BOD=4.3 BOD=4.3 BOD=20.0 BOD=18.0 DO=0.6	01.11.2010 01.12.2010 01.01.2011 01.02.2011 01.12.2010
4	Kulpatanga	pH=8.7 DO=1.2 DO=0.0 DO=0.0 BOD=40.0 BOD=4.2 BOD=20.0 CL=89.3 CL=150.9 CL=147.1	01.03.2011 01.06.2010 01.04.2011 01.05.2011 01.06.2010 01.03.2011 01.05.2011 01.06.2011 01.04.2011 01.05.2011	pH=8.7 DO=5.6 DO=4.6 BOD=3.2 BOD=2.2 BOD=2.2 BOD=2.4	01.07.2010 01.07.2010 01.07.2010 01.07.2010 02.08.2010 01.09.2010 01.10.2010	DO=5.4 BOD=2.9 BOD=2.7 BOD=2.7 CL=50.9 CL=103.7 CL=194.3	01.11.2010 01.12.2010 01.01.2011 01.02.2011 01.01.2011 01.12.2011 01.01.2011

Source: Water Quality Data Book (June, 2010 to May, 2011 Subernarekha, Baitarani & Budhabalang Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

II Basin : Subernarekha, Baitarani & Burhabalang							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Ghatshila	DO=6.1	01.06.2010	pH=8.6 DO=5.6	01.07.2011 01.10.2009		
2	Ghatshila Road Bridge	DO=5.3	01.06.2010	BOD=2.0 DO=5.8	01.07.2011 01.10.2011	BOD=3.1 BOD=2.1 BOD=3.1 BOD=2.4	01.11.2011 01.12.2011 02.01.2012 01.02.2012
3	Baridhi Nala	pH=9.0 BOD=60.1	01.06.2011 01.06.2012	BOD=39.0 BOD=40.0 BOD=18.0 BOD=39.0 DO=2.5	01.07.2011 01.08.2011 01.09.2011 01.10.2011 01.09.2011	BOD=39.0 BOD=58.0 BOD=58.0 BOD=119.0	01.11.2011 01.12.2011 02.01.2012 01.02.2012
4	Kulpatanga	BOD=20.0 DO=3.8	01.06.2011 01.06.2011	pH=8.5 BOD=2.8 BOD=2.9 DO=4.8	01.08.2011 01.07.2011 01.10.2011 01.07.2011	BOD=2.7 BOD=2.3 BOD=2.7 BOD=2.2 DO=4.6 DO=5.2	01.11.2011 01.12.2011 02.01.2012 01.02.2012 01.11.2011 02.01.2012

Source: Water Quality Data Book (June, 2011 to May, 2012 Subernarekha, Baitarani & Budhabalang Basin.

Parameters Crossing Tolerance Limits by Season during 2010-11

III Basin : Brahamani							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Panposh	BOD=2.1	01.04.2011				
2	Gomlai	pH=8.5	02.05.2011				
3	Jenapur	pH=8.8	02.05.2011	pH=8.5 BOD=2.0	01.07.2010 01.09.2010		
4	Altuma	pH=8.5	02.05.2011				
5	Mandira	BOD=2.6 BOD=3.1 BOD=2.9	01.06.2011 01.03.2011 01.04.2011	pH=8.7 BOD=2.6 BOD=2.2 BOD=3.0	01.07.2010 01.07.2010 02.08.2010 01.09.2010	BOD=2.1 BOD=2.3 BOD=2.9 BOD=2.6	01.11.2010 01.12.2010 01.11.2011 01.02.2011
6	Kamalanga	BOD=2.1 BOD=2.3	01.03.2011 01.05.2011	pH=8.7 BOD=2.2 BOD=2.2 BOD=2.2	01.07.2010 01.07.2010 02.08.2010 01.09.2010		
7	RSP Nalla	BOD=2.2 BOD=2.3 DO=4.2 DO=5.8 DO=4.8 DO=5.4	01.06.2010 01.04.2011 01.06.2010 01.03.2011 01.04.2011 01.05.2011	BOD=2.2 DO=3.4	01.09.2010 01.07.2010	BOD=2.3 BOD=2.3 BOD=2.6 DO=5.0	01.11.2010 01.01.2011 01.02.2011 01.11.2010

Source: Water Quality Data Book (June, 2010 to May, 2011) Brahamani Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

III Basin : Brahamani							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Panposh	pH=8.6	01.06.2011	DO=5.8	01.08.2011	BOD=2.1 BOD=2.1	01.12.2011 02.01.2012
2	Gomlai	pH=8.5	01.06.2011			BOD=2.0	01.02.2012
3	Jenapur	pH=8.5	01.06.2011				
4	Talcher	pH=8.6	01.06.2011				
5	Nandira	BOD=2.2	01.06.2011	BOD=2.4 BOD=2.0 BOD=2.1	01.07.2011 01.08.2011 01.09.2011	BOD=2.7 BOD=3.1 BOD=2.9 BOD=2.7	01.11.2011 01.12.2011 02.01.2012 01.02.2012
6	Kamalanga	pH=8.6	01.06.2011			BOD=2.5 BOD=2.5 BOD=2.2	01.12.2011 02.01.2012 01.02.2012
7	RSP Nalla	DO=2.8	01.06.2011	BOD=2.8 DO=3.6 DO=3.8 DO=5.2 DO=3.5	01.08.2011 01.07.2011 01.08.2011 01.09.2011 01.10.2011	BOD=2.1 BOD=2.3 BOD=2.7	01.11.2011 02.12.2011 02.01.2012

Source: Water Quality Data Book (June, 2011 to May, 2012) Brahamani Basin.

Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2010-11

IV Basin : Rushikulya, Vamsadhara, Sarda & Nagavali							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Kashi Nagar	pH=8.7	01.06.2010				

Source: Water Quality Data Book (June, 2010 to May, 2011) Rushikulya, Vamsadhara, Sarda & Nagavali Basin.

Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2011-12

IV Basin : Rushikulya, Vamsadhara, Sarda & Nagavali							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2	Purushottampur			pH=8.8	01.08.2011		

Source: Water Quality Data Book (June, 2011 to May, 2012) Rushikulya, Vamsadhara, Sarda & Nagavali Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-2011

V Basin : Godavari							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Polavaram	DO=5.7 DO=5.7	01.06.2010 01.05.2011	DO=5.2	01.07.2010	pH=8.5	01.12.2010
2	Bhadrachalam	pH=8.6 pH=8.5 DO=5.7 DO=5.5	01.06.2010 01.04.2011 01.06.2010 01.05.2011	DO=4.8 DO=5.0	01.07.2010 01.08.2010	pH=8.5 pH=8.5 DO=5.6	01.12.2010 01.11.2011 01.11.2010
3	Konta	DO=5.3	01.06.2010	DO=5.0 DO=5.4	01.07.2010 01.08.2010		
4	Perur	pH=8.7 pH=8.5 DO=5.1 DO=4.9	01.06.2010 01.04.2011 01.06.2010 01.05.2011	BOD=2.4 DO=5.0	01.09.2010 02.08.2010	pH=8.5	01.12.2010
5	Pathagudem	pH=8.6 pH=8.5 pH=5.5 DO=5.5 DO=5.9	01.06.2010 01.03.2011 01.04.2011 01.06.2010 01.03.2011				
6	Jagdapur	DO=4.9 DO=5.7 DO=5.7	01.06.2010 01.04.2010 01.05.2010	DO=4.8 DO=5.4 DO=5.4	01.07.2010 02.08.2010 01.09.2010		
7	Tekra	pH=8.6 pH=8.5 pH=8.6 BOD=2.9	01.06.2010 01.03.2011 01.04.2011 01.06.2010	pH=8.7 pH=8.6 BOD=2.5 BOD=2.2 BOD=2.1 BOD=2.7	01.07.2010 04.10.2010 01.07.2010 02.08.2010 03.09.2010 04.10.2010	pH=8.6 pH=8.6 pH=8.6 BOD=2.4	01.11.2010 01.12.2010 01.01.2011 03.01.2011
8	Bhatpalli	BOD=2.6	01.04.2011	pH=8.8 pH=8.6 pH=8.5 BOD=3.0	02.08.2010 03.09.2010 04.10.2010 03.09.2010	pH=8.5 pH=8.5 BOD=2.1 BOD=2.3	01.12.2010 03.01.2011 01.12.2010 03.01.2011
9	Bamini	BOD=3.0 BOD=4.7 BOD=4.3 DO=5.9 DO=5.8	01.03.2011 01.04.2011 01.05.2011 01.06.2010 01.05.2011	pH=8.5 BOD=2.3 BOD=2.1 BOD=2.7	04.10.2010 01.07.2010 03.09.2010 04.10.2010	pH=8.5 pH=8.5 BOD=2.1 BOD=5.1	01.11.2010 01.12.2010 01.11.2010 01.02.2010
10	P.G.Bridge	pH=8.5 pH=8.5 pH=8.5 BOD=2.3 BOD=2.3 BOD=2.3	01.03.2011 01.04.2011 01.05.2011 01.03.2011 01.04.2011 01.05.2011	pH=8.5 pH=8.5 BoD=2.5 DO=5.3	02.08.2010 04.10.2010 01.07.2010 01.07.2010	pH=8.5 pH=8.6 pH=8.6 pH=8.5 BOD=2.1 BOD=2.2	01.11.2010 01.12.2010 01.01.2011 01.02.2011 01.11.2010 01.02.2011
11	Nandgaon	BOD=2.2 BOD=2.3 DO=4.5	01.03.2011 01.04.2011 01.05.2011	pH=8.5 BOD=2.4 DO=5.1 DO=5.9 DO=5.4	02.08.2010 04.10.2010 01.07.2010 02.08.2010 01.10.2010		

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Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-2011

V Basin : Godavari							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12	Hivra			BOD=3.6 BOD=3.1	02.08.2010 03.09.2010	BOD=2.7	01.11.2010
13	Asthi	pH=8.6 pH=8.6 pH=8.6 BOD=3.2	01.03.2011 01.04.2011 01.05.2011 01.06.2010	BOD=3.4 DO=5.9	04.10.2010 01.07.2010	pH=8.5 pH=8.6 pH=8.6	01.11.2010 03.01.2011 01.02.2011
14	Pauni	pH=8.5 BOD=5.3 BOD=4.3 BOD=5.9 DO=5.6 DO=5.4	01.04.2011 01.06.2010 01.03.2011 01.04.2011 01.06.2010 01.05.2011	BOD=2.6 BOD=4.7 DO=4.0	02.08.2010 04.10.2010 01.07.2010	BOD=2.01 BOD=2.01 BOD=2.1 BOD=4.5	01.11.2010 01.12.2010 01.01.2011 01.02.2011
15	Satarpur	BOD=4.1 BOD=3.4 BOD=5.8 DO=5.7	01.03.2011 01.04.2011 01.05.2011 01.06.2010	pH=8.5 BOD=2.2 BOD=5.3 BOD=3.2	02.08.2010 01.07.2010 02.08.2010 04.10.2010		
16	Mancherial	DO=5.9 DO=5.3 DO=4.4	01.06.2010 01.04.2011 01.05.2011			pH=8.6 DO=5.8	01.12.2010 01.12.2010
17	Saigaon			BOD=5.9 BOD=5.6 BOD=5.9	02.08.2010 01.09.2010 01.10.2010		
18	Dhalagaon			DO=4.8	01.09.2010		

Source: Water Quality Data Book (June, 2010 to May, 2011) Godavari Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-2012

V Basin : Godavari							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Polavaram			DO=5.8 DO=5.6 DO=5.8	01.07.2011 01.08.2011 01.09.2011	pH=8.5 DO=5.9	01.02.2012 01.11.2011
2	Bhadrachalam	pH=8.8 DO=5.5	01.06.2011 01.06.2012	pH=8.7 DO=5.6 DO=5.8	01.07.2011 01.08.2011 01.09.2011	pH=8.7 pH=8.5 DO=5.6	01.11.2011 01.02.2012 01.11.2010
3	Konta			DO=5.6	01.09.2011	DO=5.9	01.11.2011
4	Perur	pH=8.6	01.06.2011	pH=8.8 DO=5.8	01.07.2011 01.09.2011	pH=8.7 DO=4.9	01.11.2011 01.11.2011
5	Pathagudem	pH=8.8	01.06.2011	pH=8.5 DO=5.8	01.07.2011 01.09.2011	DO=5.7	02.01.2012
6	Jagdapur			pH=8.5 DO=5.6	1.07.2011 01.09.2011		

Contd..

V Basin : Godavari

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value (3)	Date (4)	Value (5)	Date (6)	Value (7)	Date (8)
7	Tekra			pH=8.6 pH=8.6 BOD=4.6 BOD=3.1 BOD=3.8 DO=6.4	01.07.2011 03.10.2011 01.07.2011 02.09.2011 03.10.2011 02.09.2011	pH=8.7 pH=8.7 pH=8.5	01.11.2011 01.12.2011 01.02.2011
8	Bhatpalli	BOD=5.8	01.06.2010	pH=8.5	01.07.2011	BOD=2.0 BOD=2.2 pH=8.6 pH=8.7 pH=8.6 pH=8.6	01.11.2011 01.02.2012 01.11.2011 01.12.2011 02.01.2012 01.02.2012
9	Bamini	DO=6.0	01.06.2011	pH=8.5 BOD=3.5 BOD=2.2 BOD=6.0	01.07.2011 01.07.2011 02.09.2011 03.10.2011	pH=8.7 pH=8.5 pH=8.5 BOD=2.8 BOD=4.8 BOD=3.4 BOD=3.3	01.12.2012 01.11.2011 02.02.2012 01.11.2011 01.12.2011 02.01.2012 01.02.2012
10	P.G.Bridge	pH=8.6	01.06.2011	pH=8.8 pH=8.5 BOD=4.9 BOD=2.1 BOD=2.0 BOD=2.4	01.07.2011 03.10.2011 01.07.2011 01.08.2011 02.09.2011 03.10.2011	pH=8.6 pH=8.7 pH=8.8 pH=8.5 BOD=2.0 BOD=2.3	01.11.2011 01.12.2011 02.01.2012 01.02.2012 01.11.2011 01.12.2011
11	Nandgaon			BOD=30.00 BOD=2.4 DO=4.8 DO=5.3 DO=6.0	01.07.2011 02.09.2011 01.07.2011 01.08.2011 03.10.2011	pH=8.5 pH=8.5 pH=8.7 BOD=2.4 DO=5.8	01.11.2011 01.12.2012 02.01.2012 01.11.2011 01.02.2012

Contd..

V Basin : Godavari

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12	Hivra			pH=8.5 pH=8.5 BOD=2.6 BOD=2.4	01.08.2011 03.10.2011 02.09.2011 03.10.2011		
13	Asthi	pH=8.9	01.06.2011	pH=9.0 BOD=4.6	01.07.2011 01.07.2009	pH=8.6 pH=8.7 pH=8.9 pH=8.6	01.11.2011 01.12.2011 02.01.2012 01.02.2012
14	Pauni	DO=5.3	01.06.2011	BOD=3.7 BOD=2.4 BOD=2.6	01.07.2011 02.09.2011 03.10.2011	BOD=4.7 BOD=3.8	02.01.2012 01.02.2012
15	Satarpur	BOD=6.4	01.06.2011	pH=8.5 BOD=4.8 BOD=2.5 BOD=2.9 BOD=5.3	03.10.2011 01.07.2011 01.08.2011 02.09.2011 03.10.2011	pH=8.5 PH=8.5 BOD=2.7 BOD=2.3 BOD=2.8	01.11.2011 01.12.2011 01.11.2011 01.12.2011 02.02.2012
16	Mancherial	pH=8.8	01.06.2011	pH=8.8 pH=8.5 DO=5.8	01.07.2011 01.10.2011 01.09.2011	pH=8.6 DO=5.8 DO=5.8	01.02.2012 01.11.2011 02.01.2012
17	Saigaon			DO=5.8 DO=5.0	01.08.2011 01.09.2011		

Source: Water Quality Data Book (June, 2011 to May, 2012 Godavari Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-2011

VI Basin : Krishna							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Vijayawada	pH=8.7	01.06.2010			pH=8.6	01.11.2011
2	Keesara	pH=8.9 DO=5.8 DO=6.0	01.06.2010 01.06.2010 01.04.2011				
3	Paleeru Bridge			BOD=2.1 BOD=2.7 DO=3.4 DO=4.2 DO=4.6 DO=6.0	01.07.2010 02.08.2010 01.07.2010 02.08.2010 01.09.2010 01.10.2010		
4	Wadenapally	pH=8.6	01.06.2010			pH=8.5	01.01.2011
5	Dameracherla	DO=3.4	01.06.2010	DO=5.7 DO=5.4 DO=4.9	01.07.2010 02.08.2010 01.10.2010		
6	Halia	pH=8.7 DO=4.9	01.06.2010 01.06.2010	DO=4.8	01.07.2010		
7	Bawapuram	BOD=2.5 DO=5.3	01.06.2010 01.05.2011			pH=8.5 pH=8.7 BOD=2.1	01.12.2010 01.01.2011 01.12.2010
8	T.Ramapuram	pH=8.7 DO=5.5	01.06.2010 01.06.2010	DO=5.6	01.10.2010		
9	Honnali	DO=5.3 DO=5.7	01.06.2010 01.03.2011	DO=5.5	01.07.2010	BOD=4.6	01.01.2011
10	Holehonnur	DO=5.4 DO=5.3 DO=5.7	01.03.2011 01.04.2011 01.05.2011	DO=5.6 DO=5.5 DO=5.6 DO=5.0	01.07.2010 02.08.2010 01.09.2010 01.10.2010	DO=5.8 BOD=6.2 BOD=4.2	01.11.2010 01.12.2010 01.01.2011
11	Yadgir	BOD=2.3	01.06.2010			BOD=2.7	01.12.2010
12	Malkhed	pH=8.8 DO=6.0 DO=5.9	01.06.2010 01.06.2010 01.04.2011	DO=4.4	01.07.2010		
13	Takli			pH=8.5	03.09.2010		
14	Karad			BOD=2.7	01.07.2010	pH=8.5	01.12.2010

Source: Water Quality Data Book (June, 2010 to May, 2011) Krishna Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-2012

VI Basin : Krishna							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Vijayawada			pH=8.5	01.10.2011	pH=8.5	01.11.2011
2	Keesara	DO=3.8	01.06.2011	DO=5.3	02.08.2011		
3	Paleeru Bridge	DO=4.5	01.06.2011	DO=1.9 DO=5.3 DO=5.1	01.07.2011 01.08.2011 02.09.2011		
4	Wadenapally	DO=5.0	01.06.2011	pH=8.5	01.07.2011		
5	Dameracherla	DO=4.9	01.06.2011	DO=4.6 DO=5.8	01.07.2011 02.09.2011		
6	Halia	DO=5.2	01.06.2011	DO=5.4 DO=5.9	01.07.2011 01.08.2011		
7	Bawapuram	BOD=2.2	01.06.2011	pH=8.5 BOD=5.5	01.07.2011 01.07.2011		
8	T.Ramapuram	DO=5.8	01.06.2011	DO=5.9 DO=3.9 DO=5.9	01.08.2011 02.09.2011 01.11.2011		
9	Honnali			DO=5.9	01.11.2011		
10	Holehonnur	DO=5.8	01.06.2011	DO=5.2 DO=5.6	01.07.2011 01.08.2011		
11	Yadgir			pH=8.6 DO=5.4 DO=5.9	01.11.2011 01.10.2011 01.11.2011		
12	Malkhed	DO=5.5	01.06.2011	DO=4.7	01.08.2011		

Source: Water Quality Data Book (June, 2011 to May, 2012 Krishna Basin.

Parameters Crossing Tolerance Limits by Season during 2010-11

VII Basin : Cauvery							
Sl. No.	Site Name	Summer		Monsoon		Winter	
		March to June		July to Oct.		Nov. to Feb.	
(1)	(2)	Value	Date	Value	Date	Value	Date
		(3)	(4)	(5)	(6)	(7)	(8)
1	Musiri	pH=8.5 pH=8.5	01.03.2011 01.04.2011	BOD=2.5	02.08.2010		
2	Elunuthimangalam	pH=8.9 BOD=4.8 BOD=5.6 BOD=5.7 BOD=3.7 DO=5.7 DO=5.9	01.06.2010 01.06.2010 01.03.2011 01.04.2011 01.05.2011 01.03.2011 01.04.2011	pH=8.8 pH=8.7 BOD=2.7 BOD=2.9 BOD=4.7 DO=5.9 pH=8.5 pH=8.5	01.07.2010 02.03.2010 01.07.2010 02.08.2010 01.09.2010 01.10.2010 01.09.2010 01.10.2010	DO=5.7 pH=8.5 BOD=2.2 DO=5.9 DO=5.9	01.01.2010 01.10.2011 01.01.2011 01.02.2010 01.01.2011 01.02.2011
3	Kodumudi	BOD=2.1	01.06.2011	BOD=2.6	01.09.2010		
4	Kudlur	pH=8.7 pH=8.7 pH=8.8 BOD=5.0	01.03.2011 01.04.2011 01.05.2011 01.05.2011	BOD=2.2 BOD=3.4	01.07.2010 01.11.2010	pH=8.6 pH=8.6	01.01.2011 01.02.2011
5	Billigundulu	DO=5.0 DO=5.8	01.06.2010 01.04.2011	pH=8.5	01.07.2010		
6	T.Bekuppe			DO=3.1 DO=2.8 DO=2.9 DO=3.0 DO=3.0	01.07.2010 02.08.2010 01.09.2010 01.11.2010 01.11.2010		
7	T.K.Halli	DO=4.5 DO=4.6	01.06.2010 01.03.2011	pH=8.5 DO=5.1 DO=5.8 DO=5.2	02.08.2010 01.07.2010 01.09.2010 01.10.2010	DO=5.0 DO=5.8 DO=5.0	01.11.2010 01.01.2011 01.02.2011
8	Kollegal	DO=4.6 DO=5.7 DO=5.8 DO=5.5	01.06.2010 01.03.2011 01.04.2011 01.05.2011	DO=4.9 DO=5.3 DO=4.4	02.08.2010 01.09.2010 01.10.2010	DO=5.8	01.12.2010
9	T. Narsipur	DO=4.6 DO=5.4 DO=5.4	01.06.2010 01.03.2011 01.04.2011	DO=5.8 DO=5.6 DO=4.6	01.07.2010 01.09.2010 01.10.2010	DO=5.2 DO=4.6	01.11.2010 01.02.2011
10	Akkihebbal	DO=5.0	01.06.2011	DO=5.8	01.09.2010		
11	M.H.Halli	DO=4.8 DO=4.3	01.03.2011 01.04.2011	DO=5.8 DO=5.8 DO=5.2	01.07.2010 01.09.2010 01.10.2010		

Source: Water Quality Data Book (June, 2010 to May, 2011) Cauvery Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

VII Basin : Cauvery							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Musiri			BOD=2.1 BOD=2.6	01.07.2011 01.10.2011		
2	Elunuthimangalam	BOD=4.8 DO=5.9	01.06.2011 01.06.2011	pH=8.9 pH=8.5 PH=8.6 PH=8.9 BOD=2.5 BOD=4.8 BOD=3.7 BOD=4.1 DO=5.7 DO=5.9 DO=5.8 DO=6.0	01.07.2011 01.08.2011 02.09.2011 01.10.2011 01.07.2011 01.08.2011 02.09.2011 01.10.2011 01.07.2011 01.08.2011 02.09.2011 01.10.2011	BOD=2.2 BOD=8.1 DO=5.6 DO=6.0 DO=5.9 DO=5.7	01.11.2011 01.02.2012 01.11.2011 01.12.2011 02.01.2012 02.02.2012
3	Kodumudi			BOD=3.5 BOD=2.4	01.07.2011 01.08.2011		
4	Kudlur			pH=8.7	01.07.2011	pH=8.6	02.01.2012
5	Billigundulu			BOD=2.8 BOD=2.8	01.07.2011 02.09.2011		
6	T.Bekuppe	DO=2.6	01.06.2011	BOD=11.3 BOD=11.7 BOD=7.6 BOD=14.5 DO=2.0 DO=2.5 DO3.1 DO=3.5	01.07.2011 01.08.2011 02.09.2011 04.10.2011 01.07.2011 01.08.2011 02.09.2011 04.10.2011	BOD=6.8 BOD=12.4 BOD=13.3 DO=4.7 DO=3.9 DO=3.5 DO=3.5	01.11.2011 02.12.2011 02.01.2012 01.11.2011 02.12.2012 02.01.2012 01.02.2012

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**VII Basin : Cauvery**

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7	T.K.Halli	DO=4.8	01.06.2011	DO=5.0 DO=5.6 DO=5.5 DO=4.8	01.07.2011 01.08.2011 02.09.2011 04.10.2011	DO=5.5 DO=5.9 DO=5.8 DO=5.8	01.11.2011 02.12.2011 02.01.2012 01.02.2012
8	Kollegal			DO=4.0 Do=5.3 DO=3.7 DO=4.4	01.07.2011 01.08.2011 02.09.2011 04.10.2011	DO=4.2 DO=5.7	01.11.2011 02.12.2011
9	T. Narsipur	DO=5.6	01.06.2011	DO=5.0 DO=5.6 DO=5.5 DO=5.2	01.07.2011 01.08.2011 02.09.2011 04.10.2011	DO=5.7 DO=5.9 DO=5.6	01.11.2011 02.12.2011 02.01.2012
10	Akkihebbal	DO=4.6	01.06.2011	DO=5.3 DO=5.5 DO=5.6 DO=5.7	01.07.2011 01.08.2011 02.09.2011 04.10.2011	DO=5.7 DO=5.8	01.11.2011 01.02.2012
11	M.H.Halli	DO=4.2	01.06.2011				

Source: Water Quality Data Book (June, 2011 to May, 2012) Cauvery Basin.

**Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2010-11**

**VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari**

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Marella	BOD=5.9 BOD=5.7 BOD=5.6	01.06.2010 01.04.2011 01.05.2011	BOD=5.9	01.07.2010		
2	Nellore					BOD=2.7 BOD=3.0	01.12.2010 01.02.2011
3	Nandipalli					BOD=2.2	01.12.2010
4	Chennure	pH=8.5 BOD=2.7	01.06.2010 01.05.2011	BOD=2.1	01.09.2010	BOD=2.5 BOD=2.5	01.11.2010 01.12.2010
5	Alladupalli	DO=3.8 DO=4.1 DO=3.6	01.06.2010 01.04.2011 01.05.2011	DO=3.5 BOD=2.7 BOD=5.5	01.07.2010 01.09.2010 04.10.2010	DO=4.7 DO=5.1 DO=5.9	01.12.2010 01.11.2011 01.02.2011
6	Sularpet			BOD=2.9	29.10.2010		
7	Vazhavachasuri	DO=5.5	02.05.2011	DO=3.4 DO=3.4	01.09.2010 04.10.2010	DO=4.1 DO=5.1 DO=5.1	01.11.2010 01.12.2010 01.02.2011
8	Gummanur	BOD=3.8 pH=8.6 BOD=2.1 BOD=5.0 DO=5.3	01.06.2010 01.06.2010 01.03.2011 01.05.2011 01.05.2011	BOD=4.8 BOD=3.3 pH=8.7 BOD=3.6 BOD=3.8	01.07.2010 02.08.2010 01.07.2010 01.09.2010 01.10.2010	BOD=2.5 BOD=2.4	01.01.2011 01.02.2011
9	Kudalaiyathur	BOD=2.7	01.04.2011			pH=8.5	03.01.2011
10	Theni	BOD=4.1 BOD=3.3 BOD=2.8	01.06.2010 01.04.2010 01.05.2010	BOD=3.8	01.07.2010		

Source: Water Quality Data Book (June, 2010 to May, 2011) East Flowing Rivers from Mahanadi to Kanyakumari .

**Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2011-12**



VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Marella	DO=4.9	01.06.2011	BOD=2.3 DO=4.2 DO=5.9	01.08.2011 01.07.2011 01.08.2011	DO=5.3 DO=5.9	01.11.2011 02.01.2012
2	Nellore	pH=8.5	01.06.2011	pH=8.5 pH=8.5 BOD=2.2 BOD=2.3 BOD=2.1	01.08.2011 01.10.2011 01.08.2011 02.09.2011 01.10.2011	BOD=2.9 BOD=2.1 BOD=2.1	01.12.2011 02.01.2012 01.02.2012
3	Nandipalli			BOD=2.5	02.09.2011	BOD=2.4 BOD=2.4 BOD=2.4	01.12.2011 02.01.2012 01.02.2012
4	Chennure			BOD=2.8 BOD=2.1 BOD=2.5	01.08.2011 02.09.2011 01.10.2011	BOD=2.0	01.02.2012
5	Alladupalli	DO=3.8	01.06.2011	BOD=2.4 BOD=2.3 BOD=2.0 DO=3.7 DO=5.7 DO=5.5 DO=6.0	01.08.2011 02.09.2011 01.10.2011 01.07.2011 01.08.2011 02.09.2011 01.10.2011	BOD=2.0 BOD=2.2 DO=5.1 DO=5.6 DO=5.9 DO=3.3	02.01.2012 01.02.2012 01.11.2011 01.12.2011 02.01.2012 01.02.2012
6	Sularpet			pH=8.5 BOD=2.0	23.08.2011 28.10.2011	pH=8.6 BOD=2.8	01.12.2011 01.12.2011
7	Vazhavachasuri			BOD=2.6 DO=5.1	11.08.2011 02.09.2011	BOD=2.0 BOD=2.3 BOD=2.1 DO=5.3 DO=5.3 DO=4.3 DO=4.2	01.12.2011 02.01.2012 01.02.2012 01.11.2011 01.12.2011 02.01.2012 01.02.2012

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VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
8	Gummanur	BOD=3.8	01.06.2011	BOD=5.8 BOD=4.0 BOD=1.5 BOD=2.9	01.07.2011 01.08.2011 02.09.2011 01.10.2011	pH=8.5 BOD=3.5 BOD=2.6 BOD=2.2	01.02.2012 01.11.2011 01.12.2011 02.01.2012
9	Kudalaiyathur	N.A	N.A	N.A	N.A	N.A	N.A
10	Theni			BOD=2.4	01.10.2011	BOD=2.5	01.02.2012
11	Murappanadu			BOD=5.0 DO=5.8 DO=5.7	01.10.2011 01.07.2011 01.10.2011	BOD=2.1 DO=5.9	01.12.2011 01.12.2011
12	Villupuram			BOD=2.1	29.10.2011	BOD=2.0	02.01.2012
13	Kumarapalayam					BOD=2.1 BOD=2.2 BOD=2.2	04.11.2011 01.12.2011 02.01.2012
14	Mangaral					BOD=2.3 BOD=2.0	08.11.2011 02.01.2012
15	Chengalpet					BOD=2.1 BOD=2.7 BOD+2.1	01.12.2011 02.01.2012 01.02.2012
16	Tadipatri			pH=9.5	23.08.2011		

Source: Water Quality Data Book (June, 2011 to May, 2012) East Flowing Rivers from Mahanadi to Kanyakumari .

parameters crossing tolerance limits by season during 2010-11

**IX Basin : West Flowing Rivers from Kanyakumari to Tapi**

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Badlapur	DO=5.8	04.03.2011	BOD=5.9	04.10.2010	DO=5.0 DO=5.0	01.01.2011 01.02.2011
2	Mangoan	DO=5.9	01.07.2010				
3	Ambarampalayam	DO=5.5 DO=5.8 DO=5.3	01.03.2011 01.04.2011 01.05.2011			BOD=2.0	01.02.2011

Source: Water Quality Data Book (June, 2010 to May, 2011 West Flowing Rivers from Kanyakumari to Tapi.

**Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2011-12**

**IX Basin : West Flowing Rivers from Kanyakumari to Tapi**

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Badlapur			DO=5.8 DO=4.8	01.07.2011	DO=4.8 DO=4.3	02.01.2012 02.02.2012
2	Mangaon			DO=5.8 DO=5.6	01.07.2011 02.09.2011	DO=5.6	01.11.2011
3	Ambarampalayam			BOD=2.8	01.07.2011	BOD=2.4	01.11.2011

Source: Water Quality Data Book (June, 2011 to May, 2012 West Flowing Rivers from Kanyakumari to Tapi.

**Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2010-11**

**X Basin : Tapi**

Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Burhanpur			pH=8.5	01.09.2010		
2	Gopalkheda	BOD=43.0	01.06.2010			BOD=4.0 BOD=7.0	01.12.2010 01.02.2011

Source: Water Quality Data Book (June, 2010 to May, 2011 Tapi Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

X Basin : Tapi							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Burhanpur	No.Flow	-	No.Flow	-	No.Flow	-
2	Gopalkheda	No.Flow	-	No.Flow	-	No.Flow	-

Source: Water Quality Data Book (June, 2011 to May, 2012 Tapi Basin.

Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2010-11

XI Basin : Narmada							
Sl.No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Gurdeshwer	BOD=2.0	01.05.2011			DO=5.4	01.11.2010
2	Pati			DO=5.4 DO=5.5 DO=5.9 DO=5.6	01.07.2010 02.08.2010 01.09.2010 01.10.2010		
3	Dhulsar			pH=8.5 DO=5.1 DO=5.5 DO=5.6 DO=4.8	04.10.2010 01.07.2010 02.08.2010 01.09.2010 04.10.2010	DO=4.9	01.11.2010
4	Mandleshwar	pH=8.5 DO=5.3 DO=4.8 DO=5.0	01.06.2010 01.06.2010 01.04.2011 01.05.2011	DO=5.1 DO=4.4 DO=5.2 DO=4.8	01.07.2010 02.08.2010 01.09.2010 04.10.2010	DO=5.7	01.11.2011
5	Kogaon			DO=2.7 DO=4.4 DO=4.6	01.07.2010 02.08.2010 01.11.2010	pH=8.5 pH=8.5 DO=5.2 DO=4.9	01.01.2011 01.02.2011 01.11.2010 01.02.2011
6	Handia	pH=8.7 DO=5.3 DO=5.8	01.06.2010 01.04.2011 02.05.2011	BOD=2.1 DO=5.2 DO=5.4 DO=5.5 DO=5.1	02.08.2010 01.07.2010 07.08.2010 01.09.2010 04.10.2010	DO=5.6 DO=3.3	01.11.2010 01.02.2011
7	Chhidgaon	DO=5.7 DO=4.7 DO=5.9	01.03.2011 01.04.2011 01.05.2011	DO=2.2 DO=5.8 DO=5.5 DO=4.9	01.07.2010 02.08.2010 01.09.2010 01.10.2010	DO=4.8 DO=5.9	01.11.2010 01.12.2010
8	Hoshangabad	pH=8.9 pH=8.5 BOD=2.4 DO=5.4 DO=5.5	01.03.2011 01.04.2011 02.05.2011 01.06.2010 01.05.2011	DO=5.5 DO=5.7 DO=5.5	02.08.2010 01.09.2010 04.10.2010		
9	Sandia	DO=4.6 DO=5.9 DO=4.7 DO=5.7	01.06.2010 01.03.2011 01.04.2011 01.05.2011	BOD=2.0 DO=4.2 DO=4.6 DO=5.3	01.07.2010 01.07.2010 02.08.2010 01.09.2010	DO=5.9 DO=4.8	01.11.2010 01.02.2011
10	Gadarwara	pH=9.0	01.03.2011	DO=4.8 DO=4.8 DO=5.9 DO=5.0	01.07.2010 02.08.2010 01.09.2010 04.11.2010	DO=4.7 DO=5.4 DO=5.7	01.11.2010 01.12.2010 01.02.2011
11	Barman	DO=2.4 DO=4.8 DO=5.1	01.06.2010 01.04.2011 01.05.2011	DO=4.8 DO=5.0 DO=5.9 DO=5.0	01.07.2010 02.05.2010 01.09.2010 04.10.2010	DO=5.2 DO=5.8	01.11.2010 01.02.2011
12	Belkheri	DO=4.7 DO=5.6 DO=5.7	01.06.2010 01.04.2011 01.05.2011	DO=4.1 DO=4.5 DO=5.6 DO=5.0	01.07.2010 02.08.2010 01.09.2010 04.10.2010	DO=5.4 DO=5.9	01.11.2010 01.02.2011

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Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2010-11

XI Basin : Narmada							
Sl.No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
13	Patan	pH=9.0	01.06.2010	DO=3.9	01.07.2010	BOD=2.5	01.02.2011
		pH=8.5	01.03.201	DO=4.9	02.08.2010	DO=5.7	01.11.2010
		BOD=2.8	01.03.2011	DO=3.5	01.09.2010	DO=5.6	01.02.2011
		BOD=2.0	01.04.2011	DO=5.3	04.10.10		
		BOD=2.2	01.05.2011				
		DO=4.3	01.06.2010				
		DO=2.0	01.04.2011				
		DO=3.8	01.05.2011				
14	Bamni			BOD=2.0	03.09.2010	DO=4.9	01.11.2010
				DO=4.1	01.07.2010		
				DO=5.5	02.08.2010		
				DO=5.0	01.09.2010		
				DO=4.7	04.10.2010		
15	Mohgoan	pH=8.9	01.06.2010	DO=4.7	01.07.2010	DO=4.9	01.01.2010
		BOD=2.0	01.05.2011	DO=4.5	02.08.2010	DO=5.9	01.12.2010
		DO=5.6	01.03.2011	DO=4.7	01.09.2010		
		DO=5.1	01.04.2011	DO=4.6	04.10.2010		
		DO=4.9	01.05.2011				
16	Manot	pH=8.5	01.03.2011	DO=4.5	01.07.2011	DO=5.3	01.11.2010
		DO=2.9	01.06.2010	DO=4.8	02.08.2010	DO=5.9	01.12.2010
		DO=5.8	01.04.2011	DO=4.8	01.09.2010		
		DO=4.4	01.05.2011	DO=4.9	04.10.2010		
17	Dindori	BOD=2.2	01.03.2011	DO=3.9	01.07.2010	BOD=2.3	01.02.2010
		DO=4.0	01.03.2011	DO=3.9	02.08.2010	DO=4.8	01.12.2010
		DO=3.6	01.05.2011	DO=5.4	01.09.2010	DO=4.6	01.02.2011
		DO=5.5	01.04.2011	DO=5.9	04.10.2010		

Source: Water Quality Data Book (June, 2010 to May, 2011 Narmada Basin.

Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2011-12

XI Basin : Narmada							
Sl.No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Gurdeshwer			BOD=2.0	01.10.2011		
2	Pati			DO=5.1	01.08.2011	DO=4.8	01.12.2011
				DO=4.2	03.10.2011		
3	Dhulsar			pH=8.5	01.08.2011		
				pH=8.5	02.09.2011		
				DO=5.8	02.09.2011		
				DO=5.1	03.10.2011		
4	Mandleshwar	DO=4.8	01.06.2011	BOD=2.2	01.08.2011	BOD=2.3	01.12.2011
				DO=4.7	01.07.2011	BOD=2.1	02.01.2012
				DO=5.3	02.09.2011	DO=5.8	01.11.2011
5	Kogaon			pH=8.5	01.08.2011	pH=8.5	01.11.2011
				pH=8.5	02.09.2011	DO=4.5	
				DO=5.3	01.08.2011		
				DO=5.4	02.09.2011		
				DO=4.8	03.10.2011		
6	Handia	pH=8.5	01.06.2011	pH=8.5	03.10.2011	pH=8.5	01.02.2012
				DO=5.5	01.07.2011		
				DO=5.3	03.10.2011		
7	Chhidgaon	DO=4.6	01.06.2011	pH=8.5	03.10.2011	DO=5.2	01.12.2011
				DO=5.4	01.07.2011	DO=5.5	02.01.2012
				DO=5.7	01.08.2011		
				DO=5.7	02.09.2011		
				DO=5.8	03.10.2011		
8	Hoshangabad	DO=5.9	01.06.2011	DO=4.9	01.07.2011		
				DO=5.5	02.09.2011		
				DO=5.6	03.10.2011		
9	Sandia	DO=5.3	01.06.2011	DO=4.5	01.07.2011	DO=5.7	01.11.2011
				DO=5.9	02.09.2011	DO=5.7	01.12.2011
				DO=5.5	03.10.2011		
10	Gadarwara			DO=4.5	01.07.2011		
				DO=5.7	01.08.2011		
				DO=5.3	02.09.2011		
				DO=5.8	03.10.2011		

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Table 12 : Critical absolute values of water quality parameters crossing tolerance limits by season during 2011-12

XI Basin : Narmada							
Sl.No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value (3)	Date (4)	Value (5)	Date (6)	Value (7)	Date (8)
11	Barman	DO=4.3	01.06.2011	DO=3.6 DO=5.5 DO=5.5 DO=5.8	01.07.2011 01.08.2011 02.09.2011 03.10.2011	DO=5.7	01.11.2011
12	Belkheri	DO=3.1	01.06.2011	DO=5.0 DO=5.9 DO=5.1	01.07.2011 02.09.2011 03.10.2011	DO=5.8 DO=5.9	01.12.2011 02.01.2012
13	Patan	DO=2.3	01.06.2011	DO=4.1 DO=4.8 DO=4.9 DO=5.6	01.07.2011 01.08.2011 02.09.2011 03.10.2011		
14	Bamni			BOD=2.2 DO=5.6 DO=5.3 DO=5.5	01.08.2011 01.08.2011 02.09.2011 03.10.2011	DO=4.7 DO=4.9 DO=4.0	01.11.2011 01.12.2011 02.01.2012
15	Mohgoan	DO=3.7	01.06.2011	pH=8.5 DO=4.0 DO=5.7 DO=5.6	03.10.2011 01.07.2011 02.09.2011 03.10.2011		
16	Manot	BOD=2.0 DO=4.9	01.06.2011 01.06.2011	pH=8.5 BOD=2.1 DO=5.6 DO=5.6 DO=4.6	03.10.2011 01.08.2011 01.07.2011 02.09.2011 03.10.2011	DO=5.5	01.11.2011
17	Dindori	DO=1.5	01.06.2011	BOD=2.3 DO=5.8 DO=4.9 DO=4.8	01.07.2011 01.07.2011 01.08.2011 03.10.2011	DO=5.9	01.11.2011

Source: Water Quality Data Book (June, 2011 to May, 2012 Narmada Basin.

Parameters Crossing Tolerance Limits by Season during 2010-11

XII Basin : Mahi and Sabarmati							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Mataji	BOD=2.7	01.03.2011	BOD=2.3	02.08.2010	pH=8.5	01.11.2011
2	Abu Road	BOD=2.4	01.04.2011	BOD=2.0	01.10.2010		
3	Padeerdibadi	BOD=2.5	01.03.2011	BOD=2.1	01.10.2010		
4	Khanpur	BOD=2.5	01.03.2011	BOD=3.4	02.08.2010	pH=8.5	01.01.2010
		DO=4.7	01.06.2010	BOD=2.2	01.07.2010	BOD=2.0	01.02.2011
		DO=5.1	01.03.2011	BOD=3.1	02.08.2010	pH=8.9	01.11.2010
				DO=5.9	01.07.2010	BOD=2.2	01.01.2011
				DO=5.6	01.10.2010	DO=5.8	01.01.2011
5	Derol Bridge			pH=8.5	02.08.2010	DO=5.3	01.02.2011
				BOD=2.2	02.08.2010		
				BOD=2.2	01.10.2010		
6	Vautha	BOD=16.0	01.06.2010	BOD=31.0	01.07.2010	pH=8.5	01.11.2010
		BOD=16.0	01.03.2011	BOD=14.0	01.09.2010	BOD=17.0	01.11.2010
		BOD=15.0	01.04.2011	BOD=18.0	01.10.2010	BOD=25.0	01.12.2010
		BOD=19.0	01.05.2011			BOD=23.0	01.01.2011
		DO=5.9	01.04.2011			BOD=38.0	01.02.2011
		DO=5.4	01.05.2011			DO=5.8	01.01.2011
7	Luwara			BOD=2.7	01.10.2010		
8	Chitrasani			BOD=2.4	02.08.2010		
				BOD=2.6	01.10.2010		
9	Kamal Pur			pH=8.5	02.08.2010		
10	Mahuwa					BOD=2.0	01.12.2010
11	Ganod			BOD=2.0	01.10.2010		
12	Pingalwada	BOD=3.0	01.06.2011	BOD=50.0	01.07.2010	pH=8.7	01.11.2011
		BOD=3.0	01.03.2011	BOD=41.0	02.08.2010	BOD=5.0	01.11.2010
		BOD=13.0	01.04.2011	BOD=10.0	01.10.2010	BOD=10.0	01.12.2010
		BOD=20.0	01.05.2011	DO=8.0	01.07.2010	BOD=9.0	01.01.2011
		DO=3.5	01.06.2010	DO=3.0	02.08.2010	BOD=2.0	01.02.2011
		DO=4.5	01.03.2011			DO=3.5	01.11.2011
		DO=5.5	01.04.2011			DO=4.0	01.02.2011
		DO=4.0	01.05.2011				
13	Motinaroli	BOD=2.2	01.03.2011	BOD=10.0	01.07.2010	BOD=5.0	01.11.2010
		BOD=9.0	01.05.2011	BOD=4.0	01.10.2010	BOD=6.0	01.12.2010
						BOD=2.0	01.01.2011
						BOD=4.0	01.02.2011
						DO=5.0	01.02.2011

Source: Water Quality Data Book (June, 2010 to May, 2011 Mahi, Sabarmati & Others Basin.

Table 12 : Critical Absolute Values of Water Quality Parameters Crossing Tolerance Limits by Season during 2011-12

XII Basin : Mahi and Sabarmati							
Sl. No.	Site Name	Summer March to June		Monsoon July to Oct.		Winter Nov. to Feb.	
		Value	Date	Value	Date	Value	Date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Mataji			BOD=3.5 BOD=3.2 BOD=2.4	01.08.2011 01.09.2011 01.10.2011	BOD=2.8	01.11.2011
2	Abu Road	N.A	N.A	N.A	N.A	N.A	N.A
3	Padeerdibadi			BOD=2.9	01.10.2011	BOD=2.7	02.01.2012
4	Khanpur	BOD=3.0	01.06.2011	BOD=2.5 DO=5.3 DO=5.5	01.10.2011 01.07.2011 01.08.2011		
5	Derol Bridge			BOD=3.4	01.09.2011		
6	Vautha	BOD=16.0	01.06.2011	BOD=20.0 BOD=10.0 BOD=4.2 BOD=5.2 DO=4.7 DO=5.7	01.07.2011 01.08.2011 01.09.2011 01.10.2011 01.09.2011 01.10.2011	BOD=14.0 BOD=11.0 BOD=9.0 BOD=38.0	01.11.2011 01.12.2011 02.01.2012 01.02.2012
7	Luwara					BOD=2.0	01.12.2011
8	Chitrasani			BOD=2.7	01.10.2011		
9	Kamal Pur			BOD=2.2	01.10.2011		
10	Mahuwa	N.A	N.A	N.A	N.A	N.A	N.A
11	Ganod			BOD=3.8	01.10.2011		
12	Pingalwada	BOD=4.0 DO=3.5	01.06.2011 01.06.2011	BOD=10.0 BOD=3.0 BOD=3.0 DO=3.5 DO=2.5 DO=2.6	01.07.2011 01.08.2011 01.09.2011 01.07.2011 01.08.2011 01.09.2011	BOD=2.2	01.11.2011
13	Motinaroli			BOD=2.1 BOD=2.0 BOD=3.0	01.08.2011 01.09.2011 01.10.2011	BOD=10.0	01.11.2011

Source: Water Quality Data Book (June, 2011 to May, 2012 Mahi, Sabarmati & Others Basin.



Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

1 Basin : Mahanadi									
Sl. No.	Parameter	Year	Name of the Site	Baronda	Rajim	Basantpur	Pathardih	Simga	Andhiyarkhore
			Name of the River/Stream	Mahanadi	Mahanadi	Mahanadi	Kharun	Seonath	Hamp
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	3.450	0.000	0.326	0.000
			Max	1812	3193	9138	753.5	3349	192.4
		2011-12	Min	0.000	0.000	2.267	0.000	0.000	0.000
			Max	1489	3679	23366	1441	7359	361.3
2	Temperature °C	2010-11	Min	20.0	20.0	19.0	24.4	17.5	17.0
			Max	28.8	28.0	31.0	31.9	28.0	29.9
		2011-12	Min	21.0	22.0	18.5	23.0	18.0	16.7
			Max	29.0	28.0	32.5	32.5	31.0	28.4
3	pH_GEN	2010-11	Min	7.3	7.3	7.0	7.1	6.8	7.3
			Max	8.2	7.8	7.6	7.5	7.9	7.9
		2011-12	Min	7.4	6.8	6.9	7.4	7.1	7.2
			Max	8.2	7.8	8.1	8.0	8.5	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.3	1.4	1.5	2.6	2.3	3.2
			Max	2.6	6.1	7.5	10.6	30.7	10.2
		2011-12	Min	0.8	1.2	1.7	3.5	2.6	2.9
			Max	3.0	2.9	6.1	8.3	9.6	7.5
6	Sodium (Na)	2010-11	Min	2.5	1.9	3.1	9.6	10.0	8.2
			Max	14.0	20.6	32.6	29.7	54.0	59.8
		2011-12	Min	2.2	3.3	6.6	6.4	6.4	13.3
			Max	5.5	5.6	31.5	27.1	57.6	81.4
7	Calcium (Ca)	2010-11	Min	6	7	18	15	10	13
			Max	12	21	33	31	46	50
		2011-12	Min	6	6	14	16	13	18
			Max	10	12	37	32	67	50
8	Magnesium (Mg)	2010-11	Min	2.5	3.9	6.3	10.7	6.3	9.2
			Max	6.8	15.6	20.1	18.0	27.2	28.7
		2011-12	Min	3.4	4.4	7.3	10.7	9.2	10.7
			Max	6.3	5.8	19.4	17.5	39.7	28.2
9	Aluminium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.1	0.2	0.2	0.7	1.8
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.1	0.2	0.4	0.4
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	12.2	0.0
13	Bicarbonate (HCO3)	2010-11	Min	35	43	81	93	50	81
			Max	60	198	188	182	250	299
		2011-12	Min	29	41	78	94	83	99
			Max	62	62	165	186	225	260
14	Chloride (CL)	2010-11	Min	2.0	2.5	5.1	7.1	6.0	5.7
			Max	15.5	25.5	28.5	41.5	67.3	92.5
		2011-12	Min	1.1	3.5	6.2	3.6	5.9	-
			Max	5.7	7.8	29.2	36.9	52.3	-
15	Fluoride (F)	2010-11	Min	0.05	0.07	0.05	0.13	0.05	0.14
			Max	0.64	0.76	0.21	0.26	1.00	1.40
		2011-12	Min	0.06	0.08	0.05	0.16	0.10	0.16
			Max	0.32	0.28	0.30	0.32	0.38	0.40
16	Sulphate (SO4)	2010-11	Min	7.0	5.4	15.4	14.2	13.2	17.4
			Max	14.8	31.0	49.6	30.8	59.2	90.0
		2011-12	Min	7.4	8.6	18.0	16.2	12.8	14.6
			Max	19.0	20.0	40.0	39.2	68.0	76.0
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
19	Nitrite (NO2-N)	2010-11	Min	0.01	0.01	0.01	0.01	0.01	0.01
			Max	0.02	0.40	0.08	0.10	0.60	0.70
		2011-12	Min	0.01	0.01	0.01	0.03	0.02	0.02
			Max	0.02	0.06	0.12	0.06	0.32	0.30
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	0.010	0.010	0.030	0.010	0.020	0.040
			Max	0.020	0.040	0.120	0.300	0.280	0.500
21	Silica (SiO2)	2010-11	Min	3.0	5.0	11.2	4.0	12.8	12.8
			Max	10.4	16.0	32.6	28.2	29.8	36.0
		2011-12	Min	3.4	5.8	8.8	13.4	12.0	4.8
			Max	12.0	23.0	34.0	20.0	30.0	28.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

1 Basin : Mahanadi									
Sl. No.	Parameter	Year	Name of the Site	Baronda	Rajim	Basantpur	Pathardih	Simga	Andhiyarkhore
			Name of the River/Stream	Mahanadi	Mahanadi	Mahanadi	Kharun	Seonath	HAMP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
22	DO	2010-11	Min	5.8	4.4	4.0	5.6	16.0	2.6
			Max	8.0	7.7	8.3	6.6	160.0	8.0
		2011-12	Min	5.0	5.4	4.7	3.8	2.8	5.0
			Max	7.5	8.3	8.2	8.2	9.3	8.2
23	BOD3-27	2010-11	Min	0.4	0.2	0.4	0.6	0.5	0.7
			Max	1.4	1.4	2.0	1.0	4.0	2.8
		2011-12	Min	0.4	0.4	0.4	0.3	0.4	0.8
			Max	1.7	1.4	2.2	2.5	4.2	2.9
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	24	38	74	83	50	71
			Max	58	118	164	151	228	234
		2011-12	Min	30	34	65	85	70	89
			Max	48	54	173	145	334	242
40	Sodium % (Na%)	2010-11	Min	12	7	8	16	18	19
			Max	42	30	39	35	58	38
		2011-12	Min	9	15	16	14	16	20
			Max	24	20	35	28	41	46
41	SAR	2010-11	Min	0.2	0.1	0.2	0.5	0.5	0.4
			Max	1.0	0.9	1.4	1.2	2.5	1.8
		2011-12	Min	0.1	0.2	0.4	0.3	0.3	0.6
			Max	0.4	0.3	1.2	1.0	1.9	2.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.1	1.3	0.3	0.0	1.0	0.7
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.1	0.3	0.2	0.2	0.1

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

1 Basin : Mahanadi									
Sl. No.	Parameter	Year	Name of the Site	Ghatora	Jondhra	Rampur	Manendragarh	Bamnidi	Kurubhatta
			Name of the River/Stream	Arpa	Seonath	Jonk	Hasdeo	Hasdeo	Mand
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)	(15)	(16)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.281	0.000	4.005	0.000
			Max	343.5	3203	368.1	119.1	803.3	961.7
		2011-12	Min	0.000	0.000	0.000	0.000	2.500	0.000
			Max	670.0	9193	2849	448.0	7732	2005
2	Temperature °C	2010-11	Min	22.0	29.0	19.5	25.0	16.0	19.5
			Max	30.0	30.0	30.5	29.0	29.0	29.0
		2011-12	Min	22.0	26.0	18.5	18.5	17.0	19.5
			Max	27.0	30.0	30.5	25.5	29.0	29.7
3	pH_GEN	2010-11	Min	7.5	7.4	7.3	7.3	6.9	6.8
			Max	8.2	8.0	7.6	7.9	7.7	7.8
		2011-12	Min	7.4	7.4	7.1	7.4	6.0	7.5
			Max	7.9	8.2	8.1	8.1	8.2	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.6	2.3	1.1	1.4	2.2	1.3
			Max	30.7	4.0	4.8	1.5	17.4	3.4
		2011-12	Min	1.7	93	0.6	1.1	1.6	1.2
			Max	2.6	182	3.1	3.0	6.1	3.0
6	Sodium (Na)	2010-11	Min	8.6	9.8	8.8	3.5	7.4	4.3
			Max	53.8	12.5	20.7	17.0	40.0	19.9
		2011-12	Min	7.1	7.1	6.4	3.3	4.9	1.2
			Max	18.8	24.8	24.4	7.4	22.7	11.8
7	Calcium (Ca)	2010-11	Min	12	18	12	6	14	6
			Max	19	22	34	17	33	21
		2011-12	Min	11	18	13	5	10	6
			Max	21	36	21	14	24	16
8	Magnesium (Mg)	2010-11	Min	6.8	9.2	6.8	4.4	9.2	3.9
			Max	17.0	16.7	20.9	10.2	19.9	10.7
		2011-12	Min	6.3	9.7	6.3	2.9	5.8	3.9
			Max	13.6	20.9	12.6	7.8	13.6	9.7
9	Aluminium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.1	0.0	0.0	0.2	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.1	0.0	0.0	0.1	0.1
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	70	95	66	39	85	16
			Max	122	112	190	99	196	105
		2011-12	Min	66	93	74	27	14	43
			Max	133	182	121	78	151	87
14	Chloride (CL)	2010-11	Min	4.5	5.2	3.5	3.2	4.9	2.8
			Max	26.0	7.2	26.2	8.1	49.6	16.3
		2011-12	Min	4.8	6.5	3.9	2.1	5.4	4.6
			Max	28.0	11.5	20.0	11.1	30.0	23.1
15	Fluoride (F)	2010-11	Min	0.06	0.06	0.09	0.05	0.05	0.05
			Max	0.30	0.24	0.16	0.18	0.32	0.12
		2011-12	Min	0.16	0.14	0.10	0.10	0.09	0.08
			Max	0.30	0.28	0.30	0.20	0.28	0.30
16	Sulphate (SO4)	2010-11	Min	10.6	14.4	8.0	7.6	11.2	7.0
			Max	21.0	18.2	36.8	26.6	56.0	23.0
		2011-12	Min	7.8	14.6	10.0	1.5	8.2	6.6
			Max	16.6	21.0	29.4	21.6	38.0	20.0
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
19	Nitrite (NO2-N)	2010-11	Min	0.01	0.02	0.01	0.01	0.01	0.01
			Max	0.02	0.02	0.07	0.02	0.05	0.03
		2011-12	Min	0.02	0.02	0.01	0.01	0.01	0.01
			Max	0.03	0.04	0.04	0.02	0.12	0.08
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	0.020	0.030	0.020	0.010	0.020	0.010
			Max	0.060	0.060	0.060	0.050	0.130	0.180
21	Silica (SiO2)	2010-11	Min	11.0	11.0	7.6	5.8	10.0	3.0
			Max	14.0	15.4	26.6	13.2	29.0	26.9
		2011-12	Min	10.4	10.8	8.0	4.2	6.6	5.0
			Max	12.2	29.0	29.0	10.0	30.0	22.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

1 Basin : Mahanadi									
Sl. No.	Parameter	Year	Name of the Site	Ghatora	Jondhra	Rampur	Manendragarh	Bamnidhi	Kurubbata
			Name of the River/Stream	Arpa	Seonath	Jonk	Hasdeo	Hasdeo	Mand
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)	(15)	(16)
22	DO	2010-11	Min	4.4	5.6	4.5	5.3	0.3	5.3
			Max	5.8	7.6	7.7	7.7	7.4	8.2
		2011-12	Min	5.6	5.1	4.5	6.3	4.1	6.5
			Max	6.8	7.3	8.3	8.5	6.9	8.5
23	BOD5-27	2010-11	Min	0.4	0.7	0.2	0.4	0.3	0.3
			Max	2.4	1.9	2.0	0.9	13.0	1.6
		2011-12	Min	0.8	0.9	0.6	0.5	0.4	0.2
			Max	1.8	1.8	1.4	1.0	3.2	1.5
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	58	82	58	32	77	30
			Max	119	124	171	85	165	96
		2011-12	Min	54	85	58	24	48	34
			Max	109	177	103	69	117	80
40	Sodium % (Na%)	2010-11	Min	19	14	20	8	14	12
			Max	46	22	30	45	39	43
		2011-12	Min	20	15	17	10	16	6
			Max	27	23	34	21	33	34
41	SAR	2010-11	Min	0.4	0.4	0.5	0.2	0.3	0.3
			Max	2.3	0.6	0.9	1.1	1.5	1.2
		2011-12	Min	0.4	0.3	0.4	0.2	0.3	0.1
			Max	0.8	0.8	1.1	0.4	1.0	0.7
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.3	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.0	0.1	0.0	0.2	0.4

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

1 Basin : Mahanadi								
Sl. No.	Parameter	Year	Name of the Site	Sundargarh	Salebhata	Kesinga	Kantamal	Tikarapara
			Name of the River/Stream	Ib	Ong	Tel	Tel	Mahanadi
(1)	(2)	(3)	(4)	(17)	(18)	(19)	(20)	(21)
1	Q(Cumecs)	2010-11	Min	0.103	0.00	20.34	24.18	-
			Max	1196	788	8765	10944	-
		2011-12	Min	0.000	0.000	7.000	3.523	-
			Max	3099	4552	2900	3268	-
2	Temperature °C	2010-11	Min	17.0	20.4	22.0	20.0	21.5
			Max	30.0	30.4	31.0	33.0	30.0
		2011-12	Min	16.0	21.6	20.5	22.5	21.5
			Max	30.5	31.9	30.5	33.3	31.8
3	pH_GEN	2010-11	Min	6.9	6.9	7.1	7.4	6.6
			Max	8.0	8.1	7.9	8.0	8.9
		2011-12	Min	7.4	7.5	7.5	7.5	7.6
			Max	8.1	8.1	8.2	8.3	8.6
4	Sp.Conductance	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.1	1.0	0.9	1.1	1.3
			Max	2.0	4.0	2.1	2.4	3.2
		2011-12	Min	1.0	1.0	1.0	1.0	1.1
			Max	2.9	4.7	3.6	2.4	3.6
6	Sodium (Na)	2010-11	Min	3.4	7.7	2.5	3.0	5.6
			Max	21.0	46.5	23.0	18.5	10.4
		2011-12	Min	4.7	7.6	5.6	2.5	4.7
			Max	22.7	40.0	11.0	14.8	11.5
7	Calcium (Ca)	2010-11	Min	6	10	4	6	14
			Max	38	36	40	41	32
		2011-12	Min	8	14	9	9	16
			Max	20	32	17	18	34
8	Magnesium (Mg)	2010-11	Min	4.9	4.9	2.4	3.9	3.9
			Max	23.8	21.4	28.7	31.1	16.5
		2011-12	Min	4.9	10.2	4.8	4.9	1.9
			Max	11.7	19.4	10.7	10.2	9.7
9	Aluminium	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.1	0.1	0.6	0.1
		2011-12	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.1	0.1	0.1	0.0
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	38.4
		2011-12	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	8.1	48.1
13	Bicarbonate (HCO3)	2010-11	Min	22	54	26	38	24
			Max	109	188	237	252	136
		2011-12	Min	52	98	50	35	51
			Max	105	157	87	99	113
14	Chloride (CL)	2010-11	Min	2.2	3.5	2.4	1.6	9.3
			Max	24.8	52.5	27.7	21.9	18.9
		2011-12	Min	2.6	6.4	5.8	1.5	-
			Max	23.1	50.8	20.8	23.1	-
15	Fluoride (F)	2010-11	Min	0.05	0.06	0.09	0.05	0.05
			Max	0.50	0.25	0.64	0.70	0.05
		2011-12	Min	0.07	0.10	0.12	0.09	0.05
			Max	0.20	0.30	0.18	0.30	0.05
16	Sulphate (SO4)	2010-11	Min	6.0	11.6	8.0	8.4	3.4
			Max	54.0	93.4	56.0	60.4	17.6
		2011-12	Min	1.2	6.4	9.4	11.8	2.7
			Max	17.4	32.4	22.4	28.6	12.4
17	Sulphite	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	0.34
			Max	-	-	-	-	1.15
		2011-12	Min	-	-	-	-	0.29
			Max	-	-	-	-	0.38
19	Nitrite (NO2-N)	2010-11	Min	0.01	0.01	0.01	0.01	0.00
			Max	0.60	0.33	0.60	1.20	1.10
		2011-12	Min	0.01	0.02	0.01	0.01	0.07
			Max	0.08	0.16	0.10	0.12	0.07
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	0.020	0.010	0.010	0.020	0.010
			Max	0.080	0.090	0.070	0.080	0.010
21	Silica (SiO2)	2010-11	Min	2.8	4.9	4.0	6.0	0.7
			Max	28.6	32.0	56.0	29.2	17.0
		2011-12	Min	7.6	9.2	6.4	9.6	15.0
			Max	12.6	28.0	24.0	24	17.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

I Basin : Mahanadi								
Sl. No.	Parameter	Year	Name of the Site	Sundargarh	Salebhata	Kesinga	Kantamal	Tikarapara
			Name of the River/Stream	Ib	Ong	Tel	Tel	Mahanadi
(1)	(2)	(3)	(4)	(17)	(18)	(19)	(20)	(21)
22	DO	2010-11	Min	5.5	5.5	5.2	5.1	6.6
			Max	8.5	9.0	7.6	9.6	8.6
		2011-12	Min	6.2	5.4	6.3	5.6	6.0
			Max	8.6	8.4	8.7	9.2	8.1
23	BOD3-27	2010-11	Min	0.5	0.4	0.5	0.5	0.8
			Max	1.4	1.0	1.8	2.5	1.5
		2011-12	Min	0.3	0.4	0.4	0.3	0.4
			Max	1.6	1.4	1.9	2.8	2.0
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
39	Total Hardness	2010-11	Min	36	46	20	34	56
			Max	193	169	220	232	130
		2011-12	Min	40	89	42	42	52
			Max	99	157	83	83	92
40	Sodium % (Na%)	2010-11	Min	9	12	11	7	11
			Max	41	42	37	36	23
		2011-12	Min	19	14	14	10	14
			Max	42	45	32	33	23
41	SAR	2010-11	Min	0.2	0.3	0.2	0.2	0.3
			Max	1.1	1.7	1.1	0.9	0.5
		2011-12	Min	0.3	0.3	0.3	0.2	0.3
			Max	1.2	1.7	0.6	0.8	0.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.2	0.0	1.6	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.8	0.3	0.0	0.1	0.8

Source: Water Quality Year Book (Mahanadi Basin) for the period of 2010-11 to 2011-12.

Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

II Basin : Subarnarekha, Baitarani & Burhabalang Basin										
Sl. No.	Parameter	Year	Name of the Site	Champa	Anandpur	Muri	Adityapur	Jamshedpur	Ghatsila	
			Name of the River/Stream	Baitarni	Baitarni	Subarnarekha	Subarnarekha	Subarnarekha	Subarnarekha	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1	Q(Cumecs)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
2	Temperature °C	2010-11	Min	18.0	16.0	-	-	-	-	-
			Max	29.0	31.0	30.5	30.0	30.0	31.0	
		2011-12	Min	18.0	19.0	16.0	18.0	20.0	16.0	
			Max	26.0	29.0	31.0	32.0	32.0	30.0	
3	pH_GEN	2010-11	Min	7.4	7.5	7.9	7.2	7.1	7.2	
			Max	8.1	9.0	9.1	9.0	9.1	8.7	
		2011-12	Min	7.5	7.5	7.5	7.4	7.4	7.4	
			Max	8.4	8.5	9.2	8.4	8.3	8.6	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	0.2	0.7	-	1.5	-	-	
			Max	2.6	20.0	6.3	28.4	7.5	6.4	
		2011-12	Min	0.6	0.6	1.0	0.9	1.0	1.7	
			Max	2.5	3.6	5.2	12.1	3.5	31.0	
6	Sodium (Na)	2010-11	Min	4.8	4.1	10.8	10.4	11.2	12.4	
			Max	8.8	10.5	57.7	129.0	22.0	35.1	
		2011-12	Min	1.7	2.6	2.7	6.1	6.1	6.6	
			Max	2.9	16.0	86.0	53.8	28.3	44.3	
7	Calcium (Ca)	2010-11	Min	10	8	16	26	22	21	
			Max	18	19	72	122	51	51	
		2011-12	Min	11	8	16	18	13	13	
			Max	18	22	40	59	55	37	
8	Magnesium (Mg)	2010-11	Min	2.9	1.9	7.8	7.8	9.7	7.8	
			Max	7.8	16.5	35.0	61.2	19.4	32.1	
		2011-12	Min	1.9	1.9	2.9	1.0	2.9	2.9	
			Max	6.8	14.6	22.4	23.3	18.5	20.4	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	0.1	0.2	-	0.1	-	-	
			Max	0.2	0.5	0.4	0.2	0.3	0.8	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	0.0	0.0	0.0	0.0	0.0	
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	-	0.0	-	-	
			Max	0.0	14.1	48.0	49.4	-	56.5	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	42.8	26.7	38.8	33.3	37.4	
13	Bicarbonate (HCO3)	2010-11	Min	44	24	54	88	36	54	
			Max	79	136	143	452	158	151	
		2011-12	Min	51	34	56	62	56	23	
			Max	96	169	192	214	231	118	
14	Chloride (CL)	2010-11	Min	7.5	7.4	18.6	16.7	16.7	18.6	
			Max	15.1	16.7	89.3	194.3	33.5	52.8	
		2011-12	Min	9.4	9.4	13.2	13.2	15.1	11.3	
			Max	24.5	32.1	64.1	64.1	81.1	60.3	
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.05	0.05	0.05	0.05	
			Max	0.05	0.05	0.05	0.05	0.05	0.05	
		2011-12	Min	0.05	0.05	0.05	0.05	0.05	0.05	
			Max	0.05	0.05	0.05	0.05	0.05	0.05	
16	Sulphate (SO4)	2010-11	Min	0.05	2.4	11.5	10.5	11.2	18.8	
			Max	7.3	10.8	156.3	392.3	30.7	74.1	
		2011-12	Min	1.1	1.4	3.2	1.9	3.3	11.7	
			Max	29.7	18.8	60.9	69.2	146.7	49.8	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	0.67	0.22	0.95	0.29	-	-	
			Max	0.94	1.01	4.36	3.99	1.28	6.60	
		2011-12	Min	0.29	0.27	0.28	0.29	0.29	0.29	
			Max	0.32	0.38	0.38	0.35	0.34	0.39	
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	
			Max	0.00	0.00	0.00	0.00	0.01	0.07	
		2011-12	Min	0.07	0.07	0.07	0.07	0.07	0.07	
			Max	0.07	0.07	0.07	0.07	0.07	0.07	
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	0.083	-	
			Max	-	-	-	-	0.083	-	
		2011-12	Min	0.010	0.010	0.010	0.010	0.010	0.010	
			Max	0.010	0.010	0.010	0.010	0.010	0.010	
21	Silica (SiO2)	2010-11	Min	4.6	1.6	2.6	3.1	2.1	0.8	
			Max	12.3	13.2	11.5	9.9	9.8	9.9	
		2011-12	Min	7.0	8.0	9.0	8.0	5.0	7.0	
			Max	10.0	11.0	11.0	12.0	14.0	11.0	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

II Basin : Subarnarekha, Baitarani & Burhabalang Basin										
Sl. No.	Parameter	Year	Name of the Site	Champua	Anandpur	Muri	Adityapur	Jamshedpur	Ghatsila	
			Name of the River/Stream	Baitarni	Baitarni	Subarnarekha	Subarnarekha	Subarnarekha	Subarnarekha	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
22	DO	2010-11	Min	-	5.8	7.1	0.0	2.4	5.2	
			Max	-	9.0	9.6	8.5	7.7	9.3	
		2011-12	Min	-	5.8	6.4	0.0	0.0	5.8	
			Max	-	8.7	8.7	8.7	8.1	8.7	
23	BOD3-27	2010-11	Min	-	1.0	1.1	1.2	1.7	1.1	
			Max	-	1.6	2.1	20.0	60.0	20.0	
		2011-12	Min	-	0.6	0.6	1.4	1.0	1.0	
			Max	-	1.9	2.9	30.0	40.0	1.8	
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
31	Cadmium	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
32	Chromium	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
33	Copper	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
34	Cyanide	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
35	Lead	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
36	Manganese	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
37	Mercury	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
38	Zinc	2010-11	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	
39	Total Hardness	2010-11	Min	-	-	72	97	97	85	
			Max	77	117	326	560	209	206	
		2011-12	Min	36	32	64	48	60	60	
			Max	64	89	185	245	209	177	
40	Sodium % (Na%)	2010-11	Min	16	12	16	15	13	14	
			Max	24	26	48	44	28	34	
		2011-12	Min	9	8	3	15	13	12	
			Max	10	28	64	36	31	31	
41	SAR	2010-11	Min	0.3	0.3	0.5	0.4	0.4	0.4	
			Max	0.5	0.6	2.2	3.0	0.8	1.2	
		2011-12	Min	0.1	0.2	0.1	0.3	0.3	0.3	
			Max	0.2	0.8	3.7	1.6	1.1	1.5	
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	0.2	0.1	0.0	0.0	0.0	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.9	3.2	1.1	0.8	0.5	0.4	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

II Basin : Subarnarekha, Baitarani & Burhabalang Basin							
Sl. No.	Parameter	Year	Name of the Site	Ghatsila Road Bridge	Baridhinala	Kulpatanga	NH-5 Govindpur
			Name of the River/Stream	Subarnarekha	Subarnarekha	Subarnarekha	Burhabalanga
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)
1	Q(Cumecs)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
2	Temperature °C	2010-11	Min	-	-	19.5	-
			Max	30.5	31.5	30.5	25.5
		2011-12	Min	16.0	20.0	17.5	22.9
			Max	30.0	33.5	31.0	32.5
3	pH_GEN	2010-11	Min	7.2	6.1	7.2	7.4
			Max	8.9	9.0	8.7	8.1
		2011-12	Min	7.4	7.0	7.4	7.4
			Max	8.4	9.0	8.5	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	0.9
			Max	9.6	40.8	29.6	3.2
		2011-12	Min	1.2	1.8	0.8	0.6
			Max	8.3	37.2	12.2	1.2
6	Sodium (Na)	2010-11	Min	13.5	10.9	10.7	4.6
			Max	38.1	64.6	113.1	22.0
		2011-12	Min	5.5	8.5	4.7	4.0
			Max	25.6	51.7	55.2	18.2
7	Calcium (Ca)	2010-11	Min	19	26	19	13
			Max	51	118	136	27
		2011-12	Min	11	1	14	16
			Max	35	69	85	30
8	Magnesium (Mg)	2010-11	Min	7.8	8.8	7.8	4.6
			Max	26.2	48.6	58.3	22.0
		2011-12	Min	2.9	1.9	0.1	1.9
			Max	14.6	18.5	16.5	14.6
9	Aluminium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	-	-	-
			Max	0.4	1.9	0.3	0.2
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	-	-	-	0.0
			Max	56.5	56.5	77.6	0.0
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	38.8	66.5	33.3	0.0
13	Bicarbonate (HCO3)	2010-11	Min	73	93	59	49
			Max	158	381	466	136
		2011-12	Min	56	11	32	23
			Max	124	259	271	130
14	Chloride (CL)	2010-11	Min	22.3	15.1	14.9	7.5
			Max	71.7	90.5	194.3	28.3
		2011-12	Min	11.3	13.2	11.3	11.3
			Max	45.3	105.6	66.0	34.0
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.09	0.05
			Max	0.05	3.62	2.00	0.05
		2011-12	Min	0.05	0.05	0.05	0.05
			Max	0.05	0.05	0.05	0.05
16	Sulphate (SO4)	2010-11	Min	21.6	15.6	10.5	2.3
			Max	106.2	192.0	207.0	22.9
		2011-12	Min	12.1	9.9	3.4	2.1
			Max	46.5	152.0	68.2	21.8
17	Sulphite	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-
			Max	2.52	18.94	-	0.55
		2011-12	Min	0.32	0.29	0.29	0.29
			Max	0.39	0.36	0.39	0.35
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00
			Max	0.18	0.00	0.66	0.00
		2011-12	Min	0.07	0.07	0.07	0.07
			Max	0.07	0.07	0.07	0.07
20	Phosphate (pO4)	2010-11	Min	-	-	0.124	-
			Max	-	-	0.124	-
		2011-12	Min	0.010	0.010	0.010	0.010
			Max	0.010	0.010	0.010	0.010
21	Silica (SiO2)	2010-11	Min	0.9	3.8	1.3	3.4
			Max	10.0	10.5	10.0	9.6
		2011-12	Min	7.0	8.0	3.4	9.0
			Max	14.0	18.0	68.2	12.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

II Basin : Subarnarekha, Baitarani & Burhabalang Basin							
Sl. No.	Parameter	Year	Name of the Site	Ghatsila Road Bridge	Baridhinala	Kulpatanga	NH-5 Govindpur Burhabalanga
			Name of the River/Stream	Subarnarekha	Subarnarekha	Subarnarekha	
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)
22	DO	2010-11	Min	1.0	0.0	0.0	-
			Max	8.8	6.2	8.5	-
		2011-12	Min	5.4	0.0	0.0	-
			Max	8.9	2.5	8.1	-
23	BOD3-27	2010-11	Min	1.3	4.3	1.7	-
			Max	20.0	179.0	40.0	-
		2011-12	Min	1.4	1.0	1.6	-
			Max	3.1	119.0	20.0	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
39	Total Hardness	2010-11	Min	81	-	81	56
			Max	225	499	584	133
		2011-12	Min	40	15	77	52
			Max	143	225	225	121
40	Sodium % (Na%)	2010-11	Min	17	16	16	15
			Max	35	37	36	26
		2011-12	Min	9	18	10	14
			Max	29	76	43	28
41	SAR	2010-11	Min	0.5	0.5	0.4	0.3
			Max	1.3	2.0	2.3	0.8
		2011-12	Min	0.2	0.4	0.2	0.2
			Max	1.0	3.1	1.6	0.8
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	0.6	2.9	1.3	0.4

Source: Water Quality Year Book (Baitarani, Subarnarekha & Burhabalang) for the period of 2010-11 to 2011-12

Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

III Basin : Brahmani									
Sl. No.	Parameter	Year	Name of the Site	Tilga	Jaraikela	Panposh	Gomlai	Jenapur	Talcher
			Name of the River/Stream	Brahmani	Brahmani	Brahmani	Brahmani	Brahmani	Brahmani
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Q(Cumecs)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
2	Temperature °C	2010-11	Min	-	-	-	17.0	-	-
			Max	30.5	29.0	32.0	34.0	31.0	32.0
		2011-12	Min	16.5	17.0	19.0	15.5	17.0	26.0
			Max	30.0	29.5	35.0	35.2	29.5	31.0
3	pH_GEN	2010-11	Min	7.1	7.4	7.4	7.4	7.4	7.3
			Max	8.0	8.1	8.4	8.5	8.6	8.5
		2011-12	Min	7.0	7.4	7.0	7.5	7.4	7.3
			Max	8.3	8.5	8.6	8.5	8.5	8.6
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-	0.3	-
			Max	3.8	2.5	3.3	4.3	11.6	11.5
		2011-12	Min	0.7	0.9	1.0	0.9	0.9	1.2
			Max	1.9	2.8	2.7	3.5	1.9	2.0
6	Sodium (Na)	2010-11	Min	4.1	6.8	4.2	5.3	5.1	4.3
			Max	5.8	9.4	10.5	17.0	10.8	24.6
		2011-12	Min	2.9	3.5	3.4	4.0	1.9	2.3
			Max	5.3	6.9	7.6	12.1	6.6	5.2
7	Calcium (Ca)	2010-11	Min	6	13	8	8	10	8
			Max	14	32	26	37	27	34
		2011-12	Min	5	13	13	8	8	8
			Max	96	96	48	30	26	96
8	Magnesium (Mg)	2010-11	Min	1.9	5.8	4.9	1.9	3.9	0.8
			Max	5.8	16.5	12.6	17.5	11.7	11.5
		2011-12	Min	0.1	0.1	1.0	1.0	0.1	0.1
			Max	6.8	15.6	10.7	11.7	12.6	8.8
9	Aluminium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-
			Max	0.1	0.1	0.2	0.2	0.1	0.2
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.2	0.2	0.2	0.0
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	-	-	-	-	-	-
			Max	0.0	0.0	14.1	14.1	21.2	21.2
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	11.1	11.1	33.3	27.7	22.2
13	Bicarbonate (HCO3)	2010-11	Min	24	59	44	24	29	36
			Max	72	136	122	100	129	86
		2011-12	Min	34	39	45	23	45	17
			Max	62	101	118	96	90	101
14	Chloride (CL)	2010-11	Min	7.4	11.3	7.4	9.3	9.4	7.4
			Max	9.4	17.0	18.9	26.4	16.7	37.7
		2011-12	Min	9.4	11.3	11.3	7.5	9.4	7.5
			Max	24.5	20.7	37.7	32.1	43.4	33.9
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.05	0.05	0.05	0.05
			Max	0.05	0.05	0.05	0.05	0.05	0.06
		2011-12	Min	0.05	0.05	0.05	0.05	0.05	0.05
			Max	0.06	0.08	0.05	0.05	0.05	0.06
16	Sulphate (SO4)	2010-11	Min	2.0	4.3	2.0	4.9	4.0	3.8
			Max	10.0	9.8	14.3	43.2	16.0	57.2
		2011-12	Min	1.6	1.1	1.0	3.9	2.8	2.3
			Max	7.1	14.6	16.8	33.5	18.7	17.4
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.22	-	-	-	-	-
			Max	0.52	0.67	0.57	4.60	1.91	1.06
		2011-12	Min	0.29	0.34	0.27	0.27	0.21	0.29
			Max	0.41	0.39	0.36	0.39	0.36	0.39
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.03	0.00	0.18	3.31	0.06	0.03
		2011-12	Min	0.07	0.07	0.07	0.07	0.00	0.07
			Max	0.07	0.07	0.07	0.07	0.07	0.07
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	0.010	0.010	0.010	0.010	0.001	0.010
			Max	0.010	0.010	0.010	0.010	0.010	0.010
21	Silica (SiO2)	2010-11	Min	3.6	3.5	0.9	0.3	1.3	0.9
			Max	7.6	9.6	18.6	9.8	9.3	11.0
		2011-12	Min	6.0	8.0	9.0	8.0	7.0	6.0
			Max	11.0	11.0	13.0	22.0	13.0	14.0

Contd./...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

III Basin : Brahmani									
Sl. No.	Parameter	Year	Name of the Site	Tilga	Jaraikela	Panposh	Gomlai	Jenapur	Talcher
			Name of the River/Stream	Brahmani	Brahmani	Brahmani	Brahmani	Brahmani	Brahmani
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
22	DO	2010-11	Min	7.0	6.4	6.0	6.0	6.8	7.0
			Max	7.9	8.1	8.6	8.5	9.2	8.5
		2011-12	Min	5.8	6.0	5.8	5.4	6.8	6.8
			Max	8.5	8.5	8.1	8.7	8.3	7.7
23	BOD3-27	2010-11	Min	1.0	1.0	1.0	1.0	1.0	0.9
			Max	1.9	1.4	2.1	1.9	2.0	1.4
		2011-12	Min	1.0	1.0	0.8	0.2	1.0	0.4
			Max	2.2	2.0	2.1	1.6	1.8	1.6
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	-	-	40	28	-	-
			Max	60	129	109	145	117	129
		2011-12	Min	16	44	44	28	36	32
			Max	253	285	145	105	101	261
40	Sodium % (Na%)	2010-11	Min	17	13	13	15	14	13
			Max	27	23	24	34	31	28
		2011-12	Min	2	3	10	15	9	2
			Max	33	24	18	23	23	16
41	SAR	2010-11	Min	0.3	0.3	0.2	0.3	0.3	0.2
			Max	0.5	0.5	0.5	0.6	0.6	0.9
		2011-12	Min	0.1	0.1	0.2	0.3	0.1	0.1
			Max	0.5	0.4	0.4	0.5	0.4	0.3
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.5	0.7	0.5	0.5	0.4	0.6

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

III Basin : Brahmani						
Sl. No.	Parameter	Year	Name of the Site	Nandira	Kamalanga	Rsp Nala
			Name of the River/Stream	Brahmani	Brahmani	Brahmani
(1)	(2)	(3)	(4)	(11)	(12)	(13)
1	Q(Cumecs)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
2	Temperature °C	2010-11	Min	22.0	-	-
			Max	-	33.0	33.0
		2011-12	Min	26.5	27.0	20.0
			Max	32.0	32.0	33.0
3	pH_GEN	2010-11	Min	7.4	7.4	6.8
			Max	8.7	8.4	8.0
		2011-12	Min	7.4	7.4	7.1
			Max	8.4	8.6	8.4
4	Sp.Conductance	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-
			Max	8.9	9.6	8.5
		2011-12	Min	1.4	1.4	2.2
			Max	3.6	3.5	10.0
6	Sodium (Na)	2010-11	Min	9.2	7.8	10.1
			Max	22.1	23.3	27.2
		2011-12	Min	6.0	3.5	8.3
			Max	16.1	16.5	24.6
7	Calcium (Ca)	2010-11	Min	16	14	21
			Max	64	53	56
		2011-12	Min	8	11	22
			Max	50	45	45
8	Magnesium (Mg)	2010-11	Min	7.8	6.8	8.8
			Max	24.3	33.1	22.4
		2011-12	Min	0.1	0.1	0.1
			Max	12.6	21.4	20.4
9	Aluminium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-
			Max	0.2	0.1	0.3
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
11	Ammonia (NH3-N)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	-	-
			Max	42.3	42.3	0.0
		2011-12	Min	0.0	0.0	0.0
			Max	27.7	27.7	37.6
13	Bicarbonate (HCO3)	2010-11	Min	24	44	39
			Max	151	115	143
		2011-12	Min	28	0	45
			Max	135	96	180
14	Chloride (CL)	2010-11	Min	13.0	11.3	14.9
			Max	30.2	35.8	45.3
		2011-12	Min	11.3	11.3	5.7
			Max	58.5	35.8	60.4
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.23
			Max	1.05	0.16	1.06
		2011-12	Min	0.05	0.05	0.05
			Max	0.06	0.06	0.06
16	Sulphate (SO4)	2010-11	Min	17.0	8.8	11.8
			Max	123.5	104.3	96.0
		2011-12	Min	8.5	10.6	13.3
			Max	53.7	58.6	58.1
17	Sulphite	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	2.26	-
			Max	8.55	10.83	29.03
		2011-12	Min	0.29	0.29	0.29
			Max	0.39	0.36	0.39
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00
			Max	0.03	0.00	0.00
		2011-12	Min	0.07	0.07	0.07
			Max	0.07	0.07	0.07
20	Phosphate (pO4)	2010-11	Min	0.062	-	-
			Max	0.062	-	-
		2011-12	Min	0.010	0.010	0.010
			Max	0.010	0.010	0.010
21	Silica (SiO2)	2010-11	Min	0.6	0.7	1.3
			Max	9.4	9.5	10.0
		2011-12	Min	8.0	9.0	8.0
			Max	15.0	13.0	10.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

III Basin : Brahmani						
Sl. No.	Parameter	Year	Name of the Site	Nandira	Kamalanga	Rsp Nala
			Name of the River/Stream	Brahmani	Brahmani	Brahmani
(1)	(2)	(3)	(4)	(11)	(12)	(13)
22	DO	2010-11	Min	6.6	6.4	3.4
			Max	7.9	8.1	7.1
		2011-12	Min	6.0	6.2	2.8
			Max	7.9	8.1	6.9
23	BOD3-27	2010-11	Min	1.9	1.5	1.1
			Max	8.3	2.3	2.5
		2011-12	Min	0.8	0.8	0.4
			Max	3.8	2.6	2.8
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
31	Cadmium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
32	Chromium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
33	Copper	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
34	Cyanide	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
35	Lead	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
36	Manganese	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
37	Mercury	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
38	Zinc	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
39	Total Hardness	2010-11	Min	-	-	89
			Max	261	270	233
		2011-12	Min	53	53	69
			Max	129	201	181
40	Sodium % (Na%)	2010-11	Min	11	12	13
			Max	26	24	25
		2011-12	Min	12	7	15
			Max	30	25	32
41	SAR	2010-11	Min	0.3	0.4	0.4
			Max	0.6	0.6	0.8
		2011-12	Min	0.3	0.1	0.4
			Max	0.7	0.6	0.8
42	RSC	2010-11	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0
			Max	0.5	0.2	0.3

Source: Water Quality Year Book (Brahmani) for the period of 2010-2011 to 2011-2012.

- Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.  
 2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IV Basin : Vamsadhara, Rushikulya, Nagavali & Sarada Basins						
Sl. No.	Parameter	Year	Name of the Site	Kashi Nagar	Purusho ttampur	Srikakulam
			Name of the River/Stream	Vamsadhara	Nagavali	Subarnarekha
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Q(Cumecs)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
2	Temperature °C	2010-11	Min	19.3	-	-
			Max	31.0	29.0	28.0
		2011-12	Min	21.3	21.0	21.0
			Max	29.3	27.0	26.0
3	pH_GEN	2010-11	Min	7.1	7.5	7.3
			Max	8.7	8.1	8.2
		2011-12	Min	7.4	7.5	8.0
			Max	8.3	8.8	8.3
4	Sp.Conductance	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
5	Potassium (K)	2010-11	Min	0.2	-	-
			Max	8.3	4.3	3.8
		2011-12	Min	1.7	1.9	2.6
			Max	2.9	3.5	2.8
6	Sodium (Na)	2010-11	Min	11.5	11.3	12.3
			Max	16.9	22.4	19.9
		2011-12	Min	7.1	13.1	18.2
			Max	20.2	18.9	21.3
7	Calcium (Ca)	2010-11	Min	19	32	26
			Max	38	38	37
		2011-12	Min	3	26	21
			Max	40	37	42
8	Magnesium (Mg)	2010-11	Min	6.8	8.8	14.6
			Max	18.5	16.5	19.4
		2011-12	Min	3.9	3.9	12.6
			Max	24.3	19.4	25.3
9	Aluminium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-
			Max	1.9	0.1	0.2
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
11	Ammonia (NH3-N)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
12	Carbonate (CO3)	2010-11	Min	-	-	-
			Max	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	86	68	127
			Max	172	165	208
		2011-12	Min	113	62	158
			Max	209	163	192
14	Chloride (CL)	2010-11	Min	18.6	16.7	20.5
			Max	22.6	34	26
		2011-12	Min	11.3	9.4	17.0
			Max	22.6	32.1	30.2
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.05
			Max	0.05	0.05	0.05
		2011-12	Min	0.05	0.05	0.05
			Max	0.05	0.05	0.05
16	Sulphate (SO4)	2010-11	Min	3.6	18.1	7.3
			Max	40	71.2	17.5
		2011-12	Min	1.3	2.5	4.7
			Max	62.4	4.9	17.4
17	Sulphite	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-
			Max	1.21	0.91	2.8
		2011-12	Min	0.29	0.29	0.29
			Max	0.32	0.39	0.29
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00
			Max	0.00	0.00	0.00
		2011-12	Min	0.07	0.07	0.07
			Max	0.07	0.07	0.07
20	Phosphate (pO4)	2010-11	Min	-	-	0.052
			Max	-	-	0.093
		2011-12	Min	0.010	0.010	0.010
			Max	0.010	0.010	0.010
21	Silica (SiO2)	2010-11	Min	8.6	8.8	9
			Max	138	9.8	15.4
		2011-12	Min	7.0	8.0	8.0
			Max	18.0	16.0	10.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IV Basin : Vamsadhara, Rushikulya, Nagavali & Sarada Basins						
Sl. No.	Parameter	Year	Name of the Site	Kashi Nagar	Purusho ttampur	Srikakulam
			Name of the River/Stream	Vamsadhara	Nagavali	Subarnarekha
(1)	(2)	(3)	(4)	(5)	(6)	(7)
22	DO	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
23	BOD3-27	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
31	Cadmium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
32	Chromium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
33	Copper	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
34	Cyanide	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
35	Lead	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
36	Manganese	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
37	Mercury	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
38	Zinc	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
39	Total Hardness	2010-11	Min	85	125	-
			Max	153	157	161
		2011-12	Min	60	84	125
			Max	201	161	209
40	Sodium % (Na%)	2010-11	Min	16	16	16
			Max	23	28	21
		2011-12	Min	14	18	18
			Max	24	22	26
41	SAR	2010-11	Min	0.5	0.4	0.5
			Max	0.6	0.9	0.7
		2011-12	Min	0.4	0.5	0.6
			Max	0.8	0.6	0.8
42	RSC	2010-11	Min	0.0	0.0	0.0
			Max	0.0	0.8	0.2
		2011-12	Min	0.0	0.0	0.0
			Max	2.2	0.8	0.3

Source: Water Quality Year Book (Vamsadhara, Rushikulya, Nagavali & Sarada Basins) for the period of 2010-2011 to 2011-2012.

Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.



Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

V Basin Godavari

Sl. No.	Parameter	Year	Name of the Site	Polavaram	Bhadrachalam	Konta	Perur	Pathagudem	Jagdulpur	Tekra	
			Name of the River/Stream	Godavari	Godavari	Sabari	Godavari	Indravati	Indravati	Pranahita	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1	Q(Cumecs)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	156.1	4.210	62.49	4.728	0.436	0.000	0.000	
			Max	23943	24066	3494	26113	10853	916.4	14976	
2	Temperature °C	2010-11	Min	24.0	24.5	21.0	24.0	22.0	18.0	21.6	
			Max	33.0	32.0	34.0	30.0	30.0	27.0	31.2	
		2011-12	Min	24.0	25.0	24.5	25.5	20.0	20.0	26.8	
			Max	32.0	31.0	32.0	32.0	29.0	28.0	30.0	
3	pH_GEN	2010-11	Min	7.6	7.6	7.4	7.5	7.3	7.5	8.3	
			Max	8.5	8.6	8.2	8.7	8.6	8.4	8.7	
		2011-12	Min	7.5	7.7	7.5	7.5	7.5	7.9	7.6	
			Max	8.5	8.8	8.2	8.8	8.8	8.5	8.7	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	1.9	-	-	-	1.1	-	-	
			Max	2.8	4.7	2.6	4.1	2.6	2.6	4.3	
		2011-12	Min	1.8	2.1	1.2	1.6	1.0	1.1	1.1	
			Max	2.7	4.5	1.8	3.8	2.7	2.9	8.1	
6	Sodium (Na)	2010-11	Min	7.1	5.6	3.0	4.4	1.8	3.3	3.9	
			Max	15.6	44.4	7.2	38.3	9.2	14.2	47.7	
		2011-12	Min	8.2	9.0	2.6	5.1	2.1	2.7	4.7	
			Max	33.7	39.5	11.2	36.9	37.6	10.6	57.3	
7	Calcium (Ca)	2010-11	Min	12	8	6	14	6	8	19	
			Max	27	30	14	27	18	27	40	
		2011-12	Min	9	18	6	13	5	5	27	
			Max	24	30	18	29	58	34	41	
8	Magnesium (Mg)	2010-11	Min	5.8	6.5	2.8	6.5	2.8	3.7	6.6	
			Max	11.6	24.7	9.7	21.5	10.3	21.8	46.0	
		2011-12	Min	5.0	4.5	2.0	7.0	1.9	2.1	9.9	
			Max	14.1	21.7	9.7	19.2	35.0	19.4	38.3	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-	
			Max	0.9	0.6	1.4	0.5	0.6	0.8	0.1	
		2011-12	Min	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
			Max	0.3	0.4	0.3	0.4	0.3	0.3	0.5	
11	Ammonia (NH3-N)	2010-11	Min	0.05	0.05	0.06	0.05	0.06	0.05	0.00	
			Max	0.29	0.27	0.23	0.20	0.24	0.21	0.98	
		2011-12	Min	0.01	0.02	0.02	0.03	0.02	0.01	0.00	
			Max	0.28	0.41	0.29	0.38	0.42	0.26	0.34	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	4.2	
			Max	14.7	20.0	0.0	15.0	18.5	14.7	8.7	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	14.7	14.6	0.0	9.8	9.8	9.7	8.7	
13	Bicarbonate (HCO3)	2010-11	Min	14.7	76	42	71	28	43	104	
			Max	134	177	80	172	90	154	228	
		2011-12	Min	52	75	30	70	25	30	133	
			Max	145	206	111	218	467	219	369	
14	Chloride (CL)	2010-11	Min	9.5	9.1	4.8	6.3	4.7	6.5	4.3	
			Max	20.1	9.3	9.3	40.2	10.7	18.5	39.3	
		2011-12	Min	6.1	12.3	3.4	4.1	3.0	1.0	7.8	
			Max	26.3	45.5	9.1	34.4	11.7	12.0	46.2	
15	Fluoride (F)	2010-11	Min	0.02	0.04	0.00	0.07	0.01	0.04	0.15	
			Max	0.53	0.58	0.31	0.55	0.20	0.26	0.55	
		2011-12	Min	0.05	0.17	0.06	0.23	0.06	0.17	0.06	
			Max	0.90	1.52	0.46	0.82	1.70	0.54	0.70	
16	Sulphate (SO4)	2010-11	Min	4.4	10.0	1.0	1.1	1.0	1.0	4.3	
			Max	11.5	30.8	1.6	26.7	1.0	4.1	27.5	
		2011-12	Min	3.2	2.0	0.0	5.3	0.0	0.0	6.7	
			Max	19.5	29.5	5.2	26.5	5.9	4.2	35.5	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	0.84	0.69	0.49	0.65	0.31	0.64	1.85	
			Max	0.05	0.04	0.01	0.00	0.03	0.05	0.21	
		2011-12	Min	0.79	0.74	0.35	1.12	0.57	0.36	1.42	
			Max	0.01	0.01	0.01	0.05	0.01	0.01	0.00	
19	Nitrite (NO2-N)	2010-11	Min	0.05	0.04	0.04	0.66	0.04	0.06	0.04	
			Max	0.00	0.01	0.00	0.01	0.01	0.00	0.00	
		2011-12	Min	0.02	0.03	0.02	0.04	0.05	0.07	0.10	
			Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	Phosphate (pO4)	2010-11	Min	0.064	0.021	0.036	0.043	0.027	0.045	0.093	
			Max	0.001	0.000	0.000	0.001	0.000	0.000	0.000	
		2011-12	Min	0.118	0.227	1.375	0.197	0.034	0.210	0.029	
			Max	10.9	9.6	6.2	4.5	10.5	7.5	18.0	
21	Silica (SiO2)	2010-11	Min	37.2	39.2	31.3	39.4	30.9	35.1	80.4	
			Max	6.8	8.0	3.6	6.7	6.1	6.4	13.2	
		2011-12	Min	39.8	40.0	21.4	40.0	32.4	27.4	87.0	
			Max	-	-	-	-	-	-	-	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

## V Basin Godavari

Sl. No.	Parameter	Year	Name of the Site	Polavaram	Bhadrachalam	Konta	Perur	Pathagudem	Jagdulpur	Tekra
			Name of the River/Stream	Godavari	Godavari	Sabari	Godavari	Indravati	Indravati	Pranahita
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
22	DO	2010-11	Min	5.2	4.8	5.0	4.9	5.5	4.8	6.8
			Max	7.3	7.3	7.5	7.1	6.9	7.1	8.6
		2011-12	Min	5.6	4.8	5.6	4.9	3.1	4.5	6.4
			Max	7.5	7.6	7.4	7.1	7.7	8.0	7.5
23	BOD3-27	2010-11	Min	0.4	0.6	0.2	0.4	0.2	0.3	1.1
			Max	1.4	1.6	1.4	2.4	0.8	1.4	2.9
		2011-12	Min	0.1	0.2	0.2	0.1	0.1	0.2	0.6
			Max	1.8	1.6	1.2	1.7	1.5	2.0	4.6
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.01	0.03	0.01	0.00	0.00	0.00	0.43
			Max	1.25	1.05	0.43	2.33	1.04	1.42	0.68
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	0.00	-	-	-	-	-	-
			Max	17.51	0.00	0.00	0.00	0.00	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.15
			Max	0.16	0.19	0.16	0.01	0.15	0.10	0.81
32	Chromium	2010-11	Min	0.00	0.43	2.03	0.00	0.00	0.00	0.00
			Max	4.11	0.62	4.99	0.00	0.18	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	1.83	2.12	3.43	1.51	2.51	1.03	72.52
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.98	5.00	2.65	3.89	5.97	5.78	127.18
			Max	15.74	10.48	18.23	9.08	27.36	6.89	127.18
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	0.00	-	-	-	-
			Max	72.17	14.84	4.25	12.50	8.86	12.94	9.01
		2011-12	Min	0.00	0.00	1.01	0.00	0.00	0.00	0.85
			Max	3.63	14.05	18.97	4.67	3.87	3.74	23.76
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.00	1.81	0.00	0.00	0.00	0.00	0.07
			Max	0.00	1.81	0.00	0.00	0.00	0.00	0.07
38	Zinc	2010-11	Min	32.06	15.20	17.50	3.75	6.70	3.51	53.05
			Max	32.06	22.09	30.34	37.09	15.32	19.98	53.05
		2011-12	Min	2.63	8.00	2.29	1.74	2.64	1.92	19.32
			Max	26.69	31.57	38.04	30.37	12.90	38.64	36.20
39	Total Hardness	2010-11	Min	59	61	31	61	27	38	92
			Max	116	160	72	147	85	144	279
		2011-12	Min	44	64	23	62	20	21	109
			Max	119	155	87	147	292	167	240
40	Sodium % (Na%)	2010-11	Min	18	15	10	13	6	7	8
			Max	29	44	28	37	19	23	40
		2011-12	Min	21	22	12	15	10	9	7
			Max	50	38	23	42	23	21	45
41	SAR	2010-11	Min	0.4	0.3	0.2	0.2	0.1	0.2	0.2
			Max	0.7	1.8	0.5	1.4	0.4	0.6	1.5
		2011-12	Min	0.4	0.5	0.2	0.3	0.2	0.2	0.2
			Max	1.8	1.4	0.5	1.5	1.0	0.4	1.9
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.2	0.4	0.4	0.4	0.3	0.3	0.6
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.5	0.6	0.4	1.3	1.9	0.6	1.8

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

V Basin Godavari											
Sl. No.	Parameter	Year	Name of the Site	Bhatpally	Bamni	P.G. Bridge	Nandgaon	Hivra	Asthi	Pauni	
(1)	(2)	(3)	Name of the River/Stream	Peddavagu	rtf	Penganga	Wunna	Wardha	Wainganga	Wainganga	
(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
1	Q(Cumecs)	2010-11	Min	-	-	-	-	0.000	1.404	-	
			Max	-	-	-	-	2936	17500	-	
		2011-12	Min	0.311	0.000	0.000	0.000	0.000	0.000	1.337	-
			Max	333.4	5891	2405	1454	2761	16347	-	-
2	Temperature °C	2010-11	Min	21.0	20.0	21.0	16.5	28.0	22.0	-	
			Max	29.0	31.0	28.0	27.0	29.0	31.5	36.0	
		2011-12	Min	20.0	20.0	24.5	13.0	0.4	23.5	20.0	
			Max	29.0	30.0	30.5	28.0	12.7	30.5	31.0	
3	pH_GEN	2010-11	Min	8.1	7.8	8.0	7.6	8.0	8.1	7.5	
			Max	8.6	8.5	8.6	8.5	8.4	8.6	8.5	
		2011-12	Min	8.3	7.9	8.3	8.1	8.2	8.1	7.6	
			Max	8.7	8.7	8.8	8.7	8.5	9.0	8.2	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-	-	
			Max	2.7	4.1	2.7	3.1	2.7	3.3	4.9	
		2011-12	Min	0.9	1.2	1.0	0.9	1.0	0.8	1.1	
			Max	3.8	52.0	4.6	4.8	3.6	4.4	4.3	
6	Sodium (Na)	2010-11	Min	13.3	7.4	4.9	12.2	13.1	4.7	4.4	
			Max	61.3	67.5	32.7	46.9	25.2	32.1	31.7	
		2011-12	Min	12.1	3.0	12.3	10.6	15.7	4.0	8.2	
			Max	64.3	88.8	55.5	72.8	61.2	38.5	34.7	
7	Calcium (Ca)	2010-11	Min	31	27	26	29	29	16	24	
			Max	46	54	38	48	34	37	44	
		2011-12	Min	23	32	20	23	27	15	15	
			Max	41	59	45	50	41	36	42	
8	Magnesium (Mg)	2010-11	Min	7.4	3.8	5.0	9.1	11.4	4.1	5.0	
			Max	33.9	38.8	35.0	29.3	21.0	33.9	28.4	
		2011-12	Min	15.9	10.9	6.6	15.3	15.9	10.4	10.9	
			Max	53.6	53.1	41.0	36.1	40.5	33.4	37.2	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-	
			Max	0.1	0.1	0.3	0.0	-	0.0	0.0	
		2011-12	Min	0.3	0.3	0.1	0.2	0.1	0.1	0.2	
			Max	1.0	1.0	0.9	1.0	0.6	1.0	0.7	
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.06	0.00	0.00	
			Max	0.62	0.52	1.25	2.05	0.39	0.52	1.46	
		2011-12	Min	0.00	0.00	0.00	0.00	0.07	0.00	0.00	
			Max	0.45	0.45	0.40	0.36	0.20	0.30	0.34	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	8.7	16.2	10.8	10.8	6.6	8.7	6.6	
		2011-12	Min	0.0	0.0	4.4	0.0	0.0	0.0	0.0	
			Max	10.9	13.1	10.9	10.9	10.9	8.7	0.0	
13	Bicarbonate (HCO3)	2010-11	Min	196	119	98	128	181	87	80	
			Max	338	320	259	276	226	188	223	
		2011-12	Min	186	138	95	149	173	91	100	
			Max	451	329	278	295	266	278	309	
14	Chloride (CL)	2010-11	Min	9.2	9.9	6.4	15.6	8.5	4.3	7.1	
			Max	32.0	68.2	25.6	39.1	22.7	35.5	43.3	
		2011-12	Min	7.8	9.2	6.4	9.9	12.1	5.0	7.1	
			Max	19.9	114.3	37.6	56.1	26.3	25.6	29.1	
15	Fluoride (F)	2010-11	Min	0.15	0.17	0.08	0.08	0.06	0.08	0.06	
			Max	0.83	0.56	0.46	0.51	0.34	0.55	0.61	
		2011-12	Min	0.30	0.20	0.23	0.15	0.20	0.09	0.19	
			Max	0.85	1.17	0.75	0.55	0.48	0.60	0.50	
16	Sulphate (SO4)	2010-11	Min	6.7	8.2	4.3	7.4	7.2	3.8	5.3	
			Max	31.0	39.9	16.8	25.0	17.3	14.2	18.1	
		2011-12	Min	9.1	6.7	12.5	12.5	7.7	2.9	6.7	
			Max	26.9	25.0	25.0	37.0	49.0	24.0	25.4	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-	-	
			Max	2.69	2.84	2.38	2.52	1.54	1.36	1.46	
		2011-12	Min	0.20	0.22	0.23	0.29	0.31	0.15	0.27	
			Max	1.73	1.39	2.64	2.16	1.15	1.36	1.16	
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	-	0.00	0.00	0.00	
			Max	0.08	0.18	0.05	0.08	0.03	0.04	0.09	
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Max	0.12	0.89	0.00	0.66	0.04	0.33	1.28	
20	Phosphate (pO4)	2010-11	Min	0.005	0.010	0.005	0.021	0.021	0.000	0.031	
			Max	0.796	0.310	0.155	0.161	0.052	0.108	0.227	
		2011-12	Min	0.000	0.000	0.003	0.000	0.000	0.000	0.000	
			Max	0.046	0.078	0.013	0.016	0.013	0.016	0.054	
21	Silica (SiO2)	2010-11	Min	28.0	18.0	20.4	22.2	24.3	11.5	11.4	
			Max	111.0	98.7	108.3	79.5	39.3	53.7	72.0	
		2011-12	Min	29.0	22.2	25.2	27.3	23.7	10.2	20.1	
			Max	188.0	181.0	200.0	129.0	159.0	84.0	68.7	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

## V Basin Godavari

Sl. No.	Parameter	Year	Name of the Site	Bhatpally	Bamni	P.G. Bridge	Nandgaon	Hivra	Asthi	Pauni
			Name of the River/Stream	Peddavagu	Wardha	Penganga	Wunna	Wardha	Wainganga	Wainganga
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	0.9	5.8	5.3	4.5	6.4	5.9	4.0
			Max	8.3	8.5	9.0	8.8	8.4	9.2	8.8
		2011-12	Min	5.8	0.0	6.4	4.8	6.4	6.3	5.3
			Max	11.5	8.1	8.9	7.5	7.4	8.6	7.9
23	BOD3-27	2010-11	Min	1.1	1.3	1.1	0.7	1.0	0.9	1.4
			Max	85.0	5.1	2.8	10.0	3.6	3.2	35.0
		2011-12	Min	1.0	0.5	1.3	0.8	0.8	1.0	1.1
			Max	5.9	45.0	4.9	30.0	2.6	4.8	4.7
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.24	0.88	0.16	0.00	0.59	0.56	0.84
			Max	0.91	1.22	0.70	1.40	1.35	0.73	1.01
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-
			Max	0.00	0.00	0.00	-	-	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.02
			Max	0.48	0.18	0.20	0.00	0.28	0.00	0.25
32	Chromium	2010-11	Min	0.00	0.00	0.00	0.02	-	0.00	0.00
			Max	0.00	0.00	0.00	0.02	-	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	3.40
			Max	6.26	5.84	3.31	5.07	6.06	9.30	5.17
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	196.96	135.35	101.89	84.58	171.81	111.53	114.84
			Max	196.96	135.35	101.89	84.58	171.81	111.53	114.84
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-	-
			Max	5.12	10.49	10.64	10.100	0.36	10.09	20.15
		2011-12	Min	0.56	0.40	0.37	0.40	0.36	0.56	0.30
			Max	22.02	21.84	16.67	18.19	17.54	12.99	16.87
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.03	0.06	0.17	0.16	0.11	0.11	0.33
			Max	0.03	0.06	0.17	0.16	0.11	0.11	0.33
38	Zinc	2010-11	Min	31.73	9.58	28.25	49.14	-	23.46	27.36
			Max	31.73	9.58	28.25	49.14	-	23.46	27.36
		2011-12	Min	18.92	6.86	16.55	7.80	8.80	18.80	27.15
			Max	22.70	18.90	31.80	29.90	18.21	25.68	28.30
39	Total Hardness	2010-11	Min	109	89	90	111	119	70	80
			Max	229	272	221	228	168	209	206
		2011-12	Min	136	129	90	143	152	102	84
			Max	291	300	238	245	236	195	225
40	Sodium % (Na%)	2010-11	Min	15	11	8	15	16	12	10
			Max	40	45	32	32	28	36	34
		2011-12	Min	13	3	12	14	18	8	13
			Max	45	39	41	46	42	40	44
41	SAR	2010-11	Min	0.5	0.3	0.2	0.0	0.5	0.2	0.2
			Max	1.9	2.2	1.2	0.7	0.9	1.2	1.2
		2011-12	Min	0.4	0.1	0.4	0.4	0.5	0.2	0.3
			Max	2.0	2.2	1.8	2.4	2.0	1.4	1.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.4	0.0	0.0	0.0
			Max	2.0	0.8	0.9	1.4	0.08	0.8	0.4
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	1.8	0.8	0.7	0.8	0.4	0.9	0.6

Contd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

V Basin Godavari								
Sl. No.	Parameter	Year	Name of the Site	Satrapur	Mancherial	Gandlapet	Saigaon	Dhalegaon
			Name of the River/Stream	Kanhan	Godavari	Peddavagu	Manjira	Godavari
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)
1	Q(Cumecs)	2010-11	Min	1,421	0,000	-- No Flow --	0,000	0,000
			Max	994.2	7085	-- No Flow --	2012	744.3
		2011-12	Min	1,308	1,411	-- No Flow --	0,000	0,000
			Max	869.1	2133	-- No Flow --	803.2	348.4
2	Temperature °C	2010-11	Min	11.5	25.0	-- No Flow --	0.84	28.0
			Max	26.0	28.5	-- No Flow --	7.48	28.0
		2011-12	Min	11.0	17.5	-- No Flow --	24.00	27.0
			Max	17.0	29.5	-- No Flow --	28.00	27.0
3	pH_GEN	2010-11	Min	7.8	7.0	-- No Flow --	7.7	7.8
			Max	8.5	8.6	-- No Flow --	8.4	8.3
		2011-12	Min	7.9	8.3	-- No Flow --	7.7	8.3
			Max	8.5	8.8	-- No Flow --	8.3	8.3
4	Sp.Conductance	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
5	Potassium (K)	2010-11	Min	-	2.3	-- No Flow --	-	-
			Max	2.8	3.6	-- No Flow --	5.0	3.7
		2011-12	Min	1.1	2.1	-- No Flow --	2.0	3.5
			Max	4.4	4.7	-- No Flow --	4.3	3.5
6	Sodium (Na)	2010-11	Min	8.7	7.6	-- No Flow --	17.9	27.0
			Max	75.2	53.3	-- No Flow --	31.8	37.0
		2011-12	Min	11.8	24.7	-- No Flow --	11.1	27.0
			Max	54.1	58.0	-- No Flow --	20.5	27.0
7	Calcium (Ca)	2010-11	Min	28	18	-- No Flow --	29	27
			Max	59	35	-- No Flow --	46	32
		2011-12	Min	33	25	-- No Flow --	29	28
			Max	57	38	-- No Flow --	41	28
8	Magnesium (Mg)	2010-11	Min	8.6	8.3	-- No Flow --	16.7	13.9
			Max	51.4	28.3	-- No Flow --	28.1	15.5
		2011-12	Min	7.1	13.2	-- No Flow --	8.0	21.3
			Max	46.5	27.3	-- No Flow --	21.6	21.3
9	Aluminium	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
10	Iron (Fe)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	0.0	0.7	-- No Flow --	0.3	0.2
		2011-12	Min	0.2	0.1	-- No Flow --	0.3	0.2
			Max	1.0	0.3	-- No Flow --	0.3	0.2
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.03	-- No Flow --	0.05	0.11
			Max	1.21	0.19	-- No Flow --	0.17	0.14
		2011-12	Min	0.00	0.02	-- No Flow --	0.05	0.11
			Max	0.78	0.25	-- No Flow --	0.17	0.11
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	-- No Flow --	0.0	0.0
			Max	10.8	25.0	-- No Flow --	14.7	9.8
		2011-12	Min	0.0	4.8	-- No Flow --	0.0	9.8
			Max	8.7	24.0	-- No Flow --	14.7	9.8
13	Bicarbonate (HCO3)	2010-11	Min	122	104	-- No Flow --	190	159
			Max	267	211	-- No Flow --	239	171
		2011-12	Min	160	159	-- No Flow --	124	159
			Max	260	266	-- No Flow --	199	159
14	Chloride (CL)	2010-11	Min	8.5	9.9	-- No Flow --	25.5	30.2
			Max	63.2	51.5	-- No Flow --	42.4	32.8
		2011-12	Min	8.5	20.2	-- No Flow --	6.1	24.3
			Max	58.2	56.2	-- No Flow --	24.5	24.3
15	Fluoride (F)	2010-11	Min	0.17	0.30	-- No Flow --	0.31	0.23
			Max	1.01	0.91	-- No Flow --	0.43	0.33
		2011-12	Min	0.28	0.19	-- No Flow --	0.35	0.39
			Max	0.78	1.04	-- No Flow --	0.40	0.39
16	Sulphate (SO4)	2010-11	Min	8.2	4.8	-- No Flow --	16.9	20.4
			Max	42.9	31.0	-- No Flow --	25.8	33.6
		2011-12	Min	5.3	16.5	-- No Flow --	6.7	29.5
			Max	54.2	43.0	-- No Flow --	22.0	29.5
17	Sulphite	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	3.05	0.79	-- No Flow --	2.16	1.08
		2011-12	Min	0.20	0.06	-- No Flow --	0.67	1.00
			Max	2.44	2.29	-- No Flow --	2.35	1.00
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.01	-- No Flow --	0.02	0.03
			Max	2.76	0.09	-- No Flow --	0.08	0.07
		2011-12	Min	0.00	0.01	-- No Flow --	0.01	0.01
			Max	0.28	0.07	-- No Flow --	0.03	0.01
20	Phosphate (pO4)	2010-11	Min	0.010	0.015	-- No Flow --	0.013	0.015
			Max	0.207	0.051	-- No Flow --	0.030	0.029
		2011-12	Min	0.007	0.003	-- No Flow --	0.003	0.013
			Max	0.036	0.133	-- No Flow --	0.037	0.013
21	Silica (SiO2)	2010-11	Min	26.1	12.6	-- No Flow --	17.8	24.1
			Max	97.2	39.7	-- No Flow --	48.8	25.4
		2011-12	Min	24.0	5.1	-- No Flow --	11.5	19.8
			Max	129.0	43.6	-- No Flow --	15.1	19.8

Contd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

V Basin Godavari								
Sl. No.	Parameter	Year	Name of the Site	Satrapur	Mancherial	Gandlapet	Saigaon	Dhalegaon
			Name of the River/Stream	Kanhan	Godavari	Peddavagu	Manjira	Godavari
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)
22	DO	2010-11	Min	5.7	5.8	-- No Flow --	5.6	4.8
			Max	10.0	8.3	-- No Flow --	6.7	6.5
		2011-12	Min	5.9	5.8	-- No Flow --	5.0	6.8
			Max	10.0	7.7	-- No Flow --	6.4	6.8
23	BOD3-27	2010-11	Min	1.2	0.6	-- No Flow --	0.6	0.8
			Max	5.8	1.6	-- No Flow --	2.0	0.8
		2011-12	Min	1.2	0.1	-- No Flow --	0.6	1.0
			Max	6.4	1.3	-- No Flow --	0.8	1.0
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	1.11	0.04	-- No Flow --	-	-
			Max	1.79	1.25	-- No Flow --	-	-
30	Boron (ppm)	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
31	Cadmium	2010-11	Min	-	-	-- No Flow --	-	-
			Max	0.38	0.00	-- No Flow --	0.39	-
		2011-12	Min	0.24	0.00	-- No Flow --	-	-
			Max	0.32	0.03	-- No Flow --	-	-
32	Chromium	2010-11	Min	0.00	0.00	-- No Flow --	-	-
			Max	0.00	0.33	-- No Flow --	0.00	-
		2011-12	Min	7.08	0.00	-- No Flow --	-	-
			Max	13.67	1.50	-- No Flow --	-	-
33	Copper	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	6.54	5.68	-- No Flow --	-	-
			Max	6.54	9.04	-- No Flow --	-	-
34	Cyanide	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
35	Lead	2010-11	Min	-	-	-- No Flow --	-	-
			Max	59.19	22.77	-- No Flow --	13.00	-
		2011-12	Min	0.58	0.00	-- No Flow --	-	-
			Max	29.02	4.50	-- No Flow --	-	-
36	Manganese	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
37	Mercury	2010-11	Min	-	-	-- No Flow --	-	-
			Max	-	-	-- No Flow --	-	-
		2011-12	Min	0.33	0.00	-- No Flow --	-	-
			Max	0.33	0.00	-- No Flow --	-	-
38	Zinc	2010-11	Min	30.00	11.35	-- No Flow --	10.53	-
			Max	30.00	23.05	-- No Flow --	10.53	-
		2011-12	Min	11.00	2.68	-- No Flow --	-	-
			Max	29.12	16.00	-- No Flow --	-	-
39	Total Hardness	2010-11	Min	124	46	-- No Flow --	-	126
			Max	362	88	-- No Flow --	193	144
		2011-12	Min	131	123	-- No Flow --	106	159
			Max	299	190	-- No Flow --	189	159
40	Sodium % (Na%)	2010-11	Min	12	17	-- No Flow --	19	31
			Max	48	40	-- No Flow --	26	31
		2011-12	Min	14	29	-- No Flow --	11	27
			Max	41	50	-- No Flow --	26	27
41	SAR	2010-11	Min	0.3	0.4	-- No Flow --	0.6	1.0
			Max	2.5	1.8	-- No Flow --	1.0	1.1
		2011-12	Min	0.4	0.9	-- No Flow --	0.4	0.9
			Max	1.6	2.3	-- No Flow --	0.7	0.9
42	RSC	2010-11	Min	0.0	0.0	-- No Flow --	0.0	0.1
			Max	0.8	0.6	-- No Flow --	0.2	0.3
		2011-12	Min	0.0	0.1	-- No Flow --	0.0	0.0
			Max	0.1	1.9	-- No Flow --	0.0	0.0

Source: Water Quality Year Book (Godavari Basin) for the period of 2010-2011 to 2011-2012.

- Note: 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.  
 2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna

Sl. No.	Parameter	Year	Name of the Site	Vijayawada	Keesara	Paleru Bridge	Wadenpally	Dameracherla	Halia	Bawapuram
			Name of the River/Stream	Krishna	Munneru	Paleru Bridge	Krishna	Musi	Halia	Tungabhadra
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Q(Cumecs)	2010-11	Min	0.000	3.047	-	13.80	0.989	0.099	0.585
			Max	6954	1578	-	6021	461.5	118.8	5494
		2011-12	Min	0.000	0.000	-	8.168	0.000	0.000	0.017
			Max	11812	662.5	-	12951	282.0	30.93	3774
2	Temperature °C	2010-11	Min	24.0	25.0	25.0	25.5	21.0	21.0	21.0
			Max	38.9	30.0	31.5	34.0	30.0	29.0	23.0
		2011-12	Min	27.0	24.0	25.0	26.0	24.0	17.0	21.0
			Max	29.0	32.0	31.8	28.0	29.5	29.0	27.0
3	pH_GEN	2010-11	Min	7.9	8.1	7.5	7.4	7.7	7.4	8.2
			Max	8.7	8.9	8.4	8.6	8.4	8.7	9.2
		2011-12	Min	7.9	7.7	7.3	26.0	7.4	7.5	7.7
			Max	8.5	8.4	8.1	28.0	8.2	8.2	8.7
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	2.4	2.0	1.9	2.5	1.2	1.3	2.4
			Max	4.3	4.9	4.3	4.5	8.5	5.0	6.0
		2011-12	Min	2.5	3.0	1.7	2.2	1.0	3.1	2.7
			Max	3.7	6.0	10.0	4.1	6.2	5.8	7.5
6	Sodium (Na)	2010-11	Min	35.4	19.4	53.8	64.0	77.6	85.3	59.1
			Max	73.3	99.2	73.3	83.3	169.4	166.0	1690.0
		2011-12	Min	52.4	62.5	52.5	46.0	69.3	103.4	56.2
			Max	59.8	137.2	88.7	88.3	151.2	144.0	227.0
7	Calcium (Ca)	2010-11	Min	32	22	41	35	38	32	24
			Max	45	40	63	51	73	50	56
		2011-12	Min	24	30	31	22	32	31	23
			Max	43	43	64	45	61	47	51
8	Magnesium (Mg)	2010-11	Min	4.9	11.7	23.8	12.6	21.4	17.5	12.6
			Max	24.3	185.0	36.9	30.6	42.8	29.2	185.0
		2011-12	Min	16.0	13.1	18.0	12.6	18.5	18.0	12.1
			Max	23.3	25.3	34.4	23.8	36.0	25.8	29.2
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.1	0.0	0.0	0.0	0.0
			Max	0.0	0.2	0.2	0.2	0.2	0.4	0.2
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.03	0.07	0.32	0.07	0.05	0.06
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	9.6	9.6	9.6	9.6	0.0	9.6	9.6
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	14.7	4.8	0.0	9.8	0.0	0.0	14.7
13	Bicarbonate (HCO3)	2010-11	Min	181	122	254	185	271	264	161
			Max	239	293	312	293	449	390	239
		2011-12	Min	159	217	215	154	239	320	146
			Max	246	317	395	320	438	447	276
14	Chloride (CL)	2010-11	Min	32.7	15.6	55.5	57.8	86.4	17.1	46.5
			Max	82.3	87.9	82.8	85.9	203.0	113.1	169.3
		2011-12	Min	50.5	56	55.0	44.2	84.1	83.3	55.0
			Max	67.2	131.5	94.6	90.7	221.5	113.6	202.8
15	Fluoride (F)	2010-11	Min	0.49	0.73	0.66	0.60	0.80	0.55	0.50
			Max	0.83	1.46	1.46	1.06	1.58	1.72	7.90
		2011-12	Min	0.57	0.92	0.67	0.14	0.56	0.74	0.56
			Max	1.82	1.76	2.16	1.86	3.80	4.10	1.92
16	Sulphate (SO4)	2010-11	Min	31.8	21.6	49.5	62.8	55.6	45.4	45.0
			Max	64.8	62.4	74.8	113.6	648.0	72.6	295.0
		2011-12	Min	49.8	40.5	43.0	20.0	60.3	52.0	61.5
			Max	58.0	66.0	85.0	106.5	100.5	82.0	268.0
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	2.75	1.27	1.65	1.60	1.54	1.42	1.18
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.02	0.02	0.02	0.02	0.02	0.06
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.000	0.021	0.046	0.034	0.000	0.024	0.021
			Max	0.000	0.330	0.610	0.800	0.670	0.370	1.231
21	Silica (SiO2)	2010-11	Min	11.6	9.2	0.067	14.4	13.6	9.0	10.8
			Max	16.4	17.2	0.548	20.8	40.7	29.6	24.0
		2011-12	Min	10.6	12.3	17.4	13.3	16.3	11.1	9.5
			Max	15.2	17.4	39.2	19.6	42.6	43.2	21.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna										
Sl. No.	Parameter	Year	Name of the Site	Vijayawada	Keesara	Paleru Bridge	Wadenpally	Dameracherla	Halia	Bawapuram
			Name of the River/Stream	Krishna	Munneru	Paleru Bridge	Krishna	Musi	Halia	Tungabhadra
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
22	DO	2010-11	Min	6.5	5.8	3.4	6.0	3.2	4.8	5.3
			Max	7.9	7.9	6.9	8.2	6.6	6.9	7.6
		2011-12	Min	6.1	3.8	1.9	5.0	4.6	5.1	3.2
			Max	6.9	7.4	5.6	6.9	6.7	7.3	7.2
23	BOD3-27	2010-11	Min	0.3	0.4	0.4	0.2	0.2	0.1	0.5
			Max	1.8	1.5	2.7	1.3	1.6	1.0	2.5
		2011-12	Min	0.3	0.1	0.2	0.1	0.1	0.1	0.3
			Max	1.2	2.0	1.8	1.8	1.6	2.9	3.3
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	1.38	0.98	0.42	1.12	1.25	2.65
			Max	-	1.38	0.98	0.42	1.12	1.25	2.65
		2011-12	Min	-	-	0.20	0.00	0.78	0.16	0.67
			Max	-	-	0.20	0.00	0.78	0.16	0.67
32	Chromium	2010-11	Min	-	0.00	0.00	0.00	0.36	0.00	0.00
			Max	-	0.00	0.00	0.00	0.36	0.00	0.00
		2011-12	Min	-	-	0.00	0.00	0.00	0.00	0.00
			Max	-	-	0.00	0.00	0.00	0.00	0.00
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	22.89	34.66	32.19	31.01	22.42	24.66
			Max	-	22.89	34.66	32.19	31.01	22.42	24.66
		2011-12	Min	-	-	14.13	18.98	32.49	25.56	36.03
			Max	-	-	14.13	18.98	32.49	25.56	36.03
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	23.39	49.01	28.62	38.10	21.71	55.26
			Max	-	23.39	49.01	28.62	38.10	21.71	55.26
		2011-12	Min	-	-	22.80	18.21	21.89	24.06	17.41
			Max	-	-	22.80	18.21	21.89	24.06	17.41
39	Total Hardness	2010-11	Min	133	105	201	169	185	153	113
			Max	210	851	312	256	361	246	855
		2011-12	Min	131	135	153	111	157	153	108
			Max	203	214	298	211	298	218	248
40	Sodium % (Na%)	2010-11	Min	34	19	32	39	36	51	51
			Max	51	59	43	48	67	67	95
		2011-12	Min	39	50	32	38	0.0	53	42
			Max	47	64	49	52	3.1	65	76
41	SAR	2010-11	Min	1.3	0.8	1.5	1.9	2.1	2.9	2.4
			Max	2.5	3.6	2.2	2.5	5.4	5.4	52.0
		2011-12	Min	1.8	2.4	1.6	1.6	1.9	3.3	1.9
			Max	2.1	4.7	2.8	2.9	4.0	4.8	7.6
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.4	0.0
			Max	0.7	1.6	0.7	0.5	3.7	2.9	0.5
		2011-12	Min	0.0	0.8	0.0	0.0	0.0	1.3	0.0
			Max	0.6	2.5	2.7	1.0	3.1	4.2	1.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna											
Sl. No.	Parameter	Year	Name of the Site	T.Rampuram	Kellodu	Hoovinahole	Marol	Harlahalli	Byaladahalli	Kuppelur	
			Name of the River/Stream	Hagari	Vedavathi	Swarnamukhi	Varada	Tungabhadra	Haridra	Kumudavathi	
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Max	981.8	300.8	75.13	677.5	1741	257.3	798.2	
		2011-12	Min	0.000	0.000	Dry bed	0.000	0.000	0.000	0.000	
			Max	193.4	48.55	Dry bed	700.4	2593	90.51	133.3	
2	Temperature °C	2010-11	Min	24.0	23.0	23.0	24.0	25.5	24.5	25.0	
			Max	27.0	24.0	24.5	25.0	26.0	29.0	26.5	
		2011-12	Min	25.0	23.0	Dry bed	24.5	25.0	28.0	25.0	
			Max	28.0	23.0	Dry bed	25.0	26.0	29.5	27.0	
3	pH_GEN	2010-11	Min	7.9	7.9	8.3	7.1	7.2	7.5	7.7	
			Max	8.7	8.3	8.8	7.8	7.7	8.0	8.0	
		2011-12	Min	8.1	7.6	Dry bed	6.9	6.3	7.3	7.0	
			Max	8.3	7.6	Dry bed	7.3	8.2	7.9	7.7	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	Dry bed	-	-	-	-	
			Max	-	-	Dry bed	-	-	-	-	
5	Potassium (K)	2010-11	Min	2.7	4.4	1.6	0.9	1.4	2.5	1.0	
			Max	7.6	6.2	3.4	1.5	4.1	6.0	5.8	
		2011-12	Min	3.5	2.5	Dry bed	1.0	1.0	1.9	1.9	
			Max	7.5	2.5	Dry bed	1.5	2.7	6.0	3.8	
6	Sodium (Na)	2010-11	Min	134.0	58.2	198.1	4.9	10.0	38.4	12.0	
			Max	379.6	159.7	278.1	26.3	50.4	97.2	69.8	
		2011-12	Min	145.5	101.2	Dry bed	6.2	7.0	54.0	19.4	
			Max	381.5	101.2	Dry bed	23.5	52.2	124.2	32.7	
7	Calcium (Ca)	2010-11	Min	28	18	16	6	8	30	18	
			Max	90	43	34	22	26	43	58	
		2011-12	Min	33	22	Dry bed	8	6	29	24	
			Max	80	22	Dry bed	21	24	46	38	
8	Magnesium (Mg)	2010-11	Min	24.3	6.8	26.2	2.9	3.9	11.7	7.8	
			Max	38.9	36.9	27.2	10.7	12.6	24.3	30.1	
		2011-12	Min	19.9	10.7	Dry bed	3.9	2.9	5.8	8.7	
			Max	45.2	10.7	Dry bed	7.8	11.7	24.3	14.6	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	Dry bed	-	-	-	-	
			Max	-	-	Dry bed	-	-	-	-	
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	0.1	0.1	0.0	0.2	0.1	1.0	
		2011-12	Min	0.0	0.0	Dry bed	0.0	0.0	0.0	0.0	
			Max	0.0	0.0	Dry bed	0.9	0.0	0.0	0.1	
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.00	-	-	-	-	0.00	
			Max	0.00	0.00	-	-	-	-	0.00	
		2011-12	Min	0.00	-	Dry bed	-	-	-	-	
			Max	0.00	-	Dry bed	-	-	-	-	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	9.6	0.0	83.1	0.0	0.0	0.0	0.0	
		2011-12	Min	0.0	0.0	Dry bed	0.0	0.0	0.0	0.0	
			Max	4.8	0.0	Dry bed	0.0	0.0	0.0	0.0	
13	Bicarbonate (HCO3)	2010-11	Min	239	176	366	28	43	190	80	
			Max	264	471	457	97	151	296	254	
		2011-12	Min	249	251	Dry bed	35	29	207	106	
			Max	334	251	Dry bed	108	133	359	171	
14	Chloride (CL)	2010-11	Min	120.1	34.7	141.1	7.7	11.6	38.2	21.2	
			Max	260.6	119.6	226.5	39.4	54.0	97.6	119.6	
		2011-12	Min	123.0	68.2	Dry bed	11.7	9.9	22.7	30.9	
			Max	398.4	68.2	Dry bed	32.3	59.3	92.7	59.6	
15	Fluoride (F)	2010-11	Min	0.69	0.32	0.57	0.02	0.10	0.00	0.15	
			Max	1.13	0.95	1.46	0.48	0.49	0.89	0.49	
		2011-12	Min	0.82	-	Dry bed	0.00	0.00	0.42	0.23	
			Max	3.85	-	Dry bed	0.11	0.46	0.93	0.34	
16	Sulphate (SO4)	2010-11	Min	160.0	10.7	17.1	4.2	7.4	12.1	6.9	
			Max	624.0	46.3	37.7	18.0	39.8	54.2	44.4	
		2011-12	Min	182.0	21.2	Dry bed	4.7	4.7	13.7	5.9	
			Max	542.0	21.2	Dry bed	13.2	34.9	58.8	14.0	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	Dry bed	-	-	-	-	
			Max	-	-	Dry bed	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	0.00	0.60	1.42	0.52	0.88	0.64	1.23	
			Max	0.00	1.51	1.50	1.13	1.22	1.58	4.36	
		2011-12	Min	0.00	1.08	Dry bed	0.67	0.66	0.83	1.22	
			Max	2.38	1.08	Dry bed	1.39	2.20	2.52	2.17	
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			Max	0.00	0.08	0.01	0.03	0.06	0.14	0.01	
		2011-12	Min	0.00	0.00	Dry bed	0.00	0.00	0.00	0.00	
			Max	0.00	0.00	Dry bed	0.01	0.12	0.00	0.00	
20	Phosphate (pO4)	2010-11	Min	-	0.000	0.010	0.000	0.010	0.052	0.000	
			Max	-	0.010	0.010	0.010	0.041	0.217	0.031	
		2011-12	Min	0.000	0.000	Dry bed	0.000	0.000	0.000	0.000	
			Max	1.201	0.000	Dry bed	0.093	0.041	0.196	0.000	
21	Silica (SiO2)	2010-11	Min	9.2	10.0	0.0	6.5	10.5	5.9	7.4	
			Max	18.4	25.9	23.0	10.7	16.6	14.5	15.5	
		2011-12	Min	11.2	14.1	Dry bed	5.9	7.4	7.5	8.3	
			Max	18.2	14.1	Dry bed	10.5	15.7	15.7	12.6	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna										
Sl. No.	Parameter	Year	Name of the Site	T.Rampuram	Kellodu	Hoovinahole	Marol	Harlahalli	Byaladahalli	Kuppelur
			Name of the River/Stream	Hagari	Vedavathi	Swarnamukhi	Varada	Tungabhadra	Haridra	Kumudavathi
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	5.5	-	-	-	-	-	-
			Max	7.0	-	-	-	-	-	-
		2011-12	Min	3.9	-	Dry bed	-	5.2	-	-
			Max	6.8	-	Dry bed	-	6.0	-	-
23	BOD3-27	2010-11	Min	0.5	-	-	-	-	-	-
			Max	1.5	-	-	-	-	-	-
		2011-12	Min	0.1	-	Dry bed	-	1.7	-	-
			Max	0.8	-	Dry bed	-	1.9	-	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	0.24	0.60	-
			Max	-	-	Dry bed	-	1.58	0.60	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	0.24	0.21	-
			Max	-	-	Dry bed	-	0.24	0.21	-
32	Chromium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	1.21	2.71	-
			Max	-	-	Dry bed	-	1.21	2.71	-
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	2.02	3.05	-
			Max	-	-	Dry bed	-	2.02	3.05	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	5.49	-	-
			Max	-	-	-	-	5.49	-	-
		2011-12	Min	-	-	Dry bed	-	3.78	3.80	-
			Max	-	-	Dry bed	-	3.78	3.80	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	Dry bed	-	-	-	-
			Max	-	-	Dry bed	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	17.46	-	-
			Max	-	-	-	-	17.46	-	-
		2011-12	Min	-	-	Dry bed	-	44.00	55.00	-
			Max	-	-	Dry bed	-	44.00	55.00	-
39	Total Hardness	2010-11	Min	32	16	40	173	157	157	60
			Max	93	22	117	387	214	290	104
		2011-12	Min	165	101	Dry bed	36	28	112	96
			Max	389	101	Dry bed	84	105	217	157
40	Sodium % (Na%)	2010-11	Min	56	48	69	19	36	33	24
			Max	75	66	80	36	48	51	36
		2011-12	Min	59	68	Dry bed	27	31	42	30
			Max	73	68	Dry bed	37	51	55	33
41	SAR	2010-11	Min	4.0	2.6	6.2	0.3	0.7	1.3	0.6
			Max	8.8	4.6	9.8	1.2	2.0	2.9	1.6
		2011-12	Min	4.9	4.4	Dry bed	0.5	0.5	1.9	0.9
			Max	8.4	4.4	Dry bed	1.1	2.2	3.7	1.1
42	RSC	2010-11	Min	0.0	1.0	3.7	0.0	0.7	0.0	0.0
			Max	0.8	2.5	5.7	0.0	2.0	1.0	0.0
		2011-12	Min	0.0	2.1	Dry bed	0.0	0.0	0.4	0.0
			Max	1.5	2.1	Dry bed	0.1	0.2	1.6	0.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna

Sl. No.	Parameter	Year	Name of the Site	Honnali	Shimoga	Holehonnur	Yadgir	Malkhed	Takli	Phulgaon
			Name of the River/Stream	Tungabhadra	Tunga	Bhadra	Bhima	Kanga	Bhima	Bhima
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1	Q(Cumecs)	2010-11	Min	15.69	0.000	4.707	0.000	0.536	0.000	0.000
			Max	1909	2017	629.7	3013	1269	1375	442.9
		2011-12	Min	4.625	0.000	3.811	0.000	0.732	0.000	0.000
			Max	2639	2321	939.0	4939	1500	4219	1735
2	Temperature °C	2010-11	Min	24.5	25.0	21.5	25.0	24.0	25.0	22.0
			Max	32.5	25.0	28.5	29.0	27.5	28.0	25.0
		2011-12	Min	26.0	23.0	23.5	23.0	23.0	27.0	21.5
			Max	30.0	26.0	26.0	27.0	29.0	27.0	22.5
3	pH_GEN	2010-11	Min	7.1	7.1	7.0	7.9	7.9	8.0	7.3
			Max	7.7	7.4	8.2	8.3	8.8	8.5	8.2
		2011-12	Min	6.1	6.2	6.6	8.0	8.0	7.0	7.7
			Max	7.6	7.2	7.4	8.6	8.2	7.0	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.2	0.9	1.2	2.5	1.9	1.0	1.0
			Max	2.5	1.0	4.7	3.6	4.7	3.7	1.3
		2011-12	Min	1.1	0.9	1.2	2.9	2.5	0.7	0.4
			Max	2.7	3.8	4.2	3.9	4.6	0.7	0.8
6	Sodium (Na)	2010-11	Min	4.7	2.8	6.6	35.6	24.3	9.8	7.7
			Max	18.8	3.5	22.2	87.7	56.3	91.0	9.0
		2011-12	Min	3.4	3.0	3.7	25.5	18.6	81.6	9.7
			Max	17.4	7.4	43.3	72.5	59.6	81.6	11.3
7	Calcium (Ca)	2010-11	Min	6	3	10	35	32	48	14
			Max	21	4	27	79	43	59	30
		2011-12	Min	3	3	5	20	26	32	27
			Max	15	11	26	45	42	32	29
8	Magnesium (Mg)	2010-11	Min	2.9	1.9	3.9	20.4	18.5	8.8	5.8
			Max	9.7	3.2	11.7	45.7	25.3	39.9	6.8
		2011-12	Min	1.0	1.0	1.9	11.7	13.6	12.6	3.9
			Max	6.8	5.8	8.7	26.2	23.8	12.6	7.8
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.2	0.0	0.0	0.0	0.1	0.2
			Max	0.5	0.3	0.5	0.0	0.0	0.2	0.2
		2011-12	Min	0.0	0.1	0.0	0.0	0.0	0.9	1.0
			Max	0.1	0.1	0.3	0.0	0.2	0.9	1.1
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	0.00	-	-
			Max	-	-	-	-	0.00	-	-
		2011-12	Min	-	-	-	0.00	0.00	-	-
			Max	-	-	-	0.01	0.06	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	9.6	9.6	2.4	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	19.6	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	33	14	42	205	215	151	37
			Max	104	28	141	249	298	310	103
		2011-12	Min	19	14	25	100	124	108	87
			Max	80	59	118	232	335	108	88
14	Chloride (CL)	2010-11	Min	9.5	5.7	13.8	37.6	22.5	18.3	13.2
			Max	25.9	6.0	32.7	185.3	70.6	144.7	15.3
		2011-12	Min	6.0	3.9	6.0	15.0	17.8	116.6	13.8
			Max	25.6	14.9	74.2	95.0	29.8	116.5	17.2
15	Fluoride (F)	2010-11	Min	0.02	0.02	0.08	0.40	0.56	0.40	0.09
			Max	0.46	0.06	0.30	0.76	0.99	0.62	0.46
		2011-12	Min	0.0	0.00	0.08	0.58	0.42	0.37	0.26
			Max	0.21	0.15	0.44	1.60	0.85	0.37	0.27
16	Sulphate (SO4)	2010-11	Min	3.8	2.1	2.5	68.2	16.0	22.4	14.9
			Max	5.0	2.3	17.0	216.0	26.1	36.6	21.6
		2011-12	Min	2.6	1.9	2.2	31.5	5.0	69.2	12.1
			Max	7.2	3.0	10.9	121.8	25.3	69.2	24.6
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.00	0.42	0.69	0.00	0.00	0.11	0.14
			Max	1.11	0.45	1.46	0.00	0.00	0.20	0.22
		2011-12	Min	0.00	0.38	0.69	0.00	0.00	1.51	1.13
			Max	2.28	1.49	2.38	1.69	2.54	1.51	1.31
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.01	0.00	0.00	0.00	0.01	0.01
			Max	0.66	0.01	0.11	0.00	0.00	0.01	0.01
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.01
			Max	0.88	0.22	0.06	0.00	0.02	0.00	0.01
20	Phosphate (pO4)	2010-11	Min	0.010	0.000	0.000	-	-	-	-
			Max	0.021	0.000	0.052	-	-	-	-
		2011-12	Min	0.000	0.000	0.000	0.153	0.000	-	0.037
			Max	0.000	0.000	0.000	0.254	0.318	-	0.123
21	Silica (SiO2)	2010-11	Min	9.0	8.4	12.2	11.6	18.4	5.1	5.3
			Max	17.3	11.1	18.2	23.9	28.8	11.2	11.2
		2011-12	Min	4.3	7.3	9.8	12.5	11.9	5.6	6.0
			Max	7.3	11.0	15.1	20.3	40.6	5.6	15.8

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna										
Sl. No.	Parameter	Year	Name of the Site	Honnali	Shimoga	Holehonnur	Yadgir	Malkhed	Takli	Phulgaon
			Name of the River/Stream	Tungabhadra	Tunga	Bhadra	Bhima	Kanga	Bhima	Bhima
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
22	DO	2010-11	Min	5.3	6.6	5.0	-	4.4	-	-
			Max	6.4	7.2	6.6	-	7.1	-	-
		2011-12	Min	5.1	3.7	4.6	64	4.7	-	-
			Max	6.6	7.0	7.4	84	6.3	-	-
23	BOD3-27	2010-11	Min	4.6	-	4.6	-	0.2	0.5	0.2
			Max	4.6	-	6.2	-	1.0	1.2	1.7
		2011-12	Min	0.2	0.2	0.2	0.3	0.1	1.0	0.8
			Max	1.3	2.6	1.4	1.4	2.2	1.0	0.9
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.20	0.31	0.34	-	0.71	-	-
			Max	1.15	0.31	0.34	-	0.71	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	0.00	-	-
			Max	-	-	-	-	0.00	-	-
		2011-12	Min	0.17	0.17	0.22	-	0.00	-	-
			Max	0.24	0.17	0.37	-	0.00	-	-
32	Chromium	2010-11	Min	-	-	-	-	0.00	-	-
			Max	-	-	-	-	0.00	-	-
		2011-12	Min	2.33	1.10	1.10	-	0.00	-	-
			Max	3.20	1.10	1.91	-	0.00	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	2.01	-	1.10	-	-	-	-
			Max	2.01	-	1.10	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	5.49	-	-
			Max	-	-	-	-	5.49	-	-
		2011-12	Min	3.70	-	3.56	-	24.71	-	-
			Max	3.70	-	3.56	-	24.71	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	0.74	-	-
			Max	-	-	-	-	0.74	-	-
38	Zinc	2010-11	Min	-	-	-	-	17.46	-	-
			Max	-	-	-	-	17.46	-	-
		2011-12	Min	10.00	-	40.00	-	88.90	-	-
			Max	10.00	-	40.00	-	88.90	-	-
39	Total Hardness	2010-11	Min	32	16	40	173	157	157	60
			Max	93	22	117	387	214	290	104
		2011-12	Min	12	12	24	99	121	133	84
			Max	64	48	100	221	203	133	105
40	Sodium % (Na%)	2010-11	Min	21	23	20	31	23	12	15
			Max	30	26	35	46	43	50	21
		2011-12	Min	23	22	24	35	25	57	19
			Max	37	30	56	52	41	57	20
41	SAR	2010-11	Min	0.3	0.3	0.4	1.2	0.8	0.3	0.4
			Max	0.9	0.3	1.0	2.4	2.0	2.8	0.4
		2011-12	Min	0.3	0.4	0.3	1.1	0.7	3.1	0.5
			Max	0.9	0.5	2.2	2.6	1.9	3.1	0.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.5	2.1	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.1	0.0	0.1	0.8	1.8	0.0	0.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna						
Sl. No.	Parameter	Year	Name of the Site	Cholachagudda	Kurundwad	Karad
			Name of the River/Stream	Malaprabha	Krishna	Krishna
(1)	(2)	(3)	(4)	(26)	(27)	(28)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000
			Max	1023	3847	1189
		2011-12	Min	0.000	0.000	0.000
			Max	232.9	4534	5074
2	Temperature °C	2010-11	Min	19.0	25.3	23.0
			Max	29.5	27.0	24.5
		2011-12	Min	21.0	25.0	22.0
			Max	22.5	25.0	24.0
3	pH_GEN	2010-11	Min	7.9	6.1	8.0
			Max	8.3	8.2	8.5
		2011-12	Min	7.6	7.3	7.0
			Max	8.2	8	8.0
4	Sp.Conductance	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
5	Potassium (K)	2010-11	Min	3.4	1.0	0.6
			Max	5.8	1.7	1.6
		2011-12	Min	1.5	0.4	0.3
			Max	2.7	1.0	1.8
6	Sodium (Na)	2010-11	Min	85.0	7.7	7.7
			Max	110.0	25.7	11.3
		2011-12	Min	40.1	7.2	4.6
			Max	70.6	27.0	12.7
7	Calcium (Ca)	2010-11	Min	48	13	14
			Max	71	43	61
		2011-12	Min	38	13	11
			Max	69	30	42
8	Magnesium (Mg)	2010-11	Min	11.7	1.0	1.9
			Max	33.1	14.6	11.7
		2011-12	Min	5.8	1.9	2.9
			Max	13.6	6.8	13.6
9	Aluminium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
10	Iron (Fe)	2010-11	Min	0.2	0.1	0.1
			Max	0.4	0.2	2.4
		2011-12	Min	0.1	0.2	0.2
			Max	0.2	0.4	1.1
11	Ammonia (NH3-N)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0
			Max	0.0	0.0	2.4
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	175	29	49
			Max	216	132	207
		2011-12	Min	130	41	37
			Max	209	91	139
14	Chloride (CL)	2010-11	Min	114.7	11.3	10.8
			Max	194.0	39.5	19.3
		2011-12	Min	56.9	9.6	6.4
			Max	113.1	35.6	17.9
15	Fluoride (F)	2010-11	Min	0.48	0.05	0.05
			Max	1.02	0.48	0.80
		2011-12	Min	0.35	0.25	0.25
			Max	0.41	0.29	0.47
16	Sulphate (SO4)	2010-11	Min	19.6	2.9	8.6
			Max	44.1	49.3	32.3
		2011-12	Min	21.4	5.5	5.9
			Max	52.7	29.7	19.9
17	Sulphite	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.26	0.14	0.08
			Max	0.84	0.43	0.64
		2011-12	Min	0.83	0.25	0.48
			Max	1.31	1.83	1.18
19	Nitrite (NO2-N)	2010-11	Min	0.01	0.01	0.01
			Max	0.01	0.01	0.01
		2011-12	Min	0.00	0.00	0.00
			Max	0.01	0.01	0.01
20	Phosphate (pO4)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	0.008	0.010	0.002
			Max	0.031	0.026	0.030
21	Silica (SiO2)	2010-11	Min	5.8	5.8	7.7
			Max	6.9	11.2	28.8
		2011-12	Min	3.9	3.8	7.0
			Max	12.6	15.1	28.2

Contd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VI Basin : Krishna						
Sl. No.	Parameter	Year	Name of the Site	Cholachagudda	Kurundwad	Karad
			Name of the River/Stream	Malaprabha	Krishna	Krishna
(1)	(2)	(3)	(4)	(26)	(27)	(28)
22	DO	2010-11	Min	7.1	-	6.1
			Max	7.1	-	6.2
		2011-12	Min	7.1	7.5	6.1
			Max	7.3	7.8	6.4
23	BOD3-27	2010-11	Min	0.2	0.9	0.5
			Max	1.0	1.5	2.7
		2011-12	Min	0.2	0.1	0.2
			Max	1.9	1.3	2.1
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
31	Cadmium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
32	Chromium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
33	Copper	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
34	Cyanide	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
35	Lead	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
36	Manganese	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
37	Mercury	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
38	Zinc	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
39	Total Hardness	2010-11	Min	185	60	56
			Max	290	168	201
		2011-12	Min	120	44	44
			Max	213	105	161
40	Sodium % (Na%)	2010-11	Min	45	21	11
			Max	50	36	23
		2011-12	Min	29	25	14
			Max	46	36	21
41	SAR	2010-11	Min	2.7	0.4	0.3
			Max	3.1	1.0	0.5
		2011-12	Min	1.2	0.5	0.3
			Max	2.3	1.2	0.5
42	RSC	2010-11	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0

Source: Water Quality Year Book (Krishna Basin) for the period of 2010-2011 to 2011-2012.

Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery											
Sl. No.	Parameter	Year	Name of the Site	Gopuraja	Annavasal	Nallathur	Menangudi	Porakudi	Peralam	Thengudi	
			Name of the River/Stream	Puravi-daivanar	Nattar	Nandalar	Noolar	Arasalar	Vanjayar	Thirumalairajanar	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Max	39.73	4.880	50.56	18.79	50.34	4.523	68.87	
		2011-12	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
			Max	38.64	6.425	57.37	21.77	60.50	3.479	36.63	
2	Temperature °C	2010-11	Min	27.0	24.5	23.3	25.0	24.0	24.0	24.0	
			Max	29.0	30.3	27.0	28.5	27.0	28.0	30.0	
		2011-12	Min	24.0	25.0	25.0	24.0	27.5	24.0	24.0	
			Max	29.0	29.0	29.5	30.0	30.0	28.0	29.0	
3	pH_GEN	2010-11	Min	7.6	7.8	7.7	7.7	7.7	7.5	7.7	
			Max	7.7	8.2	8.1	8.4	8.3	8.0	8.1	
		2011-12	Min	7.3	7.4	7.2	7.7	7.4	7.9	7.3	
			Max	8.8	8.3	7.9	9.4	9.1	8.9	8.2	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-	-	
			Max	4.5	8.1	7.4	8.8	7.0	7.4	6.8	
		2011-12	Min	2.6	4.0	2.8	3.0	4.0	2.8	2.5	
			Max	5.7	11.6	6.7	7.9	11.7	11.6	14.4	
6	Sodium (Na)	2010-11	Min	21.2	36.9	25.5	22.4	30.3	26.4	36.3	
			Max	41.4	76.6	88.4	64.0	71.0	71.3	82.7	
		2011-12	Min	27.3	23.3	37.8	20.1	30.6	29.7	29.8	
			Max	56.3	50.5	154.3	52.3	58.4	47.9	65.4	
7	Calcium (Ca)	2010-11	Min	13	21	16	18	20	15	23	
			Max	21	40	31	36	34	34	55	
		2011-12	Min	11	19	10	19	18	11	8	
			Max	22	35	55	30	32	56	35	
8	Magnesium (Mg)	2010-11	Min	7.8	15.6	13.6	12.6	13.6	10.7	15.6	
			Max	13.6	28.3	21.4	25.3	29.3	27.2	28.2	
		2011-12	Min	13.6	9.7	5.8	14.6	8.8	4.9	17.5	
			Max	35.0	29.2	25.3	26.3	29.2	20.4	32.1	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	0.0	-	-	-	0.0	0.1	
			Max	-	0.0	-	-	-	0.0	0.1	
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
12	Carbonate (CO3)	2010-11	Min	-	-	-	-	-	-	-	
			Max	0.0	0.0	0.0	20.0	30.4	0.0	0.0	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	28.8	43.2	0.0	41.5	34.6	28.8	0.0	
13	Bicarbonate (HCO3)	2010-11	Min	170	194	164	150	162	124	204	
			Max	189	310	299	274	269	298	327	
		2011-12	Min	112	122	112	77	84	78	141	
			Max	183	197	342	239	268	190	246	
14	Chloride (CL)	2010-11	Min	30.6	47.8	26.8	26.8	39.9	30.6	38.3	
			Max	54.9	95.7	78.0	79.9	95.7	88.1	110.8	
		2011-12	Min	36.4	29.8	41.2	29.8	52.9	36.4	36.4	
			Max	75.6	72.2	135.6	69.5	89.3	66.2	89.4	
15	Fluoride (F)	2010-11	Min	0.19	0.20	0.18	0.24	0.26	0.27	0.30	
			Max	0.38	0.49	0.54	0.47	0.47	0.50	0.51	
		2011-12	Min	0.22	0.26	0.26	0.23	0.29	0.26	0.30	
			Max	0.49	0.50	0.78	0.49	0.53	0.57	0.54	
16	Sulphate (SO4)	2010-11	Min	3.5	10.7	3.8	2.8	6.8	4.5	9.2	
			Max	8.5	38.6	42.1	29.3	35.4	30.1	27.8	
		2011-12	Min	1.1	0.5	2.1	1.3	3.7	1.0	5.5	
			Max	14.2	22.4	21.3	21.9	30.1	21.9	25.0	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-	-	
			Max	0.31	0.99	1.24	1.00	0.84	0.86	0.64	
		2011-12	Min	0.21	0.16	0.13	0.10	0.11	0.10	0.12	
			Max	1.55	6.03	3.96	6.28	7.28	7.80	7.43	
19	Nitrite (NO2-N)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
21	Silica (SiO2)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	

Condrd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery												
Sl. No.	Parameter	Year	Name of the Site	Gopurajapuram	Annavasal	Nallathur	Menangudi	Porakudi	Peralam	Thengudi		
			Name of the River/Stream	Puravidaivanar	Nattar	Nandalar	Noolar	Arasalar	Vanjayar	Thirumalairajanar		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
22	DO	2010-11	Min	-	-	-	-	-	-	-	2.1	
			Max	-	-	-	-	-	-	-	7.9	
		2011-12	Min	-	-	-	-	-	-	-	-	2.2
			Max	-	-	-	-	-	-	-	-	5.6
23	BOD3-27	2010-11	Min	-	-	-	-	-	-	-	0.6	
			Max	2.1	2.4	1.1	2.1	2.8	3.7	2.0		
		2011-12	Min	1.1	1.5	1.4	1.0	0.9	1.0	0.5		
			Max	2.7	2.4	2.6	2.1	2.8	2.3	2.3		
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	0.99	-	-	0.50	0.76	0.51		
			Max	-	0.99	-	-	0.50	0.76	0.51		
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	0.90	-		
			Max	-	-	-	-	-	0.90	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
32	Chromium	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	1.09	-	-	0.86	0.90	1.69		
			Max	-	1.09	-	-	0.86	0.90	1.69		
33	Copper	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	9.38	-	-	15.42	5.31	8.04		
			Max	-	9.38	-	-	15.42	5.31	8.04		
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
35	Lead	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	0.87	-	-	0.99	0.88	0.89		
			Max	-	0.87	-	-	0.99	0.88	0.89		
36	Manganese	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
37	Mercury	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
38	Zinc	2010-11	Min	-	-	-	-	-	-	-		
			Max	-	-	-	-	-	-	-		
		2011-12	Min	-	6.10	-	-	-	-	7.40		
			Max	-	6.10	-	-	-	-	7.40		
39	Total Hardness	2010-11	Min	65	134	-	98	-	82	122		
			Max	110	217	163	195	197	199	213		
		2011-12	Min	85	89	73	109	97	101	105		
			Max	202	210	161	169	202	161	214		
40	Sodium % (Na%)	2010-11	Min	40	34	34	33	36	40	38		
			Max	44	45	63	45	50	43	45		
		2011-12	Min	29	31	42	28	35	36	33		
			Max	52	44	67	45	50	44	50		
41	SAR	2010-11	Min	1.1	1.3	1.1	1.0	1.3	1.3	1.4		
			Max	1.7	2.3	3.6	2.1	2.5	2.2	2.5		
		2011-12	Min	1.0	1.1	1.6	0.8	1.2	1.2	1.2		
			Max	2.1	1.8	5.3	1.9	2.3	1.8	2.1		
42	RSC	2010-11	Min	0.6	0.1	0.6	0.3	0.0	0.2	0.6		
			Max	1.8	0.8	2.3	1.1	0.8	1.1	2.9		
		2011-12	Min	0.0	0.0	0.4	0.0	0.0	0.0	0.0		
			Max	0.2	0.3	2.4	0.6	0.5	0.2	0.6		

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery										
Sl. No.	Parameter	Year	Name of the Site	Musiri	Nallamaran-patty	Elunuthi-mangalam	Kodumudi	Savandapur	Thengumarahada	Nellithurai
			Name of the River/Stream	Cauvery	Amaravathi	Noyyal	Cauvery	Bhavani	Moyar	Bhavani
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Q(Cumecs)	2010-11	Min	4.160	0.000	0.000	26.39	3.809	0.614	1.035
			Max	870.6	212.4	95.88	642.5	489.6	290.9	239.1
		2011-12	Min	10.57	0.000	0.000	40.30	2.771	1.041	1.141
			Max	693.6	307.6	86.95	780.0	171.9	44.03	673.6
2	Temperature °C	2010-11	Min	26.0	22.0	24.5	26.0	26.0	21.0	21.5
			Max	30.0	26.0	29.3	32.0	31.5	27.0	25.0
		2011-12	Min	24.5	23.0	23.3	26.0	25.5	21.0	20.5
			Max	30.0	26.0	30.0	32.0	31.5	28.5	26.0
3	pH_GEN	2010-11	Min	8.0	8.1	8.1	7.7	7.3	7.2	7.0
			Max	8.5	8.4	8.9	8.4	8.1	7.9	8.1
		2011-12	Min	7.3	7.3	7.9	7.0	7.2	6.9	7.3
			Max	8.3	8.2	8.9	8.4	8.1	7.8	8.3
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-	-
			Max	7.3	6.5	64.4	9.6	42.8	4.7	4.5
		2011-12	Min	3.0	3.2	10.9	2.3	1.6	0.9	0.6
			Max	6.7	7.0	34.7	7.4	5.1	3.5	1.6
6	Sodium (Na)	2010-11	Min	33.1	40.4	256.0	29.6	11.7	3.1	2.1
			Max	83.7	100.0	1848.0	81.0	63.2	8.6	30.1
		2011-12	Min	24.9	30.0	158.5	18.5	10.9	2.8	2.2
			Max	67.6	120.0	780.0	54.2	41.6	8.0	12.2
7	Calcium (Ca)	2010-11	Min	22	30	46	27	19	10	3
			Max	56	58	144	64	56	24	30
		2011-12	Min	21	24	32	18	14	11	3
			Max	42	50	99	48	51	26	14
8	Magnesium (Mg)	2010-11	Min	8.8	6.8	38.9	13.6	9.7	1.9	1.0
			Max	24.3	33.1	141.0	35.0	42.8	6.8	14.6
		2011-12	Min	10.7	6.8	31.1	4.9	3.9	1.9	1.0
			Max	32.1	45.7	110.8	22.4	19.4	6.8	5.8
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-
			Max	0.106	0.057	0.174	0.467	0.229	0.525	0.193
		2011-12	Min	0.010	0.090	0.010	0.010	0.020	0.030	0.020
			Max	0.050	0.090	0.090	0.050	0.070	0.070	0.080
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.02	0.01	0.00	0.00	0.00	0.00
			Max	0.22	0.06	0.31	0.14	0.13	0.15	0.17
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	-	-	-	-	-	-	-
			Max	33.6	38.4	240.0	24.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	31.5	0.0	94.6	26.3	0.0	0.0	5.3
13	Bicarbonate (HCO3)	2010-11	Min	142	73	273	127	98	29	15
			Max	210	215	573	376	332	68	161
		2011-12	Min	86	80	128	75	64	32	5
			Max	289	241	449	224	188	75	64
14	Chloride (CL)	2010-11	Min	52.9	52.9	412.4	43.0	19.8	5.7	2.8
			Max	119.6	185.0	2389.3	105.7	95.8	29.8	49.6
		2011-12	Min	44.1	44.1	245.5	25.2	15.7	12.6	3.2
			Max	88.1	223.5	1120.7	72.4	56.7	34.6	18.9
15	Fluoride (F)	2010-11	Min	0.28	0.06	0.40	0.31	0.09	0.00	0.00
			Max	0.95	1.13	2.66	0.92	0.90	0.58	0.61
		2011-12	Min	0.10	0.26	0.61	0.11	0.20	0.03	0.11
			Max	0.80	0.43	1.50	0.71	0.67	0.43	0.55
16	Sulphate (SO4)	2010-11	Min	12.3	24.8	108.5	11.5	9.4	1.9	1.3
			Max	43.4	56.2	715.3	58.8	59.2	10.7	21.5
		2011-12	Min	10.5	13.2	67.6	7.3	8.1	1.6	0.3
			Max	35.5	29.3	258.3	35.8	39.3	5.8	6.2
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-	-
			Max	7.29	5.05	29.50	10.20	14.50	4.79	3.17
		2011-12	Min	0.12	0.85	1.30	0.31	0.10	0.30	0.10
			Max	0.67	2.95	9.85	0.88	0.92	0.86	0.38
19	Nitrite (NO2-N)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-	-
			Max	0.789	0.278	2.517	0.706	0.609	0.623	0.651
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
21	Silica (SiO2)	2010-11	Min	-	-	-	-	-	-	-
			Max	55.2	30.6	103.8	49.4	44.2	21.1	26.4
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery

Sl. No.	Parameter	Year	Name of the Site	Musiri	Nallamaran-patty	Elunthi-mangalam	Kodumudi	Savandapur	Thengumarahada	Nellithurai
			Name of the River/Stream	Cauvery	Amaravathi	Noyyal	Cauvery	Bhavani	Moyar	Bhavani
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	6.1	7.9	5.7	6.2	6.6	6.1	7.1
			Max	7.5	8.3	6.3	6.6	7.6	8.3	8.4
		2011-12	Min	7.0	6.7	5.6	6.2	6.3	6.8	7.5
			Max	7.2	8.7	6.0	6.6	7.5	8.4	8.2
23	BOD3-27	2010-11	Min	0.6	0.8	1.1	0.6	0.3	0.4	0.3
			Max	2.5	1.7	5.7	2.6	1.6	2.1	1.8
		2011-12	Min	0.5	1.1	1.1	0.3	0.4	0.4	0.4
			Max	2.6	1.9	8.1	3.5	2.7	2.7	1.3
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	0.83	1.16	-	-
			Max	0.84	-	0.88	0.83	1.16	1.36	1.42
		2011-12	Min	0.58	0.42	0.60	0.34	0.04	0.12	0.61
			Max	0.89	0.42	0.81	0.76	0.48	0.55	0.72
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	0.10	-	0.03	0.01	0.01
			Max	6.90	-	0.10	0.04	-	0.01	0.01
		2011-12	Min	0.15	0.17	0.03	0.01	0.07	0.15	0.01
			Max	0.15	0.17	0.47	0.01	0.07	0.15	0.01
32	Chromium	2010-11	Min	2.85	-	6.46	3.46	2.43	5.63	1.89
			Max	2.85	-	6.46	3.46	2.43	5.63	1.89
		2011-12	Min	4.00	3.11	7.00	1.22	1.11	0.65	1.47
			Max	4.61	3.11	13.62	4.32	2.28	3.50	4.12
33	Copper	2010-11	Min	5.03	-	4.20	2.99	2.23	2.57	2.40
			Max	5.03	-	4.20	2.99	2.23	2.57	2.40
		2011-12	Min	2.98	13.01	4.87	3.98	1.98	2.98	1.02
			Max	13.92	13.01	17.56	17.82	12.88	14.05	8.94
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	0.28	0.04	0.01	0.71	0.02
			Max	1.19	-	0.28	0.04	0.01	0.71	0.02
		2011-12	Min	1.57	4.90	15.17	1.36	1.25	0.99	1.05
			Max	4.71	4.90	16.82	4.08	4.18	4.31	3.54
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	20.14	-	13.75	31.39	10.97
			Max	14.89	-	20.14	28.36	13.75	31.39	10.97
		2011-12	Min	14.90	8.80	17.90	5.90	9.20	1.30	38.00
			Max	325.00	8.80	30.00	91.00	1200.00	126.00	38.00
39	Total Hardness	2010-11	Min	117	109	314	125	89	44	38.00
			Max	214	282	898	306	319	76	137
		2011-12	Min	101	89	302	64	64	48	12
			Max	238	315	630	201	181	84	56
40	Sodium % (Na%)	2010-11	Min	34	37	53	33	17	11	20
			Max	47	64	82	42	30	21	33
		2011-12	Min	25	41	47	31	20	11	23
			Max	46	45	75	38	33	19	32
41	SAR	2010-11	Min	1.2	1.5	5.2	1.2	0.5	0.2	0.2
			Max	2.6	4.1	28.8	2.0	1.5	0.5	1.1
		2011-12	Min	0.9	1.4	3.6	1.0	0.5	0.2	0.3
			Max	2.2	3.0	14.9	1.7	1.3	0.4	0.7
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.6	0.4	1.8	0.4	0.0	0.0	0.1
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.3	0.1	0.0	0.2	0.0	0.0	0.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery										
Sl. No.	Parameter	Year	Name of the Site	Urachikottai	Thevur	Sevanur	Thoppur	Kudlur	Hogenakkal	Biligundulu
			Name of the River/Stream	Cauvery	Sarabenga	Chittar	Thoppaiyar	Palar	Chinnar	Cauvery
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	< No Flow >	12.02
			Max	588.9	167.8	3.216	2.647	137.7	< No Flow >	1472
		2011-12	Min	0.000	0.000	0.000	0.000	0.000	< No Flow >	22.03
			Max	715.9	6.271	2.548	0.845	23.00	< No Flow >	1888
2	Temperature °C	2010-11	Min	24.0	25.0	24.0	20.0	20.0	< No Flow >	24.0
			Max	29.5	30.0	28.5	28.0	27.0	< No Flow >	30.0
		2011-12	Min	25.0	24.0	25.0	24.0	26.0	< No Flow >	26.0
			Max	31.0	28.5	29.5	27.0	27.0	< No Flow >	29.5
3	pH_GEN	2010-11	Min	7.7	7.6	7.7	7.7	7.7	< No Flow >	7.8
			Max	8.4	8.3	8.3	8.3	8.8	< No Flow >	8.5
		2011-12	Min	7.3	7.2	7.4	7.2	8.2	< No Flow >	7.5
			Max	8.1	8.0	7.8	8.2	8.7	< No Flow >	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
5	Potassium (K)	2010-11	Min	2.1	3.7	2.1	1.5	3.6	< No Flow >	0.7
			Max	3.2	6.0	7.2	4.1	9.7	< No Flow >	5.5
		2011-12	Min	1.8	3.9	4.8	3.2	4.0	< No Flow >	1.5
			Max	3.0	7.1	7.3	6.3	6.0	< No Flow >	4.6
6	Sodium (Na)	2010-11	Min	25.6	39.5	49.5	75.8	8.3	< No Flow >	10.7
			Max	34.7	90.0	63.0	157.5	133.5	< No Flow >	49.5
		2011-12	Min	13.7	69.5	41.3	114.0	48.3	< No Flow >	15.5
			Max	27.9	102.5	74.0	154.0	117.5	< No Flow >	40.9
7	Calcium (Ca)	2010-11	Min	22	32	63.0	38	16	< No Flow >	14
			Max	38	61	72	82	53	< No Flow >	38
		2011-12	Min	14	27	42	27	19	< No Flow >	18
			Max	35	46	56	56	42	< No Flow >	38
8	Magnesium (Mg)	2010-11	Min	14.6	17.5	22.6	37.9	6.8	< No Flow >	4.9
			Max	22.4	39.9	32.1	104.0	62.2	< No Flow >	22.4
		2011-12	Min	7.8	16.5	19.4	54.4	22.4	< No Flow >	6.8
			Max	18.5	37.9	30.1	77.8	47.6	< No Flow >	22.4
9	Aluminium	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
10	Iron (Fe)	2010-11	Min	-	-	-	0.000	0.000	< No Flow >	0.0
			Max	-	-	-	0.018	0.112	< No Flow >	0.1
		2011-12	Min	0.010	0.080	0.050	0.070	0.070	< No Flow >	0.0
			Max	0.100	0.080	0.050	0.070	0.070	< No Flow >	1.1
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	< No Flow >	-
			Max	0.16	0.05	0.04	0.46	0.18	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	-	-	< No Flow >	0.0
			Max	24.0	0.0	43.2	-	-	< No Flow >	31.8
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	< No Flow >	0.0
			Max	0.0	0.0	0.0	0.0	89.4	< No Flow >	0.0
13	Bicarbonate (HCO3)	2010-11	Min	142	185	268	356	73	< No Flow >	70
			Max	215	449	395	654	522	< No Flow >	238
		2011-12	Min	91	262	241	412	187	< No Flow >	100
			Max	171	379	326	497	337	< No Flow >	258
14	Chloride (CL)	2010-11	Min	39.7	46.3	59.2	72.7	13.2	< No Flow >	15.4
			Max	49.6	99.1	79.3	214.8	86.0	< No Flow >	45.8
		2011-12	Min	18.9	63.0	47.2	103.9	40.9	< No Flow >	17.8
			Max	37.8	88.1	81.9	160.6	100.7	< No Flow >	38.0
15	Fluoride (F)	2010-11	Min	0.32	0.17	0.32	0.6	0.15	< No Flow >	0.00
			Max	0.65	1.41	0.12	1.65	1.61	< No Flow >	6.69
		2011-12	Min	0.09	0.88	0.70	0.44	0.83	< No Flow >	0.36
			Max	0.56	1.40	0.95	1.60	1.65	< No Flow >	0.59
16	Sulphate (SO4)	2010-11	Min	9.4	27.6	25.0	50.8	14.4	< No Flow >	3.6
			Max	16.9	61.8	29.1	145.3	43.2	< No Flow >	12.1
		2011-12	Min	4.4	29.3	18.1	69.8	17.1	< No Flow >	4.4
			Max	15.8	56.4	31.6	121.7	67.8	< No Flow >	9.2
17	Sulphite	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
18	Nitrate (NO3-N)	2010-11	Min	0.64	1.87	5.40	6.36	0.50	< No Flow >	0.57
			Max	7.02	8.18	14.40	22.50	10.10	< No Flow >	1.88
		2011-12	Min	0.21	2.85	4.90	2.29	0.86	< No Flow >	1.04
			Max	0.65	5.70	8.15	12.05	8.25	< No Flow >	1.93
19	Nitrite (NO2-N)	2010-11	Min	-	-	-	-	-	< No Flow >	0.00
			Max	-	-	-	-	-	< No Flow >	0.15
		2011-12	Min	-	-	-	-	-	< No Flow >	0.00
			Max	-	-	-	-	-	< No Flow >	0.03
20	Phosphate (pO4)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	< No Flow >	0.021
			Max	0.526	2.349	1.686	2.163	1.058	< No Flow >	0.196
		2011-12	Min	-	-	-	-	-	< No Flow >	0.021
			Max	-	-	-	-	-	< No Flow >	0.155
21	Silica (SiO2)	2010-11	Min	17.5	-	-	-	-	< No Flow >	10.4
			Max	25.4	42.5	56.5	56.9	64.0	< No Flow >	22.0
		2011-12	Min	-	-	-	-	-	< No Flow >	11.7
			Max	-	-	-	-	-	< No Flow >	18.6

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery

Sl. No.	Parameter	Year	Name of the Site	Urachikottai	Thevur	Sevanur	Thoppur	Kudlur	Hogenakkal	Biligundulu
			Name of the River/Stream	Cauvery	Sarabenga	Chittar	Thoppaiyar	Palar	Chinnar	Cauvery
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
22	DO	2010-11	Min	8.1	-	-	-	-	< No Flow >	5.0
			Max	8.6	-	-	-	-	< No Flow >	7.6
		2011-12	Min	6.4	-	-	-	-	< No Flow >	5.6
			Max	8.5	-	-	-	-	< No Flow >	7.3
23	BOD3-27	2010-11	Min	1.0	-	-	-	-	< No Flow >	0.8
			Max	2.6	-	-	-	-	< No Flow >	1.2
		2011-12	Min	0.6	-	-	-	0.4	< No Flow >	0.2
			Max	4.0	-	-	-	1.9	< No Flow >	2.8
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	0.94	< No Flow >	-
			Max	-	1.09	-	1.08	0.94	< No Flow >	1.45
		2011-12	Min	0.40	0.70	0.50	0.86	0.84	< No Flow >	0.5
			Max	0.45	0.70	0.50	0.86	0.84	< No Flow >	1.0
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
31	Cadmium	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	0.04	-	0.01	0.02	< No Flow >	0.00
		2011-12	Min	0.42	0.02	0.07	0.15	0.19	< No Flow >	0.2
			Max	0.42	0.02	0.07	0.15	0.19	< No Flow >	0.3
32	Chromium	2010-11	Min	-	22.13	-	5.84	5.00	< No Flow >	1.74
			Max	-	22.13	-	5.84	5.00	< No Flow >	1.74
		2011-12	Min	1.07	4.98	4.11	4.78	5.84	< No Flow >	2.8
			Max	3.32	4.98	4.11	4.78	5.84	< No Flow >	4.2
33	Copper	2010-11	Min	-	3.50	-	4.18	6.38	< No Flow >	3.55
			Max	-	3.50	-	4.18	6.38	< No Flow >	3.55
		2011-12	Min	2.98	11.33	18.40	27.31	17.81	< No Flow >	7.1
			Max	15.05	11.33	18.40	27.31	17.81	< No Flow >	30.4
34	Cyanide	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
35	Lead	2010-11	Min	-	0.23	-	0.34	0.07	< No Flow >	0.51
			Max	-	0.23	-	0.34	0.07	< No Flow >	0.51
		2011-12	Min	1.14	2.56	3.31	4.25	8.72	< No Flow >	0.4
			Max	5.08	2.56	3.31	4.25	8.72	< No Flow >	4.2
36	Manganese	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
37	Mercury	2010-11	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
		2011-12	Min	-	-	-	-	-	< No Flow >	-
			Max	-	-	-	-	-	< No Flow >	-
38	Zinc	2010-11	Min	-	49.70	-	66.04	-	< No Flow >	-
			Max	-	49.70	-	66.04	42.97	< No Flow >	9.51
		2011-12	Min	-	26.30	21.90	12.10	16.00	< No Flow >	57.0
			Max	-	26.30	21.90	12.10	16.00	< No Flow >	57.0
39	Total Hardness	2010-11	Min	121	153	263	258	68	< No Flow >	57.0
			Max	189	314	298	614	363	< No Flow >	181
		2011-12	Min	81	177	201	323	141	< No Flow >	72
			Max	145	262	262	428	266	< No Flow >	185
40	Sodium % (Na%)	2010-11	Min	25	35	27	31	20	< No Flow >	28
			Max	33	42	31	40	46	< No Flow >	38
		2011-12	Min	27	41	30	40	39	< No Flow >	26
			Max	33	46	37	46	50	< No Flow >	33
41	SAR	2010-11	Min	0.9	1.4	1.3	2.1	0.4	< No Flow >	0.6
			Max	1.2	2.3	1.6	2.9	3.2	< No Flow >	1.6
		2011-12	Min	0.7	2.2	1.3	2.7	1.8	< No Flow >	0.8
			Max	1.0	2.8	2.0	3.4	3.2	< No Flow >	1.4
42	RSC	2010-11	Min	-	-	-	-	0.0	< No Flow >	0.0
			Max	-	-	-	-	1.1	< No Flow >	0.7
		2011-12	Min	0.0	0.3	0.0	0.0	0.5	< No Flow >	0.0
			Max	0.2	1.0	0.3	0.8	2.1	< No Flow >	0.9

Contd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery										
Sl. No.	Parameter	Year	Name of the Site	T.Bekuppe	T.K. Halli	Kollegal	Bendrahalli	T. Narasipur	Muthankera	K.M. Vadi
			Name of the River/Stream	Arkavathi	Shimsa	Cauvery	Suvarnavathi	Kabini	Kabini	Lakshman-natirtha
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
1	Q(Cumecs)	2010-11	Min	2.160	0.778	17.83	0.000	9.229	2.015	0.000
			Max	58.06	300.0	2249	31.90	366.2	550.6	165.5
		2011-12	Min	2.135	0.000	17.63	0.000	6.418	0.127	0.000
			Max	60.03	243.3	2349	18.95	958.3	574.8	142.0
2	Temperature °C	2010-11	Min	22.5	22.0	17.5	13.0	25.0	23.0	21.0
			Max	27.0	30.0	25.5	23.5	29.5	29.0	25.5
		2011-12	Min	22.0	20.0	22.0	15.0	23.5	23.0	22.0
			Max	26.5	28.0	26.0	18.0	29.0	28.5	25.0
3	pH_GEN	2010-11	Min	7.4	7.7	7.5	7.4	7.3	6.5	7.3
			Max	7.8	8.5	8.3	7.8	8.2	8.9	7.8
		2011-12	Min	7.1	7.2	7.0	6.7	7.0	6.4	6.9
			Max	7.7	7.9	8.1	7.8	8.0	7.3	7.3
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-	-
			Max	16.4	5.6	3.2	6.1	3.3	4.2	2.6
		2011-12	Min	12.6	1.9	1.4	2.3	1.3	0.7	0.7
			Max	19.3	5.7	2.4	16.1	2.8	2.5	3.4
6	Sodium (Na)	2010-11	Min	105.6	38.0	6.1	26.3	5.9	2	5.5
			Max	164.1	64.0	31.2	96.9	45.6	8	48.7
		2011-12	Min	91.2	39.2	7.9	38.7	4.8	4	5.5
			Max	170.1	63.0	28.5	137.1	47.2	8	42.4
7	Calcium (Ca)	2010-11	Min	62	34	13	20	8	3.2	6
			Max	78	42	35	58	38	8.8	40
		2011-12	Min	58	34	16	24	10	5.6	6
			Max	83	45	35	61	40	11.2	38
8	Magnesium (Mg)	2010-11	Min	25.3	14.6	3.9	8.7	3.9	0.5	4.9
			Max	35.0	24.3	20.4	30.1	29.2	4.4	31.1
		2011-12	Min	22.4	15.6	6.8	9.7	3.9	2.5	3.9
			Max	34.5	25.3	19.4	29.2	28.2	3.5	24.3
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	0.1	0.6	0.4	0.1	0.7	0.8
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	1.2	1.0	1.1	0.2	0.3	1.5	0.4
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	0.05	-
			Max	-	-	-	-	-	0.33	-
		2011-12	Min	-	-	-	-	-	0.04	-
			Max	-	-	-	-	-	0.35	-
12	Carbonate (CO3)	2010-11	Min	-	-	-	-	-	0.0	0.0
			Max	0.0	18.6	18.6	0.0	0.0	6.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	366	244	56	145	42	9.8	38
			Max	487	302	239	454	319	42.7	342
		2011-12	Min	302	231	85	181	50	23.2	45
			Max	497	343	233	531	324	51.2	313
14	Chloride (CL)	2010-11	Min	127.1	25.0	11.6	17.3	5.8	2	9.6
			Max	182.1	39.8	28.0	51.8	29.8	14	35.9
		2011-12	Min	109.7	28.8	11.7	23.4	7.8	8	7.8
			Max	207.0	44.0	27.3	72.8	34.1	13	34.1
15	Fluoride (F)	2010-11	Min	0.00	0.40	0.00	0.15	0.04	0.05	0.08
			Max	0.78	0.70	4.98	0.61	0.61	0.21	0.49
		2011-12	Min	0.55	0.57	0.11	0.27	0.10	0.01	0.00
			Max	1.03	0.80	0.48	0.59	0.59	0.45	0.11
16	Sulphate (SO4)	2010-11	Min	18.0	7.3	2.7	6.3	2.7	1	3.6
			Max	79.2	19.4	8.1	24.5	11.4	2	16.1
		2011-12	Min	19.0	6.4	3.5	7.5	3.4	1	2.3
			Max	42.8	27.1	9.0	23.2	12.7	1	5.8
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	-	-	-	-	0.71
			Max	15.51	1.74	1.49	4.29	1.42	0.67	1.35
		2011-12	Min	4.57	1.23	0.88	1.25	0.83	0.18	0.87
			Max	18.36	2.76	2.02	4.43	3.26	2.89	2.19
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.0	0.00
			Max	2.19	0.06	0.15	0.11	0.10	0.1	0.36
		2011-12	Min	0.04	0.00	0.00	0.00	0.00	0.0	0.00
			Max	9.94	0.10	0.03	0.23	0.06	0.1	0.03
20	Phosphate (pO4)	2010-11	Min	0.186	0.041	0.021	0.000	0.000	0.041	0.010
			Max	2.480	0.114	0.072	0.103	0.062	0.171	0.062
		2011-12	Min	1.405	0.052	0.010	0.010	0.010	0.020	0.000
			Max	1.901	0.196	0.041	0.072	0.062	0.156	0.021
21	Silica (SiO2)	2010-11	Min	27.1	17.3	9.9	16.2	9.3	10.40	11.2
			Max	57.2	22.4	20.3	53.5	33.5	76.30	23.8
		2011-12	Min	24.2	15.5	12.0	15.5	10.6	10.80	8.0
			Max	32.5	30.0	19.3	45.6	28.1	18.50	21.9

Contd/...

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

## VII Basin : Cauvery

Sl. No.	Parameter		Name of the Site Name of the River/ Stream	T.Bekuppe	T.K. Halli	Kollegal	Bendrahalli	T. Narasipur	Muthankera	K.M. Vadi
				Arkavathi	Shimsa	Cauvery	Suvarnavathi	Kabini	Kabini	Lakshman-natirtha
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
22	DO	2010-11	Min	2.2	4.6	4.4	-	4.6	6.1	-
			Max	3.4	7.7	7.6	-	6.4	7.1	-
		2011-12	Min	2.0	3.7	3.7	-	5.0	4.8	-
			Max	4.7	5.9	7.5	-	6.6	7.6	-
23	BOD3-27	2010-11	Min	-	0.6	1.2	-	0.2	0.2	-
			Max	-	1.6	1.4	-	1.2	1.4	-
		2011-12	Min	6.8	0.4	0.4	-	0.4	0.8	-
			Max	14.5	1.6	1.5	-	3.5	1.6	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	1.66	-	-	1.60	1.21	-
			Max	1.65	1.66	1.55	1.52	1.60	1.21	-
		2011-12	Min	0.4	0.0	0.4	0.9	1.2	0.33	-
			Max	0.5	0.9	1.5	0.9	1.2	0.33	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-
			Max	0.01	-	0.01	0.02	0.10	0.00	-
		2011-12	Min	0.3	0.2	0.1	0.3	0.1	0.11	-
			Max	0.7	0.3	0.1	0.3	0.1	0.21	-
32	Chromium	2010-11	Min	4.61	3.03	0.85	3.79	1.53	0.97	-
			Max	4.61	3.03	0.85	3.79	1.53	0.97	-
		2011-12	Min	5.6	2.6	2.8	5.5	3.7	0.77	-
			Max	24.1	5.5	5.8	5.5	3.7	2.20	-
33	Copper	2010-11	Min	3.45	5.26	4.53	6.48	4.11	7.36	-
			Max	3.45	5.26	4.53	6.48	4.11	7.36	-
		2011-12	Min	14.6	10.0	11.0	49.4	11.1	3.59	-
			Max	63.9	40.9	29.6	49.4	11.1	36.90	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	0.23	-	-	-	-	-
			Max	0.10	0.23	0.16	0.57	0.50	0.09	-
		2011-12	Min	1.2	0.4	0.3	1.0	3.9	0.19	-
			Max	5.2	4.4	3.9	1.0	3.9	4.26	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	67.91	12.61	-
			Max	19.75	13.63	17.39	23.09	67.91	12.61	-
		2011-12	Min	46.0	11.0	82.0	-	30.0	0.05	-
			Max	46.0	11.0	82.0	-	30.0	9.20	-
39	Total Hardness	2010-11	Min	265	157	48	-	36	10	36
			Max	342	197	169	257	218	40	230
		2011-12	Min	241	153	68	101	44	26	36
			Max	350	209	169	261	217	43	197
40	Sodium % (Na%)	2010-11	Min	43	34	21	37	20	24	24
			Max	51	41	30	44	32	31	32
		2011-12	Min	44	33	20	40	19	24	22
			Max	50	39	53	53	32	35	33
41	SAR	2010-11	Min	2.7	1.3	0.4	1.2	0.4	0.206	0.4
			Max	4.0	2.0	1.1	2.6	1.4	0.594	1.4
		2011-12	Min	2.6	1.3	0.4	1.7	0.3	0.357	0.4
			Max	4.0	1.9	1.0	3.8	1.4	0.633	1.3
42	RSC	2010-11	Min	0.0	0.6	0.0	0.6	0.0	0.00	0.0
			Max	1.3	1.1	0.6	2.3	1.0	0.00	1.2
		2011-12	Min	0.2	0.6	0.0	0.8	0.0	0.00	0.0
			Max	1.5	1.5	0.5	3.8	1.0	0.15	1.2

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery									
Sl. No.	Parameter	Year	Name of the Site	Akkibebbal	M.H. Halli	Thimmana-hali	Sakaleshpur	Chunchun-katte	Kodige
			Name of the River/Stream	Hemavathi	Hemavathi	Yagachi	Hemavathi	Cauvery	Cauvery
(1)	(2)	(3)	(4)	(33)	(34)	(35)	(36)	(37)	(38)
1	Q(Cumecs)	2010-11	Min	1.027	4.718	1.488	1.504	0.000	3.313
			Max	290.2	150.4	249.6	339.6	497.9	791.1
		2011-12	Min	0.844	3.653	0.621	0.391	0.000	1.896
			Max	381.9	359.0	85.00	363.7	629.7	634.9
2	Temperature °C	2010-11	Min	22.0	24.5	16.0	21.5	23.0	23.5
			Max	27.5	25.5	28.0	27.0	26.0	30.0
		2011-12	Min	23.0	25.5	21.0	19.5	23.0	24.0
			Max	28.0	26.5	28.0	26.0	26.0	27.0
3	pH_GEN	2010-11	Min	7.1	7.1	7.2	6.7	7.3	6.9
			Max	8.1	7.6	7.8	7.5	8.1	7.7
		2011-12	Min	6.8	6.5	6.7	6.1	6.9	6.6
			Max	7.7	7.2	7.6	7.1	7.7	7.4
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-
			Max	2.2	1.6	3.6	1.7	1.3	2.1
		2011-12	Min	1.2	1.2	1.6	0.8	0.5	0.5
			Max	2.3	1.6	3.5	2.2	2.0	2.2
6	Sodium (Na)	2010-11	Min	8.4	6.1	8.2	2.8	2.1	2.1
			Max	20.8	12.1	17.8	6.7	13.4	6.2
		2011-12	Min	7.6	0.73	15.7	3.5	2.8	2.0
			Max	19.6	1.08	18.9	6.9	16.6	7.6
7	Calcium (Ca)	2010-11	Min	13	10	13	4	5	3
			Max	30	24	22	10	22	11
		2011-12	Min	16	8	18	3	5	5
			Max	30	14	24	8	29	14
8	Magnesium (Mg)	2010-11	Min	5.8	4.9	4.9	1.0	2.9	1.9
			Max	14.6	8.7	8.7	5.8	11.7	6.8
		2011-12	Min	5.8	3.9	5.8	1.9	1.9	1.9
			Max	14.6	6.8	9.7	5.8	9.7	7.8
9	Aluminium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-
			Max	0.2	0.1	0.9	0.4	0.3	0.2
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.2	0.0	0.3	0.2	0.5	0.1
11	Ammonia (NH3-N)	2010-11	Min	-	-	0.00	-	-	-
			Max	-	-	0.00	-	-	-
		2011-12	Min	-	-	-	-	-	0.00
			Max	-	-	-	-	-	0.00
12	Carbonate (CO3)	2010-11	Min	0.0	-	-	-	-	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	70	46	61	14	23	14
			Max	176	114	114	47	137	52
		2011-12	Min	80	40	90	19	24	15
			Max	193	75	116	48	149	79
14	Chloride (CL)	2010-11	Min	13.5	13.8	15.4	5.7	1.4	3.8
			Max	22.0	19.9	26.9	13.8	12.1	12.1
		2011-12	Min	11.7	7.8	19.5	3.9	3.9	6.0
			Max	19.5	17.0	29.1	14.2	14.9	14.9
15	Fluoride (F)	2010-11	Min	0.00	0.06	0.11	0.00	0.04	0.00
			Max	0.42	0.19	1.82	0.23	0.23	0.19
		2011-12	Min	0.11	0.11	0.19	0.00	0.04	0.02
			Max	0.34	0.19	0.57	0.11	0.11	0.10
16	Sulphate (SO4)	2010-11	Min	3.1	1.9	1.9	1.8	2.1	1.2
			Max	6.2	5.3	9.9	4.3	4.1	3.7
		2011-12	Min	1.9	2.4	2.3	0.8	2.6	2.3
			Max	4.4	2.9	8.9	4.9	3.7	5.6
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.91	0.91	0.83	1.12	0.90	1.06
			Max	0.55	0.59	0.64	0.46	0.67	0.49
		2011-12	Min	1.85	1.01	1.81	1.18	1.39	1.49
			Max	0.00	0.00	0.00	0.00	0.00	0.00
19	Nitrite (NO2-N)	2010-11	Min	0.04	0.01	0.06	0.01	0.03	0.01
			Max	0.00	0.00	0.00	0.00	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.04	0.14	0.03	0.01	0.01	0.03
20	Phosphate (pO4)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	0.000
			Max	0.021	0.021	0.021	0.010	5.002	0.010
		2011-12	Min	0.000	0.010	0.000	0.000	0.000	0.000
			Max	0.010	0.021	0.010	0.010	0.010	0.010
21	Silica (SiO2)	2010-11	Min	11.4	10.6	11.2	8.7	0.1	10.1
			Max	18.8	13.3	20.7	23.2	17.5	22.2
		2011-12	Min	11.0	11.1	10.9	11.2	9.4	8.8
			Max	16.4	11.6	15.4	26.2	16.3	10.2

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VII Basin : Cauvery									
Sl. No.	Parameter	Year	Name of the Site	Akkihebbal	M.H. Halli	Thimmanahalli	Sakaleshpur	Chunchunkatte	Kudige
			Name of the River/Stream	Hemavathi	Hemavathi	Yagachi	Hemavathi	Cauvery	Cauvery
(1)	(2)	(3)	(4)	(33)	(34)	(35)	(36)	(37)	(38)
22	DO	2010-11	Min	5.0	4.3	-	-	-	4.7
			Max	6.8	6.6	-	-	-	7.0
		2011-12	Min	4.6	4.2	-	5.3	-	5.7
			Max	6.5	6.4	-	6.9	-	6.8
23	BOD3-27	2010-11	Min	0.6	0.8	-	-	-	1.0
			Max	1.0	0.8	-	-	-	1.0
		2011-12	Min	0.1	0.2	-	0.8	-	0.2
			Max	1.6	1.2	-	2.3	-	1.2
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	1.64	1.34	1.53	1.46	-	1.49
			Max	1.64	1.34	1.53	1.46	-	1.49
		2011-12	Min	0.3	0.4	0.2	0.8	-	0.3
			Max	0.8	1.0	2.1	0.8	-	0.7
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	0.00	0.02	-	0.00
		2011-12	Min	0.2	0.1	0.2	0.1	-	0.0
			Max	0.3	0.9	0.5	0.1	-	0.2
32	Chromium	2010-11	Min	0.91	1.12	1.68	1.32	-	1.07
			Max	0.91	1.12	1.68	1.32	-	1.07
		2011-12	Min	2.8	1.0	2.2	1.7	-	2.4
			Max	3.1	10.2	2.5	3.5	-	3.0
33	Copper	2010-11	Min	3.48	3.45	4.35	4.29	-	4.11
			Max	3.48	3.45	4.35	4.29	-	4.11
		2011-12	Min	6.8	13.9	8.9	8.6	-	10.5
			Max	47.6	21.8	32.8	20.4	-	22.3
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	0.61	-	-	-
			Max	0.46	0.10	0.61	0.19	-	0.11
		2011-12	Min	0.3	5.6	0.2	0.2	-	0.2
			Max	3.6	31.8	3.8	3.8	-	4.2
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	22.11	26.77	13.22	12.08	-	-
			Max	22.11	26.77	13.22	12.08	-	8.43
		2011-12	Min	20.0	64.0	18.0	34.0	-	37.0
			Max	20.0	64.0	18.0	34.0	-	37.0
39	Total Hardness	2010-11	Min	56	44	56	16	-	16
			Max	137	92	88	40	105	48
		2011-12	Min	64	36	72	16	20	20
			Max	137	60	101	40	108	68
40	Sodium % (Na%)	2010-11	Min	22	16	23	21	16	18
			Max	27	22	33	32	24	25
		2011-12	Min	18	18	28	25	18	17
			Max	25	26	33	32	28	23
41	SAR	2010-11	Min	0.5	0.4	0.5	0.3	0.2	0.2
			Max	0.8	0.5	0.9	0.5	0.6	0.4
		2011-12	Min	0.4	0.3	0.8	0.4	0.2	0.2
			Max	0.8	0.5	0.9	0.5	0.7	0.4
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.4	0.1	0.1	0.0	0.2	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.4	0.0	0.2	0.0	0.3	0.0

Source: Water Quality Year Book (Cauvery Basin) for the period of 2010-2011.

- Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.  
2. (-) indicate that analysis of a particular parameter has not been carried out.



Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Parameter	Year	Name of the Site	Marella	Nellore	Nandipalli	Chennur	Kamala puram	Alladupalli	Tadipatri
			Name of the River/Stream	Gundala-kanamma	Pennar	Sagileru	Pennar	Pepagni	Kunderu	Pennar
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Q(Cumecs)	2010-11	Min	0.507	0.000	0.000	1.362	0.000	2.365	0.000
			Max	834.9	2300	329.9	915.7	98.48	854.7	5.173
		2011-12	Min	0.000	0.122	0.000	0.000	0.000	0.583	10.68
			Max	93.17	540.8	112.0	1128	116.1	1224	10.68
2	Temperature °C	2010-11	Min	27.0	22.0	22.0	24.5	24.5	24.0	25.0
			Max	31.0	30.0	71.2	28.5	28.0	34.0	26.0
		2011-12	Min	24.0	26.0	23.0	23.50	28.0	25.5	28.0
			Max	32.0	31.0	32.5	28.5	28.0	32.5	28.0
3	pH_GEN	2010-11	Min	6.7	7.8	7.7	7.3	8.3	7.7	7.9
			Max	8.4	8.4	8.4	8.5	8.5	8.3	8.4
		2011-12	Min	7.2	7.5	7.5	7.3	7.7	6.7	9.5
			Max	8.3	8.5	8.3	8.4	9.0	8.3	9.5
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	3.1	3.7	3.9	4.1	2.4	4.0	3.2
			Max	8.0	7.7	6.6	7.2	2.9	8.8	4.5
		2011-12	Min	2.8	3.5	3.1	3.2	2.0	3.1	2.6
			Max	8.4	15.2	19.7	18.1	2.6	18.0	2.6
6	Sodium (Na)	2010-11	Min	94.5	49.0	109.0	80.6	24.3	84.5	36.4
			Max	180.0	112.5	158.3	194.0	25.7	190.0	88.1
		2011-12	Min	106.8	55.8	86.2	62.6	17.5	71.0	20.7
			Max	197.5	106.0	211.5	232.5	20.8	257.5	20.7
7	Calcium (Ca)	2010-11	Min	34	19	16	27	15	27	13
			Max	46	43	46	46	16	56	27
		2011-12	Min	32	16	6	26	6	24	13
			Max	51	38	37	59	18	45	13
8	Magnesium (Mg)	2010-11	Min	19.4	8.3	11.4	16.0	7.8	19.4	6.1
			Max	26.2	33.8	36.0	33.1	8.8	35.0	21.4
		2011-12	Min	18.5	4.9	17.5	9.7	11.7	19.4	11.7
			Max	29.2	24.3	49.6	39.9	13.6	36.9	11.7
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	-	-	-	-	-	-
			Max	0.0	-	-	-	-	-	-
		2011-12	Min	0.0	0.0	0.0	0.0	-	0.0	-
			Max	0.2	0.0	0.0	0.1	-	0.0	-
11	Ammonia (NH3-N)	2010-11	Min	0.00	-	-	-	-	-	-
			Max	0.00	-	-	-	-	-	-
		2011-12	Min	0.00	-	-	-	-	-	-
			Max	0.02	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	23.0	0.0	0.0
			Max	9.6	64.4	85.8	40.0	25.0	32.0	85.8
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	48.0
			Max	14.7	24.0	43.2	33.6	24.0	24.0	48.0
13	Bicarbonate (HCO3)	2010-11	Min	298	112	267	200	21	239	108
			Max	410	305	444	290	49	396	142
		2011-12	Min	254	126	239	156	44	146	15
			Max	454	218	499	295	98	323	15
14	Chloride (CL)	2010-11	Min	63.0	52.7	96.9	85.8	31.5	79.9	36.0
			Max	131.3	132.2	136.4	195.2	33.7	178.3	84.6
		2011-12	Min	79.8	55.0	72.2	66.2	23.2	72.8	33.1
			Max	154.4	103.9	165.0	213.1	29.8	221.7	33.1
15	Fluoride (F)	2010-11	Min	0.17	0.32	0.49	0.45	0.37	0.45	0.48
			Max	1.72	0.61	1.23	0.77	0.40	0.76	0.73
		2011-12	Min	0.78	0.35	0.70	0.44	0.42	0.43	0.67
			Max	3.90	0.61	1.44	0.85	0.45	0.85	0.67
16	Sulphate (SO4)	2010-11	Min	61.2	27.8	16	40.0	18.0	60.8	10.5
			Max	140.8	57.2	86.8	148.8	19.2	146.6	15.5
		2011-12	Min	66.3	30.3	3.4	54.6	4.7	65.4	6.0
			Max	118.5	67.3	37.5	208.8	7.3	215.9	6.0
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.00	0.25	0.54	0.43	0.35	0.39	0.39
			Max	0.00	1.47	14.70	2.52	0.85	2.49	1.03
		2011-12	Min	0.00	0.16	0.18	0.16	0.26	0.15	0.08
			Max	2.08	5.41	10.90	13.40	0.26	15.00	0.08
19	Nitrite (NO2-N)	2010-11	Min	0.00	-	-	-	-	-	-
			Max	0.00	-	-	-	-	-	-
		2011-12	Min	0.00	-	-	-	-	-	-
			Max	0.00	-	-	-	-	-	-
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	0.000	-	-	-	-	-	-
			Max	1.048	-	-	-	-	-	-
21	Silica (SiO2)	2010-11	Min	12.0	-	-	-	-	-	-
			Max	24.8	-	-	-	-	-	-
		2011-12	Min	13.7	-	-	-	-	-	-
			Max	21.6	-	-	-	-	-	-

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari										
Sl. No.	Parameter	Year	Name of the Site	Marella	Nellore	Nandipalli	Chennur	Kamala puram	Alladupalli	Tadipattri
			Name of the River/Stream	Gundala-kanma	Pennar	Sagileru	Pennar	Pepagni	Kunderu	Pennar
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
22	DO	2010-11	Min	5.6	-	-	6.2	-	3.5	-
			Max	7.3	-	-	7.3	-	7.6	-
		2011-12	Min	4.2	-	-	6.7	-	2.7	-
			Max	6.7	-	-	7.5	-	6.0	-
23	BOD3-27	2010-11	Min	0.3	-	-	0.4	1.2	0.3	0.4
			Max	1.4	-	-	2.7	1.8	2.7	0.9
		2011-12	Min	0.2	-	0.6	0.9	1.9	0.8	2.1
			Max	2.3	-	2.5	2.8	2.0	2.4	2.1
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	1.83	1.86	1.86	-	1.93	-
			Max	-	1.83	1.86	1.86	-	1.93	-
		2011-12	Min	0.83	1.15	1.08	1.73	-	1.21	-
			Max	4.16	1.75	1.77	1.98	-	1.31	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	1.02	-	0.08	0.01	-	-	-
			Max	1.02	-	0.08	0.01	-	-	-
		2011-12	Min	0.04	0.03	0.09	0.05	-	0.08	-
			Max	0.57	0.10	0.11	0.12	-	0.11	-
32	Chromium	2010-11	Min	0.00	0.81	0.87	0.36	-	0.80	-
			Max	0.00	0.81	0.87	0.36	-	0.80	-
		2011-12	Min	0.00	0.73	1.73	4.96	-	1.61	-
			Max	1.77	12.51	11.15	22.53	-	14.64	-
33	Copper	2010-11	Min	-	5.28	5.18	4.79	-	6.61	-
			Max	-	5.28	5.18	4.79	-	6.61	-
		2011-12	Min	22.03	4.33	9.77	20.40	-	5.07	-
			Max	22.03	21.50	21.40	56.93	-	19.80	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	0.00	0.37	0.78	0.39	-	0.39	-
			Max	0.00	0.37	0.78	0.39	-	0.39	-
		2011-12	Min	1.18	1.81	1.71	1.28	-	1.78	-
			Max	27.13	6.71	14.77	10.94	-	13.32	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	3.13	9.59	4.72	4.83	-	5.05	-
			Max	3.13	9.59	4.72	4.83	-	5.05	-
		2011-12	Min	15.90	7.00	25.50	32.60	-	6.00	-
			Max	17.51	57.10	31.00	39.00	-	20.70	-
39	Total Hardness	2010-11	Min	165	94	98	163	73	173	58
			Max	223	249	207	246	73	240	157
		2011-12	Min	157	93	121	153	73	153	81
			Max	248	181	235	270	93	246	81
40	Sodium % (Na%)	2010-11	Min	52	42	60	49	41	45	54
			Max	69	59	74	71	42	69	56
		2011-12	Min	53	52	55	44	32	43	35
			Max	71	63	71	72	34	70	35
41	SAR	2010-11	Min	3.1	2.2	4.1	2.6	1.2	2.5	2.1
			Max	6.1	3.7	5.9	6.6	1.3	6.3	3.1
		2011-12	Min	3.3	2.5	3.3	2.2	0.9	2.2	1.0
			Max	6.4	4.1	6.5	7.4	0.9	7.5	1.0
42	RSC	2010-11	Min	0.8	0.1	1.6	0.0	0.0	0.0	0.6
			Max	3.4	1.6	3.7	1.4	0.1	2.0	2.1
		2011-12	Min	0.5	0.0	0.7	0.0	0.0	0.0	0.2
			Max	3.6	1.2	3.6	0.2	0.1	1.0	0.2

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Parameter	Year	Name of the Site	Nagala- madike	Singavaram	Naidupeta	Sulurpet	Chengalpet	Magaral	Arcot	
			Name of the River/Stream	Pennar	Chitravathi	Swarna- mukhi	Kalingi	Palar	Cheyar	Palar	
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
1	Q(Cumecs)	2010-11	Min	dry bed	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Max	dry bed	22.59	299.7	166.6	203.3	55.22	6.460	
		2011-12	Min	N.A	N.A	0.000	0.000	0.000	0.000	N.A	
			Max	N.A	N.A	324.3	262.5	34.98	27.40	N.A	
2	Temperature °C	2010-11	Min	dry bed	22.0	21.0	26.0	22.0	26.5	25.0	
			Max	dry bed	24.0	28.0	27.0	28.0	27.0	29.0	
		2011-12	Min	N.A	N.A	21.0	27.0	19.0	26.0	N.A	
			Max	N.A	N.A	24.0	29.0	28.0	27.5	N.A	
3	pH_GEN	2010-11	Min	dry bed	8.3	7.9	7.4	7.5	7.5	7.4	
			Max	dry bed	8.3	8.5	7.8	8.1	8.0	7.7	
		2011-12	Min	N.A	N.A	7.6	7.7	7.3	7.3	N.A	
			Max	N.A	N.A	8.4	8.6	8.3	7.9	N.A	
4	Sp.Conductance	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
5	Potassium (K)	2010-11	Min	dry bed	6.1	4.1	3.2	5.5	5.7	13.9	
			Max	dry bed	6.1	5.7	3.6	6.7	7.1	15.2	
		2011-12	Min	N.A	N.A	3.7	3.2	3.3	4.5	N.A	
			Max	N.A	N.A	14.9	4.6	14.6	5.8	N.A	
6	Sodium (Na)	2010-11	Min	dry bed	92.0	48.9	44.6	44.2	27.6	304.0	
			Max	dry bed	97.0	97.4	55.4	77.0	47.1	360.0	
		2011-12	Min	N.A	N.A	44.3	38.1	39.3	40.7	N.A	
			Max	N.A	N.A	86.5	54.7	64.9	49.4	N.A	
7	Calcium (Ca)	2010-11	Min	dry bed	16	22	20	19	31	70	
			Max	dry bed	23	34	31	33	34	78	
		2011-12	Min	N.A	N.A	10	14	10	21	N.A	
			Max	N.A	N.A	22	29	40	32	N.A	
8	Magnesium (Mg)	2010-11	Min	dry bed	22.9	12.2	11.7	15.6	18.5	37.9	
			Max	dry bed	23.3	22.4	16.5	29.2	26.3	55.4	
		2011-12	Min	N.A	N.A	11.7	10.7	15.6	10.7	N.A	
			Max	N.A	N.A	33.1	22.4	27.2	22.4	N.A	
9	Aluminium	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
10	Iron (Fe)	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	0.1	-	-	-	N.A	
			Max	N.A	N.A	0.1	-	-	-	N.A	
11	Ammonia (NH3-N)	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
12	Carbonate (CO3)	2010-11	Min	dry bed	30.5	0.0	0.0	0.0	0.0	0.0	
			Max	dry bed	34.4	65.0	0.0	0.0	0.0	0.0	
		2011-12	Min	N.A	N.A	0.0	0.0	0.0	0.0	N.A	
			Max	N.A	N.A	34.6	33.6	13.8	0.0	N.A	
13	Bicarbonate (HCO3)	2010-11	Min	dry bed	235	120	159	184	225	562	
			Max	dry bed	247	248	210	286	291	643	
		2011-12	Min	N.A	N.A	56	73	141	119	N.A	
			Max	N.A	N.A	246	148	259	204	N.A	
14	Chloride (CL)	2010-11	Min	dry bed	83.6	60.2	57.6	68.5	37.4	337.6	
			Max	dry bed	88.9	136.4	75.1	102.6	61.6	400.3	
		2011-12	Min	N.A	N.A	58.4	55.0	58.4	68.7	N.A	
			Max	N.A	N.A	113.4	92.8	92.8	72.2	N.A	
15	Fluoride (F)	2010-11	Min	dry bed	1.28	0.30	0.37	0.28	0.24	0.93	
			Max	dry bed	1.41	0.46	0.39	0.48	0.33	1.26	
		2011-12	Min	N.A	N.A	0.29	0.30	0.23	0.26	N.A	
			Max	N.A	N.A	0.55	0.46	0.50	0.29	N.A	
16	Sulphate (SO4)	2010-11	Min	dry bed	18.9	10.6	11.6	6.4	7.9	165.0	
			Max	dry bed	19.8	27.8	18.0	21.3	8.5	214.0	
		2011-12	Min	N.A	N.A	11.2	7.8	5.4	12.7	N.A	
			Max	N.A	N.A	38.7	22.1	27.7	15.7	N.A	
17	Sulphite	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
18	Nitrate (NO3-N)	2010-11	Min	dry bed	0.93	0.27	0.19	0.32	0.33	1.91	
			Max	dry bed	2.60	1.40	0.78	1.03	0.71	8.09	
		2011-12	Min	N.A	N.A	0.29	0.12	0.20	0.18	N.A	
			Max	N.A	N.A	2.50	0.60	0.92	1.12	N.A	
19	Nitrite (NO2-N)	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
20	Phosphate (pO4)	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	
21	Silica (SiO2)	2010-11	Min	dry bed	-	-	-	-	-	-	
			Max	dry bed	-	-	-	-	-	-	
		2011-12	Min	N.A	N.A	-	-	-	-	N.A	
			Max	N.A	N.A	-	-	-	-	N.A	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Parameter	Year	Name of the Site	Nagala- madike	Singavaram	Naidupeta	Sulurpet	Chengalpet	Magaral	Arcot
			Name of the River/Stream	Pennar	Chitravathi	Swarna- mukhi	Kalingi	Palar	Cheyar	Palar
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
23	BOD3-27	2010-11	Min	dry bed	0.9	0.5	0.6	0.3	0.1	0.2
			Max	dry bed	1.4	2.8	2.9	1.6	0.8	1.8
		2011-12	Min	N.A	N.A	1.6	1.0	0.3	1.7	N.A
			Max	N.A	N.A	2.2	2.8	2.7	2.3	N.A
24	Total Coliform (no.per 10 ml)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
26	Total plate count (no.per 10 ml)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
27	Phytoplankton (No.per ml)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
28	Zooplankton (No. per Litre)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
29	Arsenic (ppm)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	0.35	-	0.58	-	N.A
			Max	N.A	N.A	0.35	-	0.58	-	N.A
30	Boron (ppm)	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
31	Cadmium	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	0.01	-	0.03	-	N.A
			Max	N.A	N.A	0.01	-	0.03	-	N.A
32	Chromium	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	0.59	-	0.29	-	N.A
			Max	N.A	N.A	0.59	-	0.29	-	N.A
33	Copper	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	13.37	-	11.37	-	N.A
			Max	N.A	N.A	13.37	-	11.37	-	N.A
34	Cyanide	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
35	Lead	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	1.94	-	1.26	-	N.A
			Max	N.A	N.A	1.94	-	1.26	-	N.A
36	Manganese	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
37	Mercury	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	-	-	-	-	N.A
			Max	N.A	N.A	-	-	-	-	N.A
38	Zinc	2010-11	Min	dry bed	-	-	-	-	-	-
			Max	dry bed	-	-	-	-	-	-
		2011-12	Min	N.A	N.A	36.30	-	22.20	-	N.A
			Max	N.A	N.A	36.30	-	22.20	-	N.A
39	Total Hardness	2010-11	Min	dry bed	136	106	98	130	155	334
			Max	dry bed	154	173	147	179	195	419
		2011-12	Min	N.A	N.A	73	105	117	117	N.A
			Max	N.A	N.A	174	165	214	173	N.A
40	Sodium % (Na%)	2010-11	Min	dry bed	55	49	45	39	27	63
			Max	dry bed	60	58	53	47	34	69
		2011-12	Min	N.A	N.A	47	41	37	36	N.A
			Max	N.A	N.A	69	46	45	45	N.A
41	SAR	2010-11	Min	dry bed	3.2	2.1	1.9	1.6	1.0	6.9
			Max	dry bed	3.6	3.5	2.4	2.5	1.5	8.6
		2011-12	Min	N.A	N.A	1.9	1.6	1.5	1.5	N.A
			Max	N.A	N.A	4.1	2.0	2.1	1.9	N.A
42	RSC	2010-11	Min	dry bed	1.9	0.7	0.5	0.4	0.6	1.8
			Max	dry bed	2.4	1.6	0.7	1.1	0.9	3.1
		2011-12	Min	N.A	N.A	0.0	0.0	0.0	0.0	N.A
			Max	N.A	N.A	0.8	0.1	0.5	0.3	N.A

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari											
Sl. No.	Parameter	Year	Name of the Site	Avaram-kuppam	Kumara-palayam	Vilupuram	Vazhavachanur	Gummanur	Kudalaitathur	Paramakudi	
			Name of the River/Stream	Palar	Varahanadhi	Ponniyar	Ponniyar	Ponniyar	Vellar	Vaigai	
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Max	17.15	336.2	299.4	186.2	38.47	1633	62.89	
		2011-12	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
			Max	43.09	502.2	143.0	106.1	77.76	625.0	41.71	
2	Temperature °C	2010-11	Min	20.0	25.0	25.0	27.0	21.0	25.5	22.0	
			Max	24.0	27.0	29.5	31.0	27.5	30.0	28.5	
		2011-12	Min	22.0	25.5	23.0	24.0	24.0	25.0	25.5	
			Max	27.0	27.0	26.0	31.0	27.0	26.5	25.5	
3	pH_GEN	2010-11	Min	7.9	7.7	8.0	7.4	7.1	8.0	7.8	
			Max	8.2	8.3	8.4	8.3	8.7	8.5	8.5	
		2011-12	Min	7.6	7.5	7.8	7.4	7.4	7.7	7.6	
			Max	8.7	8.1	8.7	8.1	8.5	8.3	8.0	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	2.1	4.1	5.4	4.7	9.8	3.9	4.9	
			Max	4.1	5.6	6.6	7.3	18.9	6.5	7.0	
		2011-12	Min	1.4	3.9	4.6	3.8	5.5	3.9	4.4	
			Max	3.4	5.4	6.1	16.6	19.6	6.3	5.6	
6	Sodium (Na)	2010-11	Min	107.0	22.3	42.6	67.2	71.0	26.3	18.2	
			Max	182.5	45.3	93.9	150.5	138.5	77.0	80.7	
		2011-12	Min	56.0	42.1	50.6	45.6	43.2	51.5	29.6	
			Max	130.0	59.9	82.6	123.3	126.5	61.3	35.8	
7	Calcium (Ca)	2010-11	Min	38	15	27	10	72	16	29	
			Max	59	39	43	110	99	32	40	
		2011-12	Min	13	8	11	14	22	19	18	
			Max	30	22	32	74	88	19	27	
8	Magnesium (Mg)	2010-11	Min	20.4	10.7	19.4	27.2	9.7	12.6	9.7	
			Max	31.1	20.4	35.0	80.7	33.1	35.0	22.4	
		2011-12	Min	8.8	17.5	21.3	16.5	15.6	20.4	6.8	
			Max	19.4	22.4	34.0	42.8	31.1	29.2	11.7	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	0.000	-	-	-	0.000	-	0.000	
			Max	0.064	-	-	-	0.126	-	0.000	
		2011-12	Min	-	-	-	0.0	0.030	-	-	
			Max	-	-	-	0.0	0.090	-	-	
11	Ammonia (NH3-N)	2010-11	Min	0.00	-	-	-	0.00	-	0.00	
			Max	0.16	-	-	-	0.49	-	0.15	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	28.6	54.4	78.7	57.6	37.2	43.2	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	47.3	0.0	43.2	0.0	57.8	6.9	0.0	
13	Bicarbonate (HCO3)	2010-11	Min	386	121	185	220	234	107	142	
			Max	590	190	265	762	449	187	195	
		2011-12	Min	155	126	77	183	155	148	102	
			Max	347	176	183	344	331	183	150	
14	Chloride (CL)	2010-11	Min	62.8	28.7	68.9	91.9	133.3	33.9	26.4	
			Max	128.9	68.9	152.2	175.3	225.0	115.8	116.5	
		2011-12	Min	31.5	55.0	79.0	75.6	56.7	68.7	40.9	
			Max	72.4	82.5	137.5	162.1	176.3	85.9	53.5	
15	Fluoride (F)	2010-11	Min	0.99	0.20	0.32	0.32	0.51	0.25	0.32	
			Max	1.45	0.33	0.55	0.72	0.93	0.44	0.60	
		2011-12	Min	0.38	0.26	0.29	0.31	0.30	0.0	0.29	
			Max	1.19	0.30	0.47	0.66	0.67	6.9	0.29	
16	Sulphate (SO4)	2010-11	Min	24.4	6.9	14.5	10.7	13.4	13.6	11.8	
			Max	45.1	13.6	29.3	61.1	26.9	71.5	24.3	
		2011-12	Min	14.4	6.0	19.9	11.3	11.8	33.8	8.8	
			Max	26.7	7.6	24.0	32.6	30.6	51.2	14.0	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	1.08	0.12	0.42	0.45	4.50	0.21	0.56	
			Max	5.95	0.68	2.03	8.36	34.00	2.36	4.78	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
19	Nitrite (NO2-N)	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
20	Phosphate (pO4)	2010-11	Min	0.000	-	-	-	0.098	-	0.000	
			Max	0.027	-	-	-	2.505	-	0.183	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
21	Silica (SiO2)	2010-11	Min	32.8	-	-	-	26.9	-	11.2	
			Max	38.6	-	-	-	50.9	-	23.7	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari										
Sl. No.	Parameter	Year	Name of the Site	Avaram-kuppam	Kumara-palayam	Vilupuram	Vazhavachanur	Gummanur	Kudalalai-athur	Paramakudi
			Name of the River/Stream	Palar	Varahanadhi	Ponniyar	Ponniyar	Ponniyar	Vellar	Vaigai
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
22	DO	2010-11	Min	-	-	-	0.5	5.3	-	-
			Max	-	-	-	6.9	7.0	-	-
		2011-12	Min	-	-	-	3.7	6.3	-	-
			Max	-	-	-	6.9	7.3	-	-
23	BOD3-27	2010-11	Min	-	0.7	0.3	0.2	1.1	0.5	-
			Max	-	1.9	1.2	1.9	5.0	2.7	-
		2011-12	Min	-	2.1	1.6	0.2	1.5	1.3	-
			Max	-	2.2	2.1	2.6	5.8	1.8	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	1.65	1.80	-	-
			Max	-	-	-	1.65	1.80	-	-
		2011-12	Min	-	-	-	0.93	0.71	-	-
			Max	-	-	-	1.20	1.78	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	0.02	-	0.02
			Max	-	-	-	-	0.02	-	0.02
		2011-12	Min	-	-	-	0.07	0.04	-	-
			Max	-	-	-	0.07	0.04	-	-
32	Chromium	2010-11	Min	-	-	1.21	0.98	3.02	-	4.52
			Max	-	-	1.21	0.98	3.02	-	4.52
		2011-12	Min	-	-	-	1.63	3.68	-	-
			Max	-	-	-	9.71	3.77	-	-
33	Copper	2010-11	Min	-	-	4.88	6.91	3.62	-	3.52
			Max	-	-	4.88	6.91	3.62	-	3.52
		2011-12	Min	-	-	-	11.54	1.87	-	-
			Max	-	-	-	22.60	15.71	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	1.45	0.94	0.00	-	0.69
			Max	-	-	1.45	0.94	0.00	-	0.69
		2011-12	Min	-	-	-	0.89	3.79	-	-
			Max	-	-	-	8.43	5.44	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	14.26	13.11	13.56	-	17.45
			Max	-	-	14.26	13.11	13.56	-	17.45
		2011-12	Min	-	-	-	4.00	20.00	-	-
			Max	-	-	-	6.70	20.00	-	-
39	Total Hardness	2010-11	Min	181	81	167	224	241	114	121
			Max	278	183	240	487	358	211	193
		2011-12	Min	69	93	117	141	121	133	72
			Max	157	149	222	290	350	170	117
40	Sodium % (Na%)	2010-11	Min	56	32	35	38	31	33	24
			Max	59	36	49	50	46	50	49
		2011-12	Min	57	40	42	35	41	43	39
			Max	66	48	59	54	47	45	45
41	SAR	2010-11	Min	3.5	1.1	1.4	2.0	1.7	1.1	0.7
			Max	4.8	1.5	2.8	3.3	3.2	2.4	2.6
		2011-12	Min	3.0	1.7	1.9	1.5	0.0	1.9	1.4
			Max	4.7	2.2	3.3	3.5	0.8	2.1	1.5
42	RSC	2010-11	Min	2.7	0.2	0.3	0.0	0.0	0.0	0.0
			Max	4.2	0.4	0.8	2.8	0.2	0.8	0.4
		2011-12	Min	1.2	0.0	0.0	0.0	1.7	0.0	0.1
			Max	3.4	0.2	0.0	0.6	3.1	0.0	0.2

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari								
Sl. No.	Parameter	Year	Name of the Site	Theni	Ambasamudrum	Irukkankudi	Murappanadu	A.P. Puram
			Name of the River/Stream	Suruliar	Vaigai	Vaippar	Thambra-parani	Chittar
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.140	0.000
			Max	188.7	45.01	15.41	147.8	0.096
		2011-12	Min	0.000	0.000	0.000	0.758	0.000
			Max	214.7	113.1	1.928	380.2	21.64
2	Temperature °C	2010-11	Min	22.0	20.0	22.5	24.5	20
			Max	26.0	23.5	28.0	30.0	27.5
		2011-12	Min	22.0	22.5	21.5	20.0	20.0
			Max	26.5	23.5	23.5	29.0	27.0
3	pH_GEN	2010-11	Min	7.5	7.8	7.7	7.1	7.4
			Max	8.3	8.5	9.3	8.0	8.1
		2011-12	Min	7.3	7.2	7.8	7.4	7.4
			Max	8.3	8.4	8.3	8.2	8.0
4	Sp.Conductance	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.8	2.0	3.9	1.1	7.2
			Max	6.6	6.7	7.3	6.3	9.0
		2011-12	Min	1.5	4.0	6.0	1.3	3.8
			Max	3.4	6.6	7.0	5.0	8.1
6	Sodium (Na)	2010-11	Min	4.9	9.4	22.6	4.6	139.5
			Max	48.0	73.0	47.8	20.8	308
		2011-12	Min	4.9	9.9	50.0	6.0	66.5
			Max	30.0	53.0	56.0	18.4	308.0
7	Calcium (Ca)	2010-11	Min	11	14	24	8	74
			Max	55	71	38	29	114
		2011-12	Min	10	8	26	8	32
			Max	32	45	32	16	114
8	Magnesium (Mg)	2010-11	Min	4.9	4.9	3.9	1.9	46.7
			Max	29.2	12.6	11.7	9.7	100.4
		2011-12	Min	1.9	4.9	15.6	2.9	11.7
			Max	20.4	33.1	16.5	8.8	82.6
9	Aluminium	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.000	0.000	0.000	0.000	0.000
			Max	0.486	0.000	0.000	0.201	0.114
		2011-12	Min	0.030	0.070	-	0.010	0.010
			Max	0.050	0.070	-	0.050	0.080
11	Ammonia (NH3-N)	2010-11	Min	0.00	0.00	0.01	0.00	0.01
			Max	0.12	0.13	0.08	0.15	0.09
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0
			Max	33.6	24.0	33.6	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.0	47.3	10.5	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	59	78	63	34	161
			Max	259	229	176	117	307
		2011-12	Min	43	37	134	37	53
			Max	171	192	160	91	422
14	Chloride (CL)	2010-11	Min	8.5	16.5	36.3	8.3	267.6
			Max	85.1	95.9	62.9	39.7	584.8
		2011-12	Min	9.4	18.9	66.1	9.4	122.8
			Max	44.1	69.3	72.4	28.3	494.2
15	Fluoride (F)	2010-11	Min	0.00	0.03	0.23	0.00	0.81
			Max	0.83	0.74	0.68	0.64	2.68
		2011-12	Min	0.12	0.25	0.17	0.11	0.56
			Max	1.00	0.65	0.47	0.70	1.57
16	Sulphate (SO4)	2010-11	Min	3.6	7.1	15.7	3.0	101.7
			Max	18.3	41.5	27.7	14.5	287.8
		2011-12	Min	1.6	6.7	33.6	1.9	60.8
			Max	17.3	35.0	36.2	10.2	176.7
17	Sulphite	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.63	3.20	0.47	0.25	2.28
			Max	8.26	4.82	4.84	4.58	7.13
		2011-12	Min	0.21	0.31	0.62	0.10	0.93
			Max	2.30	3.45	0.75	0.29	4.70
19	Nitrite (NO2-N)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
20	Phosphate (pO4)	2010-11	Min	0.000	0.000	0.000	0.000	0.000
			Max	0.678	1.217	0.066	0.526	0.000
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
21	Silica (SiO2)	2010-11	Min	10.7	21.1	5.1	4.3	26.8
			Max	82.5	39.6	10.1	26.3	108.7
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

## VIII Basin : East Flowing Rivers from Mahanadi to Kanyakumari

Sl. No.	Parameter	Year	Name of the Site	Theni	Ambasamu- drum	Irukkankudi	Murappa- nadu	A.P. Puram
			Name of the River/Stream	Suruliur	Vaigai	Vaippar	Thambra- narani	Chittar
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)
22	DO	2010-11	Min	4.1	6.4	-	5.5	-
			Max	8.6	8.6	-	7.5	-
		2011-12	Min	5.5	6.4	-	5.6	-
			Max	9.3	7.9	-	6.6	-
23	BOD3-27	2010-11	Min	0.6	0.4	-	0.5	-
			Max	3.8	1.6	-	3.2	-
		2011-12	Min	0.6	1.6	-	0.3	-
			Max	2.5	2.5	-	5.0	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	0.59	-	1.39	0.54	1.12
			Max	0.59	-	1.39	0.54	1.12
		2011-12	Min	0.09	0.36	-	0.30	0.47
			Max	0.29	0.36	-	1.03	1.26
30	Boron (ppm)	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
31	Cadmium	2010-11	Min	0.24	-	0.03	0.02	0.03
			Max	0.24	-	0.03	0.02	0.03
		2011-12	Min	0.02	0.63	-	0.03	0.19
			Max	0.03	0.63	-	1.81	0.21
32	Chromium	2010-11	Min	5.95	-	1.67	0.82	5.93
			Max	5.95	-	1.67	0.82	5.93
		2011-12	Min	3.53	4.48	-	2.43	3.32
			Max	4.83	4.48	-	15.44	17.12
33	Copper	2010-11	Min	3.96	-	3.34	3.52	3.35
			Max	3.96	-	3.34	3.52	3.35
		2011-12	Min	3.92	10.41	-	0.13	5.98
			Max	31.49	10.41	-	17.90	18.56
34	Cyanide	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
35	Lead	2010-11	Min	1.22	-	2.17	0.13	0.51
			Max	1.22	-	2.17	0.13	0.51
		2011-12	Min	1.79	2.17	-	1.65	11.77
			Max	4.39	2.17	-	3.83	13.24
36	Manganese	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-
			Max	-	-	-	-	-
		2011-12	Min	-	-	-	-	-
			Max	-	-	-	-	-
38	Zinc	2010-11	Min	23.44	-	19.75	17.66	65.29
			Max	23.44	-	19.75	17.66	65.29
		2011-12	Min	21.70	19.20	-	18.00	23.10
			Max	30.00	19.20	-	20.00	352.00
39	Total Hardness	2010-11	Min	52	64	89	32	407
			Max	238	229	129	113	694
		2011-12	Min	36	40	133	36	129
			Max	145	250	145	77	596
40	Sodium % (Na%)	2010-11	Min	15	21	35	19	40
			Max	34	40	46	35	49
		2011-12	Min	20	28	44	23	45
			Max	31	37	44	38	58
41	SAR	2010-11	Min	0.3	0.5	1.0	0.3	3.0
			Max	1.5	2.1	2.0	0.9	5.1
		2011-12	Min	0.3	0.7	1.9	0.4	2.6
			Max	1.1	1.5	2.0	1.0	6.1
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.3	0.1	0.3	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.1	0.0

Source: Water Quality Year Book (East Flowing Rivers from Mahanadi to Kanyakumari) for the period of 2010-2011 to 2011-2012.

Note: 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.



Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi										
Sl. No.	Parameter	Year	Name of the Site	Badlapur	Mangaon	Belne Bridge	Santeguli	Haladi	Aversha	Yennehole
			Name of the River/Stream	Ulhas	Kal	Gad	Aghanashini	Haladi	Sita	Yennehole
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Q(Cumecs)	2010-11	Min	0.661	0.000	0.000	0.874	0.991	0.000	0.000
			Max	1708	782.4	1334	1246	409.3	422.9	482.5
		2011-12	Min	0.510	0.000	0.000	0.970	0.468	0.000	0.000
			Max	1956	764.3	1041	2355	1004	680.2	859.9
2	Temperature °C	2010-11	Min	22.0	25.5	25.0	24.0	25.0	25.0	25.0
			Max	29.5	28	28.0	24.0	29.0	26.0	30.0
		2011-12	Min	20.0	26.0	25.0	23.0	23.5	24.5	25.0
			Max	26.5	28.5	26.5	25.0	28.5	27.0	27.0
3	pH_GEN	2010-11	Min	6.9	7.5	7.0	6.5	6.1	6.6	6.2
			Max	8.2	7.7	7.6	7.5	7.1	6.9	7.2
		2011-12	Min	7.0	7.0	7.0	6.3	5.9	6.0	5.9
			Max	7.8	7.8	7.8	7.2	7.1	6.9	7.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	0.5	0.3	0.3	0.5	0.3	0.3	0.2
			Max	1.6	1.0	1.0	1.6	0.4	0.4	1.1
		2011-12	Min	0.3	0.3	0.3	0.4	0.3	0.3	0.3
			Max	1.8	1.0	1.0	1.9	0.5	0.6	0.9
6	Sodium (Na)	2010-11	Min	3.8	1.0	2.9	2.9	1.8	2.1	2.1
			Max	7.7	9.1	6.1	4.6	2.6	2.8	4.2
		2011-12	Min	3.6	3.2	3.6	2.6	2.0	2.2	2.0
			Max	10.9	4.9	4.7	4.8	3.4	2.8	5.6
7	Calcium (Ca)	2010-11	Min	10	10	6	2	2	2.0	2
			Max	26	13	11	5	3	3.0	3
		2011-12	Min	10	8	10	2	2	2	2
			Max	30	14	11	5	3	3	3
8	Magnesium (Mg)	2010-11	Min	1.0	1.0	1.9	1.5	1.0	1.0	1.0
			Max	9.7	3.9	6.8	2.9	1.9	1.9	1.9
		2011-12	Min	1.0	1.0	1.0	1.0	1.0	1.0	1.0
			Max	5.8	1.9	1.9	3.4	1.9	1.9	2.9
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.1	0.1	0.1	0.0	0.0	0.1	0.0
			Max	0.2	0.1	0.2	2.4	0.1	0.2	0.9
		2011-12	Min	0.0	0.2	0.1	0.0	0.0	0.0	0.0
			Max	0.6	0.3	0.7	0.2	0.0	0.1	0.1
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	0.00	-	-	-
			Max	-	-	-	0.00	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	34	22	15	10	9	9	9
			Max	83	41	37	28	10	14	18
		2011-12	Min	34	24	32	10	10	10	10
			Max	98	46	39	26	11	15	21
14	Chloride (CL)	2010-11	Min	6.1	4.3	4.7	5.7	3.9	3.8	3.8
			Max	24.3	15.8	9.4	7.8	5.8	5.7	6.0
		2011-12	Min	5.1	4.2	4.6	3.9	3.9	3.9	3.9
			Max	20.5	8.0	7.5	8.5	4.3	4.3	10.7
15	Fluoride (F)	2010-11	Min	0.10	0.09	0.10	0.02	0.00	0.00	0.02
			Max	1.31	0.23	0.39	0.17	0.04	0.02	0.02
		2011-12	Min	0.21	0.23	0.24	0.00	0.00	0.00	0.00
			Max	0.47	0.27	0.27	0.06	0.11	0.00	0.10
16	Sulphate (SO4)	2010-11	Min	4.8	8.7	1.4	1.2	1.0	1.0	1.1
			Max	31.2	14.2	22.4	3.2	3.2	1.8	3.2
		2011-12	Min	3.4	2.0	2.6	1.6	1.5	1.3	1.2
			Max	13.4	5.5	5.3	2.9	2.5	2.2	2.3
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.05	0.08	0.06	0.28	0.24	0.29	0.25
			Max	0.36	0.23	0.22	0.45	0.36	0.35	0.36
		2011-12	Min	0.11	0.26	0.24	0.28	0.29	0.28	0.27
			Max	0.86	0.30	0.38	0.64	0.38	0.35	0.39
19	Nitrite (NO2-N)	2010-11	Min	0.01	0.01	0.01	0.00	0.00	0.00	0.00
			Max	0.03	0.01	0.01	0.00	0.00	0.00	0.01
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.01	0.01	0.01	0.00	0.00	0.00	0.00
20	Phosphate (pO4)	2010-11	Min	-	-	-	0.000	0.000	0.000	0.000
			Max	-	-	-	0.010	0.010	0.010	0.010
		2011-12	Min	-	-	-	0.000	0.000	0.000	0.000
			Max	-	-	-	0.010	0.010	0.021	0.000
21	Silica (SiO2)	2010-11	Min	3.7	4.4	4.9	8.6	5.5	7.3	6.9
			Max	31.6	11.2	9.6	12.9	8.8	7.9	11.3
		2011-12	Min	2.8	3.2	3.5	5.6	6.1	5.1	6.7
			Max	91.1	19.5	16.2	9.5	6.9	7.2	7.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi											
Sl. No.	Parameter	Year	Name of the Site Name of the River/Stream	Badlapur	Mangaon	Belne Bridge	Santeguli	Haladi	Aversha	Yennehole	
				Ulhas	Kal	Gad	Aghanashini	Haladi	Sita	Yennehole	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
22	DO	2010-11	Min	0.0	5.9	6.3	-	-	-	-	-
			Max	7.4	7.3	7.7	-	-	-	-	-
		2011-12	Min	4.3	5.6	6.4	-	6.7	7.3	-	-
			Max	7.2	7.4	7.7	-	7.1	7.3	-	-
23	BOD3-27	2010-11	Min	0.4	0.4	0.2	-	-	-	-	-
			Max	1.7	0.7	0.9	-	-	-	-	-
		2011-12	Min	0.1	0.3	0.1	-	0.2	1.3	-	-
			Max	1.5	1.0	0.7	-	0.2	1.3	-	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	1.49	1.41	-	-	1.64
			Max	-	-	-	1.49	1.41	-	-	1.64
		2011-12	Min	0.1	-	-	0.92	0.21	-	-	-
			Max	0.4	-	-	25.00	1.24	-	-	0.14
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	0.14
			Max	-	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	0.0	-	-	0.07	-	-	-	0.01
			Max	0.0	-	-	0.07	-	-	-	0.01
		2011-12	Min	0.0	-	-	0.14	0.23	-	-	-
			Max	0.1	-	-	0.19	0.96	-	-	0.32
32	Chromium	2010-11	Min	0.7	-	-	0.82	0.34	-	-	1.40
			Max	0.7	-	-	0.82	0.34	-	-	1.40
		2011-12	Min	0.0	-	-	2.46	1.79	-	-	0.32
			Max	2.0	-	-	2.95	2.03	-	-	1.98
33	Copper	2010-11	Min	-	-	-	5.49	3.40	-	-	3.97
			Max	-	-	-	5.49	3.40	-	-	3.97
		2011-12	Min	8.7	-	-	6.80	9.60	-	-	1.98
			Max	30.0	-	-	30.39	16.74	-	-	6.07
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	6.07
			Max	-	-	-	-	-	-	-	-
35	Lead	2010-11	Min	0.0	-	-	0.20	0.20	-	-	0.25
			Max	0.0	-	-	0.20	0.20	-	-	0.25
		2011-12	Min	0.3	-	-	0.20	0.49	-	-	-
			Max	14.9	-	-	3.80	3.57	-	-	0.12
36	Manganese	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-	0.12
			Max	-	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-	-
		2011-12	Min	0.1	-	-	-	-	-	-	-
			Max	0.1	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	22.7	-	-	47.41	7.74	-	-	8.93
			Max	22.7	-	-	47.41	7.74	-	-	8.93
		2011-12	Min	0.0	-	-	7.80	10.00	-	-	14.20
			Max	27.6	-	-	16.00	17.50	-	-	14.20
39	Total Hardness	2010-11	Min	36	36	28	12	12	12	12	8
			Max	92	44	56	24	13	12	12	16
		2011-12	Min	32	24	28	12	8	8	8	8
			Max	96	40	32	24	12	16	20	20
40	Sodium % (Na%)	2010-11	Min	10	5	12	28	24	27	27	27
			Max	26	30	32	34	31	33	42	42
		2011-12	Min	13	15	21	25	26	23	26	26
			Max	30	26	24	37	46	42	42	42
41	SAR	2010-11	Min	0.2	0.1	0.2	0.4	0.2	0.3	0.3	0.3
			Max	0.4	0.6	0.5	0.4	0.3	0.4	0.5	0.5
		2011-12	Min	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
			Max	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi										
Sl. No.	Parameter	Year	Name of the Site Name of the River/Stream	Adloor	Bantwal	Erinjipuzha	Perumannu	Kuttiyadi	Kuniyil	Karathodu
				Gurpur	Nethravathi	Payaswani	Valapatanam	Kuttiyadi	Chaliyar	Kadalundi
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	1.966	1.274	0.000	0.000
			Max	1170	3775	988.4	1463	267.8	992.5	221.3
		2011-12	Min	0.000	0.001	0.000	0.916	1.539	0.000	0.000
			Max	888.6	2709	926.7	1326	300.8	1496	376.5
2	Temperature °C	2010-11	Min	25.0	24.5	21.0	26.0	24.5	23.5	24.0
			Max	25.0	30.0	28.0	32.0	31.0	25.0	25.5
		2011-12	Min	23.0	24.5	26.0	24.0	25.0	24.5	25.0
			Max	26.0	30.5	27.0	31.0	29.0	30.0	28.5
3	pH_GEN	2010-11	Min	6.1	6.6	6.7	6.7	6.5	6.8	6.5
			Max	6.9	7.3	7.4	7.5	7.0	7.0	6.8
		2011-12	Min	6.1	6.1	6.5	6.2	5.9	6.0	6.0
			Max	7.1	7.2	7.5	7.0	6.9	7.3	6.3
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	0.5	0.8	0.3	0.4	0.1	0.2	0.7
			Max	2.1	1.4	1.0	0.8	0.5	0.7	1.1
		2011-12	Min	0.4	0.6	0.4	0.3	0.3	0.6	0.8
			Max	0.7	1.4	1.4	1.2	0.5	2.0	1.9
6	Sodium (Na)	2010-11	Min	2.2	2.9	2	3	2	3	5
			Max	5.0	4.0	5	5	3	4	6
		2011-12	Min	2.5	2.0	3	3	2	3	5
			Max	3.0	4.7	5	4	3	7	5
7	Calcium (Ca)	2010-11	Min	2	3	3.2	3.2	2.4	4.4	4.0
			Max	6	5	5.4	6.4	3.6	6.4	4.8
		2011-12	Min	2	2	4.0	3.2	2.4	4.0	4.0
			Max	3	5	6.4	7.2	4.0	11.2	6.4
8	Magnesium (Mg)	2010-11	Min	1.7	1.0	1.0	1.0	1.0	1.0	2.0
			Max	3.9	3.9	3.0	3.4	1.5	2.0	2.5
		2011-12	Min	1.0	1.9	0.5	1.0	0.5	1.0	0.5
			Max	1.9	2.9	2.9	3.5	1.0	3.9	2.5
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.1	0.0	0.0	0.0	0.0	0.0	0.1
			Max	0.1	0.2	1.0	0.2	1.0	0.3	0.6
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	-
			Max	0.1	0.2	1.5	1.5	1.5	1.5	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	0.05	0.05	0.05	0.05	0.05
			Max	-	-	0.55	0.12	0.34	0.21	0.55
		2011-12	Min	-	-	0.01	0.01	0.01	0.01	0.02
			Max	-	-	0.11	0.10	0.15	0.06	0.12
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	-	-	0.01	0.01	0.01	0.01	0.02
			Max	-	-	0.11	0.10	0.15	0.06	0.12
13	Bicarbonate (HCO3)	2010-11	Min	9	14	18.3	15.9	11.0	18.3	22.0
			Max	33	32	26.8	28.1	13.4	30.5	23.2
		2011-12	Min	10	10	17.1	17.1	11.0	18.3	19.5
			Max	11	28	31.7	29.3	14.6	53.7	26.8
14	Chloride (CL)	2010-11	Min	6.0	3.9	4	5	4	6	8
			Max	13.3	6.0	9	8	6	8	10
		2011-12	Min	4.3	3.9	6	6	4	6	9
			Max	6.0	7.8	9	8	6	9	10
15	Fluoride (F)	2010-11	Min	0.00	0.02	0.05	0.07	0.05	0.05	0.05
			Max	0.04	0.19	0.26	0.15	0.18	0.19	0.21
		2011-12	Min	0.00	0.02	0.01	0.02	0.01	0.05	0.01
			Max	0.00	0.04	0.15	0.15	0.07	0.30	0.21
16	Sulphate (SO4)	2010-11	Min	1.0	1.2	1	1	1	1	1
			Max	1.4	2.5	2	1	1	1	3
		2011-12	Min	1.9	1.5	1	1	1	1	1
			Max	3.0	3.3	1	1	1	1	1
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.31	0.31	0.07	0.12	0.01	0.01	0.10
			Max	0.42	0.50	0.34	0.40	0.15	0.16	0.17
		2011-12	Min	0.29	0.35	0.08	0.11	0.01	0.15	0.10
			Max	0.38	0.59	1.49	1.55	0.75	2.72	2.18
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.0	0.0	0.0	0.0	0.0
			Max	0.00	0.00	0.1	0.1	0.0	0.1	0.1
		2011-12	Min	0.00	0.00	0.0	0.0	0.0	0.0	0.0
			Max	0.01	0.01	0.1	0.0	0.0	0.1	0.1
20	Phosphate (pO4)	2010-11	Min	0.000	0.000	0.012	0.048	0.010	0.022	0.061
			Max	0.000	0.010	0.580	0.870	0.100	0.121	0.075
		2011-12	Min	0.000	0.000	0.015	0.020	0.030	0.020	0.035
			Max	0.000	0.010	0.930	0.620	0.620	0.620	0.830
21	Silica (SiO2)	2010-11	Min	8.3	11.2	10.40	12.20	9.70	14.50	13.20
			Max	8.4	40.5	20.40	31.10	23.00	27.70	30.50
		2011-12	Min	-	8.3	12.00	11.60	8.40	14.00	17.40
			Max	-	9.9	22.00	20.00	12.00	23.00	22.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi										
Sl. No.	Parameter	Year	Name of the Site	Addoor	Bantwal	Erinjipuzha	Perumannu	Kuttyadi	Kuniyil	Karathodu
			Name of the River/Stream	Gurpur	Nethravathi	Payaswani	Valapatanam	Kuttyadi	Chaliyar	Kadalundi
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	-	6.4	7.8	6.2	-	8.0	-
			Max	-	7.0	8.0	7.8	-	9.0	-
		2011-12	Min	-	6.2	6.2	5.6	-	6.2	6.8
			Max	-	7.5	7.8	7.8	-	7.0	7.4
23	BOD3-27	2010-11	Min	-	-	0.6	0.2	-	0.4	0.2
			Max	-	-	2.4	1.3	-	0.8	0.6
		2011-12	Min	-	0.4	0.2	0.2	0.4	0.2	0.2
			Max	-	0.8	0.8	0.8	0.4	1.0	1.4
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	1.51	0.91	1.00	1.28	-	-
			Max	-	1.51	0.91	1.00	1.28	-	-
		2011-12	Min	0.28	0.31	0.2	0.13	0.59	0.45	0.39
			Max	0.28	0.33	0.8	0.61	0.59	0.55	0.39
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	0.02	0.15	0.00	-	-
			Max	-	-	0.02	0.15	0.00	-	-
		2011-12	Min	0.24	0.34	0.03	0.02	0.33	0.08	0.09
			Max	0.24	0.41	0.96	0.24	0.33	0.37	0.09
32	Chromium	2010-11	Min	-	0.36	8.60	3.34	0.65	-	-
			Max	-	0.36	8.60	3.34	0.65	-	-
		2011-12	Min	2.46	2.5	3.06	1.76	1.14	5.62	1.15
			Max	2.46	3.08	114.04	6.68	1.14	6.02	1.15
33	Copper	2010-11	Min	-	3.90	3.54	2.25	3.20	-	-
			Max	-	3.90	3.54	2.25	3.20	-	-
		2011-12	Min	50.52	6.80	1.80	0.97	23.32	3.57	2.93
			Max	50.52	20.65	3.91	26.64	23.32	130.74	2.93
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	0.45	0.45	0.00	0.06	-	-
			Max	-	0.45	0.45	0.00	0.06	-	-
		2011-12	Min	0.20	0.54	3.89	0.17	0.20	0.98	4.17
			Max	0.20	4.46	13.90	4.05	0.20	8.07	4.17
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	8.48	11.91	39.11	21.77	-	-
			Max	-	8.48	11.91	39.11	21.77	-	-
		2011-12	Min	91.90	8.60	0.03	0.03	16.00	0.08	0.32
			Max	91.90	46.00	1.53	3.60	16.00	25.80	0.32
39	Total Hardness	2010-11	Min	13	14	16	16	10	15	20
			Max	32	24	22	27	13	24	22
		2011-12	Min	12	12	18	16	10	16	18
			Max	16	24	24	29	14	44	22
40	Sodium % (Na%)	2010-11	Min	24	23	21	26	26	27	33
			Max	27	35	40	33	34	31	36
		2011-12	Min	25	22	24	24	29	25	33
			Max	34	31	35	30	34	36	34
41	SAR	2010-11	Min	0.3	0.3	0.239	0.314	0.249	0.361	0.479
			Max	0.4	0.4	0.563	0.464	0.385	0.389	0.532
		2011-12	Min	0.3	0.2	0.307	0.311	0.301	0.325	0.483
			Max	0.4	0.4	0.512	0.408	0.364	0.553	0.499
42	RSC	2010-11	Min	0.0	0.0	0.00	0.00	0.00	0.00	0.00
			Max	0.0	0.0	0.04	0.02	0.00	0.02	0.00
		2011-12	Min	0.0	0.0	0.00	0.00	0.00	0.00	0.00
			Max	0.0	0.0	0.04	0.00	0.00	0.02	0.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi

Sl. No.	Parameter	Year	Name of the Site	Kumbidi	Pulamanthole	Mankara	Pudur	Ambarampalayam	Arangaly	Neeleswaram
				Name of the River/Stream	Bharatha-puzha	Pulanthodu	Bharatha-puzha	Kannadi-puzha	Aliyar	Chalakudy
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1	Q(Cumecs)	2010-11	Min	1.575	0.086	0.000	0.000	1.025	0.000	0.000
			Max	1417	603.6	404.2	181.0	404.0	359.0	1392
		2011-12	Min	0.000	0.165	0.000	0.000	1.666	0.000	0.000
			Max	1772	673.6	578.1	125.1	122.8	710.1	1395
2	Temperature °C	2010-11	Min	26.0	27.0	25.5	26.0	24.0	24.0	25.5
			Max	32.0	32.0	31.0	32.0	27.5	28.0	29.0
		2011-12	Min	26.0	27.0	26.5	26.0	23.0	23.5	25.0
			Max	29.0	32.0	30.5	32.0	27.5	26.0	29.5
3	pH_GEN	2010-11	Min	6.5	6.6	7.1	7.4	7.5	6.0	6.6
			Max	7.7	7.7	8.3	8.0	8.3	6.8	7.5
		2011-12	Min	6.3	5.8	7.0	7.3	6.9	6.0	5.9
			Max	7.4	7.2	8.5	8.1	8.0	6.5	7.0
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.8	0.5	2.2	2.6	1.1	0.5	0.5
			Max	3.0	1.8	6.0	5.0	6.0	0.9	1.3
		2011-12	Min	1.4	1.0	1.2	2.1	1.6	0.7	0.8
			Max	2.4	2.2	5.8	5.2	5.4	2.3	1.3
6	Sodium (Na)	2010-11	Min	8	3	14	17	5.9	3	3
			Max	12	6	30	28	54.4	4	3
		2011-12	Min	8	5	17	17	5.0	3	3
			Max	12	6	40	26	33.9	4	4
7	Calcium (Ca)	2010-11	Min	6.4	4.0	9.8	24.4	10	2.4	3.2
			Max	14.4	6.4	39.2	45.0	55	4.8	4.8
		2011-12	Min	8.0	5.6	21.6	28.0	11	4.0	3.2
			Max	16.0	7.2	38.4	35.2	38	5.6	4.0
8	Magnesium (Mg)	2010-11	Min	3.4	0.5	7.3	10.8	3.9	0.5	1.0
			Max	6.9	3.4	16.6	20.1	23.3	2.0	2.0
		2011-12	Min	2.9	1.0	10.2	12.0	1.9	0.5	1.0
			Max	8.8	3.0	17.0	18.6	14.6	2.0	2.5
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.1	0.1	0.018	0.0	0.0
			Max	0.6	0.7	0.5	0.4	0.411	1.0	1.3
		2011-12	Min	0.0	0.0	0.0	0.0	0.070	0.0	0.0
			Max	1.5	1.5	1.5	1.5	0.210	0.7	1.5
11	Ammonia (NH3-N)	2010-11	Min	0.05	0.05	0.05	0.06	0.00	0.05	0.05
			Max	0.26	0.73	0.47	0.13	0.12	0.47	0.45
		2011-12	Min	0.02	0.01	0.00	0.01	-	0.01	0.06
			Max	0.14	0.12	0.28	0.35	-	0.07	0.22
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	12.0	0.0	24.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	40.3	18.3	79.3	134.0	44	14.6	12.2
			Max	73.2	30.5	195.0	213.0	249	15.9	22.0
		2011-12	Min	39.0	20.7	113.5	146.4	37	12.2	13.4
			Max	80.5	31.7	178.1	201.3	198	18.3	17.1
14	Chloride (CL)	2010-11	Min	11	6	18	22	11.3	5	4
			Max	21	11	48	46	62.8	7	6
		2011-12	Min	13	8	26	24	9.4	6	5
			Max	21	10	70	35	44.1	8	6
15	Fluoride (F)	2010-11	Min	0.05	0.09	0.05	0.13	0.15	0.05	0.05
			Max	0.22	0.23	0.67	0.93	1.18	0.20	0.19
		2011-12	Min	0.03	0.02	0.04	0.23	0.22	0.00	0.01
			Max	2.32	0.29	3.30	4.46	0.80	0.20	0.25
16	Sulphate (SO4)	2010-11	Min	1	1	1	1	1.7	1	1
			Max	5	1	40	14	45.3	1	1
		2011-12	Min	1	1	1	1	2.3	1	1
			Max	9	2	28	28	28.5	3	1
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.15	0.07	0.12	0.11	0.63	0.10	0.10
			Max	0.53	0.45	0.76	0.63	6.12	0.21	0.28
		2011-12	Min	0.14	0.08	0.20	0.17	0.15	0.11	0.01
			Max	3.49	2.68	4.57	5.34	0.50	1.45	1.87
19	Nitrite (NO2-N)	2010-11	Min	0.0	0.0	0.0	0.0	-	0.0	0.0
			Max	0.1	0.0	0.2	0.1	-	0.1	0.1
		2011-12	Min	0.0	0.0	0.0	0.0	-	0.0	0.0
			Max	0.1	0.1	0.2	0.2	-	0.0	0.0
20	Phosphate (pO4)	2010-11	Min	0.020	0.032	0.053	0.045	0.250	0.033	0.010
			Max	0.210	0.860	0.890	0.290	0.588	0.112	0.110
		2011-12	Min	0.025	0.015	0.020	0.020	-	0.020	0.020
			Max	0.670	0.390	0.670	0.520	-	0.098	0.420
21	Silica (SiO2)	2010-11	Min	15.20	13.20	16.00	11.60	18.6	15.90	9.80
			Max	27.40	27.30	26.00	27.30	41.3	30.10	22.20
		2011-12	Min	16.40	14.00	15.00	17.80	-	11.00	8.00
			Max	23.00	22.00	22.00	25.00	-	18.00	16.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi										
Sl. No.	Parameter	Year	Name of the Site	Kumbidi	Pulamanthole	Mankara	Pudur	Ambarampalayam	Arangaly	Neeleswaram
				Name of the River/Stream	Bharathapuzha	Pulanthodu	Bharathapuzha	Kannadipuzha	Aliyar	Chalakudy
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
22	DO	2010-11	Min	7.4	-	-	-	5.3	7.7	7.4
			Max	8.4	-	-	-	7.5	7.9	7.4
		2011-12	Min	5.6	6.2	-	-	5.9	5.4	6.2
			Max	6.8	7.2	-	-	7.7	7.4	7.8
23	BOD3-27	2010-11	Min	0.2	0.2	0.6	-	0.4	0.6	0.2
			Max	1.6	1.2	0.6	-	4.6	1.5	1.2
		2011-12	Min	0.2	0.2	1.2	0.2	0.9	0.4	0.2
			Max	1.6	0.8	1.2	0.2	2.8	0.8	1.0
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	1.01	1.13	1.19	1.03	0.52	-	2.72
			Max	1.01	1.13	1.19	1.03	0.52	-	2.72
		2011-12	Min	0.30	0.01	0.32	0.49	0.75	0.01	0.01
			Max	0.55	0.80	0.32	0.70	1.63	0.01	0.06
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	0.02	0.00	0.04	0.09	0.24	-	0.01
			Max	0.02	0.00	0.04	0.09	0.24	-	0.01
		2011-12	Min	0.03	0.09	0.07	0.05	0.40	0.08	0.14
			Max	0.18	0.22	0.20	0.09	0.40	0.08	0.34
32	Chromium	2010-11	Min	0.66	1.76	2.24	2.20	2.37	-	0.71
			Max	0.66	1.76	2.24	2.20	2.37	-	0.71
		2011-12	Min	1.25	1.28	1.09	0.47	11.56	1.03	0.52
			Max	1.62	1.49	1.14	1.19	42.66	1.03	1.00
33	Copper	2010-11	Min	2.88	5.28	13.05	4.44	2.53	-	3.21
			Max	2.88	5.28	13.05	4.44	2.53	-	3.21
		2011-12	Min	0.68	2.97	2.00	3.00	2.98	5.60	0.12
			Max	4.66	3.95	2.63	3.93	26.72	5.60	26.08
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	0.20	0.27	0.85	0.83	0.94	-	0.14
			Max	0.20	0.27	0.85	0.83	0.94	-	0.14
		2011-12	Min	0.37	0.18	0.17	0.12	1.12	4.06	0.16
			Max	3.85	4.49	5.70	4.14	4.44	4.06	4.26
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	3.16	11.02	11.77	77.80	15.72	-	42.19
			Max	3.16	11.02	11.77	77.80	15.72	-	42.19
		2011-12	Min	0.05	0.03	0.05	0.04	10.00	0.04	0.06
			Max	5.80	9.70	15.30	11.20	12.90	0.04	27.10
39	Total Hardness	2010-11	Min	36	14	68	109	40	14	12
			Max	65	28	167	196	217	17	20
		2011-12	Min	32	22	103	120	36	12	14
			Max	77	27	151	154	157	22	20
40	Sodium % (Na%)	2010-11	Min	27	20	25	21	18	25	25
			Max	32	39	36	29	36	33	30
		2011-12	Min	25	29	26	19	17	26	22
			Max	33	32	35	31	31	34	31
41	SAR	2010-11	Min	0.543	0.280	0.728	0.695	0.4	0.288	0.301
			Max	0.724	0.531	1.124	0.908	1.7	0.417	0.326
		2011-12	Min	0.551	0.418	0.732	0.602	0.3	0.419	0.261
			Max	0.632	0.492	1.404	1.036	1.2	0.306	0.379
42	RSC	2010-11	Min	0.00	0.00	0.00	0.00	0.0	0.00	0.00
			Max	0.04	0.02	0.22	0.14	0.4	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.0	0.00	0.00
			Max	0.00	0.00	0.00	0.25	0.2	0.00	0.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi											
Sl. No.	Parameter	Year	Name of the Site	Vandi-periyar	Rama-mangalam	Kalampur	Kidangoor	Kallooppara	Malakkara	Thumpamon	
			Name of the River/Stream	Periyar	Muvattupuzha	Kaliyar	Meenachil	Manimala	Pamba	Achankovil	
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	
1	Q(Cumecs)	2010-11	Min	0.000	36.63	0.000	0.000	0.000	0.000	0.000	0.000
			Max	36.23	1161	611.6	533.7	686.4	994.1	505.6	
		2011-12	Min	0.000	39.03	0.000	0.000	0.000	0.000	0.000	0.000
			Max	52.60	794.3	277.3	547.8	585.2	783.3	225.2	
2	Temperature °C	2010-11	Min	22.0	27.0	26.0	26.0	27.5	24.5	27.0	
			Max	25.0	28.0	27.0	27.0	28.0	27.5	27.5	
		2011-12	Min	22.0	26.5	25.5	25.2	27.0	25.0	27.5	
			Max	25.0	29.0	27.0	26.0	28.5	25.0	30.0	
3	pH_GEN	2010-11	Min	6.5	6.2	5.6	5.9	6.1	6.2	5.9	
			Max	6.9	6.8	6.8	6.3	6.6	6.5	7.1	
		2011-12	Min	6.2	6.2	5.3	5.4	5.4	5.6	6.0	
			Max	7.4	7.1	6.9	6.0	6.8	6.5	6.7	
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
5	Potassium (K)	2010-11	Min	1.0	0.6	0.5	0.5	0.5	0.4	0.5	
			Max	2.0	1.5	1.0	3.0	1.4	1.0	1.4	
		2011-12	Min	1.2	1.0	0.7	0.7	0.9	0.5	0.9	
			Max	2.2	1.5	1.4	1.4	1.7	1.2	1.2	
6	Sodium (Na)	2010-11	Min	0.05	4	3	3	3	3	3	
			Max	0.55	5	4	5	4	4	4	
		2011-12	Min	4	3	3	3	3	3	4	
			Max	7	6	5	4	5	3	5	
7	Calcium (Ca)	2010-11	Min	2.4	2.4	2.4	3.2	2.0	2.4	3.2	
			Max	7.2	5.6	4.8	4.8	4.8	4.8	5.0	
		2011-12	Min	4.0	4.0	3.2	2.8	2.9	4.0	4.8	
			Max	8.0	6.4	5.6	4.8	4.0	4.8	5.6	
8	Magnesium (Mg)	2010-11	Min	2.9	2.5	2.5	1.5	2.0	1.5	2.0	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	1.0	1.0	1.0	0.5	1.0	0.5	0.5	
			Max	3.9	2.0	2.0	2.4	2.5	1.5	1.0	
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
10	Iron (Fe)	2010-11	Min	0.0	0.0	0.0	0.0	0.1	0.0	0.0	
			Max	0.9	0.5	0.2	0.4	0.7	0.5	1.0	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	1.5	20.0	1.5	0.1	1.5	0.5	0.1	
11	Ammonia (NH3-N)	2010-11	Min	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
			Max	0.55	0.34	0.10	0.47	0.60	0.38	0.38	
		2011-12	Min	0.02	0.02	0.01	0.00	0.01	0.01	0.00	
			Max	0.35	0.10	0.60	0.12	0.07	0.29	0.07	
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	Bicarbonate (HCO3)	2010-11	Min	8.5	14.7	12.2	11.0	12.2	9.8	13.4	
			Max	36.6	19.5	24.4	19.5	20.7	17.1	18.3	
		2011-12	Min	17.0	15.9	14.6	8.5	8.5	12.2	12.2	
			Max	37.8	22.0	19.5	17.1	18.3	19.5	20.7	
14	Chloride (CL)	2010-11	Min	6	6	6	6	5	5	6	
			Max	9	10	7	10	7	6	8	
		2011-12	Min	7	7	6	6	7	5	7	
			Max	13	10	9	7	9	6	9	
15	Fluoride (F)	2010-11	Min	0.05	0.05	0.09	0.05	0.05	0.09	0.05	
			Max	0.14	0.20	0.21	0.21	0.22	0.27	0.18	
		2011-12	Min	0.01	0.01	0.01	0.01	0.03	0.03	0.01	
			Max	0.43	0.27	0.15	0.13	0.16	0.12	0.21	
16	Sulphate (SO4)	2010-11	Min	1	1	1	1	1	1	1	
			Max	1	1	2	2	2	1	6	
		2011-12	Min	0.01	0.01	0.01	0.01	0.03	0.03	0.01	
			Max	0.43	0.27	0.15	0.13	0.16	0.12	0.21	
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
		2011-12	Min	-	-	-	-	-	-	-	
			Max	-	-	-	-	-	-	-	
18	Nitrate (NO3-N)	2010-11	Min	0.13	0.11	0.11	0.05	0.09	0.02	0.09	
			Max	1.07	0.31	0.23	0.57	0.30	0.43	0.50	
		2011-12	Min	0.13	0.12	0.08	0.09	0.10	0.14	0.10	
			Max	1.81	1.64	1.42	2.89	1.82	1.87	1.68	
19	Nitrite (NO2-N)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.1	0.1	0.1	0.0	0.1	0.1	0.1	
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Max	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
20	Phosphate (pO4)	2010-11	Min	0.083	0.013	0.015	0.010	0.010	0.024	0.045	
			Max	0.152	0.098	0.247	0.070	0.116	0.105	0.114	
		2011-12	Min	0.046	0.020	0.035	0.020	0.020	0.020	0.030	
			Max	0.280	0.670	0.460	0.140	0.046	0.670	0.114	
21	Silica (SiO2)	2010-11	Min	13.00	10.80	8.40	13.20	14.00	12.40	11.40	
			Max	29.40	26.90	19.80	30.10	24.30	29.20	21.30	
		2011-12	Min	12.00	12.00	5.40	10.80	12.20	11.00	18.00	
			Max	19.50	18.50	14.00	16.80	18.50	17.80	22.00	

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi										
Sl. No.	Parameter	Year	Name of the Site	Vandi-periyar	Rama-mangalam	Kalampur	Kidangoor	Kallooppara	Malakkara	Thumpamon
			Name of the River/Stream	Periyar	Muvattu-puzha	Kaliyar	Meenachil	Manimala	Pamba	Achankovil
(1)	(2)	(3)	(4)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
22	DO	2010-11	Min	8.1	7.5	-	7.3	7.0	6.8	6.7
			Max	9.4	8.0	-	7.8	7.6	7.8	7.2
		2011-12	Min	6.0	6.4	6.0	5.8	6.6	6.0	5.6
			Max	7.2	7.4	7.2	7.2	7.2	7.4	7.4
23	BOD3-27	2010-11	Min	0.2	0.2	0.2	0.4	0.2	0.2	0.2
			Max	1.5	1.0	1.2	1.4	0.8	0.8	0.8
		2011-12	Min	0.4	0.4	0.2	0.4	0.4	0.2	0.2
			Max	1.2	1.6	1.2	1.4	0.6	1.4	1.2
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	1.09	-	1.35	1.10	1.07	2.45
			Max	-	1.09	-	1.35	1.10	1.07	2.45
		2011-12	Min	0.21	0.01	0.28	0.01	0.01	0.30	0.01
			Max	0.21	0.04	0.71	0.01	0.59	0.30	0.01
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	0.02	-	0.32	0.01	0.01	0.07
			Max	-	0.02	-	0.32	0.01	0.01	0.07
		2011-12	Min	0.10	0.10	0.05	0.06	0.05	0.06	0.11
			Max	0.10	0.38	0.55	0.06	0.09	0.06	0.11
32	Chromium	2010-11	Min	-	1.36	-	0.50	0.41	1.06	0.82
			Max	-	1.36	-	0.50	0.41	1.06	0.82
		2011-12	Min	1.91	2.41	0.89	0.88	0.98	1.26	0.85
			Max	1.91	2.68	1.97	0.88	1.02	1.26	0.85
33	Copper	2010-11	Min	-	2.90	-	4.31	2.71	2.90	3.76
			Max	-	2.90	-	4.31	2.71	2.90	3.76
		2011-12	Min	58.04	2.98	2.19	4.80	0.95	0.93	3.02
			Max	58.04	64.57	8.24	4.80	33.47	0.93	3.02
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	0.28	-	0.12	0.03	0.08	0.43
			Max	-	0.28	-	0.12	0.03	0.08	0.43
		2011-12	Min	0.23	0.21	0.07	4.17	0.12	4.21	3.97
			Max	0.23	3.91	4.46	4.17	3.86	4.21	3.97
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	13.80	-	67.06	44.44	76.94	20.22
			Max	-	13.80	-	67.06	44.44	76.94	20.22
		2011-12	Min	6.10	0.06	0.02	0.04	0.03	0.06	0.07
			Max	6.10	19.60	8.20	0.04	6.70	0.06	0.07
39	Total Hardness	2010-11	Min	8	14	12	12	13	10	14
			Max	30	20	22	18	16	16	18
		2011-12	Min	16	14	14	9	11	12	14
			Max	36	22	18	18	18	16	18
40	Sodium % (Na%)	2010-11	Min	28	32	24	30	25	27	27
			Max	45	35	36	37	37	42	39
		2011-12	Min	24	30	28	25	32	27	31
			Max	34	36	34	39	38	33	36
41	SAR	2010-11	Min	0.386	0.389	0.323	0.347	0.293	0.301	0.331
			Max	0.552	0.523	0.450	0.511	0.468	0.494	0.509
		2011-12	Min	0.336	0.390	0.335	0.307	0.394	0.313	0.401
			Max	0.493	0.555	0.491	0.434	0.519	0.364	0.491
42	RSC	2010-11	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.00	0.02	0.00	0.00
		2011-12	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi							
Sl. No.	Parameter	Year	Name of the Site	Pattazhy	Ayilam	Kuzhithural	Ashramam
			Name of the River/Stream	Kallada	Vamana-puram	Thambra-parani	Pazhayar
1)	(2)	(3)	(4)	(33)	(34)	(35)	(36)
1	Q(Cumecs)	2010-11	Min	8.771	0.000	0.000	0.000
			Max	502.6	522.0	525.5	169.3
		2011-12	Min	6.248	0.000	0.000	0.000
			Max	174.9	252.3	49.98	113.4
2	Temperature °C	2010-11	Min	24.0	25.5	26.0	25.5
			Max	27.5	28.5	26.0	27.0
		2011-12	Min	24.5	25.5	25.5	24.0
			Max	26.0	27.0	25.5	26.0
3	pH_GEN	2010-11	Min	6.4	6.6	6.6	7.0
			Max	6.8	6.9	6.8	7.1
		2011-12	Min	5.9	6.4	7.7	6.1
			Max	6.7	6.5	7.7	7.9
4	Sp.Conductance	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
5	Potassium (K)	2010-11	Min	0.4	0.4	3.4	4.5
			Max	2.8	1.8	7.5	5.3
		2011-12	Min	1.3	1.4	2.5	1.7
			Max	2.3	1.8	2.5	11.0
6	Sodium (Na)	2010-11	Min	4	5	11	10
			Max	6	7	16	17
		2011-12	Min	4	4	9	9
			Max	5	5	9	28
7	Calcium (Ca)	2010-11	Min	2.5	3.2	7.2	8.8
			Max	4.8	4.3	11.2	14.4
		2011-12	Min	4.0	4.0	8.8	12.0
			Max	4.8	5.6	8.8	29.6
8	Magnesium (Mg)	2010-11	Min	1.0	1.5	3	3.9
			Max	2.0	2.0	3.4	5.9
		2011-12	Min	1.0	0.5	2.5	2.0
			Max	1.0	2.0	2.5	7.6
9	Aluminium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
10	Iron (Fe)	2010-11	Min	0.0	0.3	0.2	0.1
			Max	0.5	1.3	0.3	0.3
		2011-12	Min	0.0	0.0	1.5	0.1
			Max	1.6	0.7	1.5	0.3
11	Ammonia (NH3-N)	2010-11	Min	0.05	0.05	0.05	0.05
			Max	0.38	0.38	0.08	0.08
		2011-12	Min	0.01	0.01	0.60	0.15
			Max	0.09	0.12	0.60	0.21
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	12.2	12.2	34.2	29.3
			Max	23.2	14.6	35.4	63.4
		2011-12	Min	9.4	15.9	41.5	43.9
			Max	17.1	17.4	41.5	117.1
14	Chloride (CL)	2010-11	Min	6	8	14	17
			Max	10	13	22	26
		2011-12	Min	7	8	16	13
			Max	10	10	18	44
15	Fluoride (F)	2010-11	Min	0.08	0.05	0.05	0.23
			Max	0.20	0.27	0.05	0.23
		2011-12	Min	0.03	0.03	2.5	0.05
			Max	0.18	0.17	2.5	2.05
16	Sulphate (SO4)	2010-11	Min	1	1	5	1
			Max	1	7	22	16
		2011-12	Min	1	1	1	1
			Max	9	3	1	7
17	Sulphite	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.08	0.09	0.23	0.04
			Max	0.42	0.28	0.27	0.22
		2011-12	Min	0.01	0.09	1.30	0.17
			Max	1.55	1.52	1.30	4.55
19	Nitrite (NO2-N)	2010-11	Min	0.0	0.0	0.0	0.0
			Max	0.1	0.0	0.1	0.1
		2011-12	Min	0.0	0.0	-	0.0
			Max	0.1	0.0	-	0.1
20	Phosphate (pO4)	2010-11	Min	0.025	0.033	0.051	0.012
			Max	0.172	0.083	0.148	0.295
		2011-12	Min	0.020	0.015	-	0.070
			Max	0.140	0.015	-	0.750
21	Silica (SiO2)	2010-11	Min	9.20	12.50	20.40	15.9
			Max	24.60	28.30	28.00	23.00
		2011-12	Min	14.60	18.00	18.00	5.50
			Max	21.00	22.00	18.00	22.00

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

IX Basin : West Flowing Rivers from Kanyakumari to Tapi							
Sl. No.	Parameter	Year	Name of the Site	Pattazhy	Ayilam	Kuzbithural	Ashramam
			Name of the River/Stream	Kallada	Vamana-puram	Thambra-parani	Pazhayar
1)	(2)	(3)	(4)	(33)	(34)	(35)	(36)
22	DO	2010-11	Min	6.5	-	-	-
			Max	7.8	-	-	-
		2011-12	Min	6.4	6.6	-	-
			Max	7.4	7.4	-	-
23	BOD3-27	2010-11	Min	0.2	0.4	-	-
			Max	1.4	1.4	-	-
		2011-12	Min	0.2	0.8	0.8	-
			Max	1.2	1.4	0.8	-
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	1.17	-	-	-
			Max	1.17	-	-	-
		2011-12	Min	0.13	-	0.34	-
			Max	0.32	-	0.34	-
30	Boron (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
31	Cadmium	2010-11	Min	0.61	-	-	-
			Max	0.61	-	-	-
		2011-12	Min	0.04	-	0.11	-
			Max	0.08	-	0.11	-
32	Chromium	2010-11	Min	0.97	-	-	-
			Max	0.97	-	-	-
		2011-12	Min	0.74	-	0.76	-
			Max	0.75	-	0.76	-
33	Copper	2010-11	Min	7.40	-	-	-
			Max	7.40	-	-	-
		2011-12	Min	1.80	-	43.69	-
			Max	24.57	-	43.69	-
34	Cyanide	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
35	Lead	2010-11	Min	0.27	-	-	-
			Max	0.27	-	-	-
		2011-12	Min	0.14	-	0.28	-
			Max	4.16	-	0.28	-
36	Manganese	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
38	Zinc	2010-11	Min	14.77	-	-	-
			Max	14.77	-	-	-
		2011-12	Min	0.02	-	16.70	-
			Max	0.02	-	16.70	-
39	Total Hardness	2010-11	Min	14	14	30	40
			Max	20	19	42	61
		2011-12	Min	14	16	32	38
			Max	16	18	32	103
40	Sodium % (Na%)	2010-11	Min	29	32	40	31
			Max	45	47	40	38
		2011-12	Min	33	31	36	34
			Max	39	40	36	36
41	SAR	2010-11	Min	0.406	0.470	0.840	0.673
			Max	0.694	0.786	1.068	0.975
		2011-12	Min	0.445	0.438	0.712	0.662
			Max	0.579	0.590	0.712	1.204
42	RSC	2010-11	Min	0.00	0.00	0.00	0.00
			Max	0.00	0.00	0.00	0.01
		2011-12	Min	0.00	0.00	0.04	0.00
			Max	0.00	0.00	0.04	0.00

Source: Water Quality Year Book (West Flowing Rivers from Kanyakumari to Tapi) for the period of 2010-2011 to 2011-2012.

Note : 1. All the ionic concentrations are expressed in mg/lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

X Basin : Tapi Basin						
Sl. No.	Parameter	Year	Name of the Site	Burhanpur	Gopalkheda	Sarangkheda
			Name of the River/Stream	Tapi	Purna	Tapi
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000
			Max	2803	1293	4876
		2011-12	Min	0.000	0.000	0.000
			Max	5965	768.2	4404
2	Temperature °C	2010-11	Min	21.0	22.0	24.0
			Max	30.0	29.0	26.0
		2011-12	Min	18.0	27.0	23.0
			Max	30.0	27.5	23.0
3	pH_GEN	2010-11	Min	8.2	7.8	7.9
			Max	8.5	8.0	8.0
		2011-12	Min	6.6	7.5	7.6
			Max	8.0	8.2	7.6
4	Sp.Conductance	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-
			Max	48.2	16.0	24.2
		2011-12	Min	4.0	11.4	12.4
			Max	11.0	18.1	12.4
6	Sodium (Na)	2010-11	Min	4.2	2.3	4.5
			Max	184.2	170.2	67.5
		2011-12	Min	14.0	74.4	58.7
			Max	58.1	80.9	58.7
7	Calcium (Ca)	2010-11	Min	31	32	30
			Max	39	36	32
		2011-12	Min	32	35	30
			Max	36	36	30
8	Magnesium (Mg)	2010-11	Min	6.6	6.8	7.8
			Max	12.2	9.7	8.8
		2011-12	Min	5.8	6.8	5.8
			Max	8.4	9.4	5.8
9	Aluminium	2010-11	Min	98.0	60.0	90
			Max	200	160.0	135
		2011-12	Min	0.05	0.12	0.05
			Max	0.14	0.16	0.05
10	Iron (Fe)	2010-11	Min	0.10	0.16	0.08
			Max	0.4	0.26	0.09
		2011-12	Min	-	-	-
			Max	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	0.05	0.08	0.06
			Max	0.16	0.08	0.06
12	Carbonate (CO3)	2010-11	Min	0.05	0.0	0.0
			Max	12.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	110	73	110
			Max	232	195	165
		2011-12	Min	79	98	80
			Max	120	115	80
14	Chloride (CL)	2010-11	Min	6.3	4.2	6.3
			Max	283.7	302.3	104.9
		2011-12	Min	25.6	128.1	104.9
			Max	95.5	142.2	104.9
15	Fluoride (F)	2010-11	Min	0.10	0.16	0.08
			Max	0.36	0.26	0.09
		2011-12	Min	0.12	0.12	0.08
			Max	0.26	0.14	0.08
16	Sulphate (SO4)	2010-11	Min	6.7	3.4	1.0
			Max	20.7	7.7	1.4
		2011-12	Min	10.0	12.5	10.0
			Max	26.4	10	10.0
17	Sulphite	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	0.16
			Max	0.38	0.27	0.20
		2011-12	Min	0.12	0.19	0.10
			Max	0.25	0.20	0.10
19	Nitrite (NO2-N)	2010-11	Min	0.02	0.02	0.06
			Max	0.10	0.20	0.10
		2011-12	Min	0.02	0.05	0.02
			Max	0.10	0.06	0.02
20	Phosphate (pO4)	2010-11	Min	0.050	0.060	0.050
			Max	0.220	0.100	0.100
		2011-12	Min	0.050	0.050	0.090
			Max	0.100	0.060	0.090
21	Silica (SiO2)	2010-11	Min	18.3	9.2	8.2
			Max	24.2	20.2	9.5
		2011-12	Min	10.0	10.0	20.3
			Max	24.3	28.7	20.3

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

X Basin : Tapi Basin						
Sl. No.	Parameter	Year	Name of the Site	Burhanpur	Gopalkheda	Sarangkheda
			Name of the River/Stream	Tapi	Purna	Tapi
(1)	(2)	(3)	(4)	(5)	(6)	(7)
22	DO	2010-11	Min	-	-	10.5
			Max	-	-	10.5
		2011-12	Min	-	-	-
			Max	-	-	-
23	BOD3-27	2010-11	Min	0.3	-	-
			Max	43.0	7.0	0.8
		2011-12	Min	0.6	1.5	2.6
			Max	4.3	1.8	2.6
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
31	Cadmium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
32	Chromium	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
33	Copper	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
34	Cyanide	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
35	Lead	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
36	Manganese	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
37	Mercury	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
38	Zinc	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	-	-	-
			Max	-	-	-
39	Total Hardness	2010-11	Min	108	-	117
			Max	139	-	-
		2011-12	Min	104	116	99
			Max	125	129	99
40	Sodium % (Na%)	2010-11	Min	77	-	-
			Max	21	-	-
		2011-12	Min	21	54	53
			Max	48	55	53
41	SAR	2010-11	Min	7.7	-	-
			Max	0.6	-	-
		2011-12	Min	0.6	3.0	2.6
			Max	2.3	3.1	2.6
42	RSC	2010-11	Min	-	-	-
			Max	-	-	-
		2011-12	Min	0.0	0.0	0.0
			Max	0.0	0.0	0.0

Source: Water Quality Year Book (Tapi Basin) for the period of 2010-2011 to 2011-2012.

- Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.  
 2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XI Basin : Narmada

Sl. No.	Parameter	Year	Name of the Site	Chandwada	Garudeshwar	Pati	Dhulsar	Mandleshwar	Kogaon	Handia
			Name of the River/Stream	Orsang	Narmada	Goi	Uri	Narmada	Kundi	Narmada
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Q(Cumecs)	2010-11	Min	0.000	2.148	0.000	0.000	85.42	0.000	77.58
			Max	2069	4543	2395	298.8	10258	3464	6587
		2011-12	Min	0.00	30.36	0.000	0.000	266.6	0.000	69.25
			Max	979.7	11632	227.0	91.05	17699	990.9	8044
2	Temperature °C	2010-11	Min	27.0	21.0	18.0	27.0	20.0	14.0	18.5
			Max	30.0	27.0	29.0	29.0	30.0	29.5	31.0
		2011-12	Min	19.0	17.0	27.0	27.0	18.0	24.0	18.0
			Max	30.0	29.0	27.0	27.0	29.0	30.0	32.5
3	pH_GEN	2010-11	Min	-	7.6	8.2	8.2	7.9	8.1	7.9
			Max	-	8.1	8.4	8.5	8.5	8.5	8.7
		2011-12	Min	6.8	7.0	8.2	8.4	8.1	8.4	8.0
			Max	7.7	8.3	8.4	8.5	8.3	8.5	8.7
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-	-	-	-
			Max	22.6	26.6	1.6	4.9	2.9	3.0	3.2
		2011-12	Min	9.6	9.6	0.9	2.0	1.0	2.0	1.0
			Max	20.4	16.5	1.9	3.5	3.1	2.8	2.7
6	Sodium (Na)	2010-11	Min	15.0	6.2	17.8	19.2	3.4	13.2	5.9
			Max	81.9	55.9	24.1	22.5	33.5	37.6	19.3
		2011-12	Min	56.5	25.0	13.4	22.7	4.4	10.6	5.3
			Max	191.8	62.6	22.1	36.9	12.3	29.2	12.7
7	Calcium (Ca)	2010-11	Min	14	28	26	26	22	18	23
			Max	32	82	37	32	42	31	28
		2011-12	Min	32	32	24	22	23	28	21
			Max	34	36	36	51	31	38	35
8	Magnesium (Mg)	2010-11	Min	6.8	5.8	14.6	11.9	4.1	10.0	3.4
			Max	9.7	7.8	28.2	24.8	22.1	29.4	16.0
		2011-12	Min	6.8	6.8	14.8	16.0	7.5	15.8	4.6
			Max	10.7	8.2	23.3	26.0	13.4	34.3	15.8
9	Aluminium	2010-11	Min	0.04	0.02	-	-	-	-	-
			Max	0.16	0.10	-	-	-	-	-
		2011-12	Min	0.10	0.05	-	-	-	-	-
			Max	0.16	0.12	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-	-
			Max	0.08	0.06	-	-	-	-	-
		2011-12	Min	0.06	0.05	-	-	-	-	-
			Max	0.09	0.10	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	-	-	-	-	-
			Max	0.0	0.0	16.7	13.9	11.1	16.7	16.7
		2011-12	Min	0.0	0.0	0.0	6.1	0.0	9.1	0.0
			Max	0.0	0.0	9.1	12.1	6.1	12.1	15.2
13	Bicarbonate (HCO3)	2010-11	Min	49	98	181	209	153	113	127
			Max	122	134	232	254	237	243	203
		2011-12	Min	98	85	142	167	151	188	120
			Max	160	122	228	244	247	238	216
14	Chloride (CL)	2010-11	Min	21.0	9.4	6.5	17.9	7.9	10.3	6.3
			Max	135.5	83.4	30.6	26.1	59.9	42.5	21.5
		2011-12	Min	93.7	46.1	9.9	15.4	7.1	11.9	5.3
			Max	293.0	115.4	28.2	23.4	12.0	31.8	11.7
15	Fluoride (F)	2010-11	Min	0.14	0.06	0.05	0.31	0.05	0.10	0.05
			Max	0.18	0.24	0.41	0.39	0.62	0.45	0.60
		2011-12	Min	0.06	0.05	0.05	0.14	0.06	0.10	0.05
			Max	0.10	0.12	0.34	0.38	0.37	0.33	0.40
16	Sulphate (SO4)	2010-11	Min	6.1	1.0	8.1	53.1	1.5	9.3	1.0
			Max	9.6	14.4	36.7	63.0	155.7	43.8	34.8
		2011-12	Min	8.7	2.0	3.0	9.9	2.6	6.3	1.9
			Max	10.6	16.6	14.9	21.9	19.0	19.4	6.7
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	3.64	3.36	12.59	2.62	2.90	8.82	2.00
			Max	0.06	0.04	2.52	2.73	0.02	1.34	0.06
		2011-12	Min	0.12	0.15	21.92	6.50	3.35	11.10	4.66
			Max	0.08	0.00	0.01	0.01	0.00	0.01	0.01
19	Nitrite (NO2-N)	2010-11	Min	0.83	0.83	0.05	0.02	0.06	0.10	0.07
			Max	0.02	0.01	0.02	0.02	0.00	0.01	0.00
		2011-12	Min	0.05	0.05	0.17	0.23	0.09	0.09	0.32
			Max	0.040	0.040	0.018	0.439	0.010	0.033	0.014
20	Phosphate (pO4)	2010-11	Min	0.080	0.080	0.582	0.629	0.548	0.524	0.543
			Max	0.050	0.020	0.019	0.033	0.002	0.026	0.004
		2011-12	Min	0.140	0.120	0.460	0.285	0.160	0.189	0.248
			Max	6.2	10.0	28.1	25.9	17.5	22.9	15.4
21	Silica (SiO2)	2010-11	Min	24.4	24.1	74.0	35.3	62.7	33.1	70.9
			Max	8.0	10.0	22.3	26.5	12.1	25.4	17.3
		2011-12	Min	10.0	22.2	44.5	46.2	34.3	60.9	31.9
			Max	10.0	22.2	44.5	46.2	34.3	60.9	31.9

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XI Basin : Narmada

Sl. No.	Parameter	Year	Name of the Site	Chandwada	Garudeshwar	Pati	Dhulsar	Mandleshwar	Kogaon	Handia
			Name of the River/Stream	Orsang	Narmada	Goi	Uri	Narmada	Kundi	Narmada
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
22	DO	2010-11	Min	-	-	5.4	4.8	4.4	2.7	3.3
			Max	-	-	6.8	5.6	7.3	6.8	7.7
		2011-12	Min	-	-	4.2	5.1	4.7	4.5	5.3
			Max	-	-	6.8	6.1	7.8	5.4	7.3
23	BOD3-27	2010-11	Min	-	-	0.3	0.2	0.1	0.2	0.1
			Max	1.0	2.0	0.9	0.6	1.3	1.4	2.1
		2011-12	Min	0.6	0.5	0.6	0.4	0.7	0.9	0.9
			Max	3.0	2.0	1.4	1.2	2.3	1.6	2.4
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	-	98	133	125	-	-	-
			Max	115	235	195	183	197	192	136
		2011-12	Min	113	109	122	122	96	136	81
			Max	125	118	183	208	133	227	153
40	Sodium % (Na%)	2010-11	Min	19	8	18	21	6	14	10
			Max	67	52	23	25	40	31	35
		2011-12	Min	48	30	17	20	8	14	10
			Max	74	50	28	39	20	22	19
41	SAR	2010-11	Min	0.6	0.3	0.6	0.7	0.1	0.4	0.2
			Max	4.1	2.5	0.8	0.8	1.3	1.2	1.0
		2011-12	Min	2.3	1.0	0.5	0.7	0.2	0.4	0.2
			Max	7.5	2.6	0.9	1.5	0.5	0.8	0.5
42	RSC	2010-11	Min	0.0	0.0	0.1	0.7	0.0	0.2	0.2
			Max	0.0	0.0	1.0	1.1	0.9	1.2	1.2
		2011-12	Min	0.0	0.0	0.0	0.0	0.3	0.0	0.3
			Max	0.1	0.0	0.3	0.6	2.3	0.7	0.9

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XI Basin : Narmada										
Sl. No.	Parameter	Year	Name of the Site	Chhidgaon	Hoshangabad	Sandia	Gadarwara	Barman	Belkheri	Patan
			Name of the River/Stream	Ganjal	Narmada	Narmada	Shakkar	Narmada	Sher	Hiran
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Q(Cumecs)	2010-11	Min	0.347	65.88	67.92	0.000	37.46	0.109	0.000
			Max	270.8	4784	2508	901.5	2536	411.7	866.1
		2011-12	Min	0.272	0.000	33.35	0.000	36.82	0.040	0.000
			Max	816.0	9076	8983	736.2	8131	431.1	1445
2	Temperature °C	2010-11	Min	15.0	14.0	15.5	17.5	19.0	20.0	20.0
			Max	28.5	29.0	31.5	24.5	31.0	29.0	30.0
		2011-12	Min	16.0	17.0	17.5	16.0	18.0	18.0	19.0
			Max	29.5	31.0	34.0	23.0	31.0	30.0	30.0
3	pH_GEN	2010-11	Min	8.0	8.0	7.9	7.9	7.6	7.8	7.7
			Max	8.4	8.9	8.4	9.0	8.2	8.3	9.0
		2011-12	Min	7.8	8.1	7.7	8.0	8.0	7.9	7.8
			Max	8.5	8.4	8.4	8.4	8.4	8.3	8.4
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	3.4	2.1	2.5	3.4	2.4	1.9	8.2
			Max	1.2	1.1	0.9	1.4	1.0	0.9	2.5
		2011-12	Min	2.6	3.4	2.5	2.7	3.2	2.3	8.3
			Max	9.2	4.3	1.8	6.4	2.1	8.1	4.3
6	Sodium (Na)	2010-11	Min	39.3	23.0	16.1	16.6	13.7	17.8	35.7
			Max	5.3	5.2	3.6	3.8	4.3	4.8	8.7
		2011-12	Min	51.5	12.0	11.2	13.7	7.8	19.4	34.8
			Max	15	19	17	13	21	14	14
7	Calcium (Ca)	2010-11	Min	41	30	31	40	30	38	60
			Max	12	20	22	20	23	21	21
		2011-12	Min	41	38	41	41	32	46	65
			Max	5.8	5.8	3.9	4.4	7.5	7.5	5.4
8	Magnesium (Mg)	2010-11	Min	21.4	21.6	14.6	22.8	50.5	33.1	24.8
			Max	5.6	6.1	4.1	4.6	4.6	4.9	3.2
		2011-12	Min	26.2	17.3	23.8	21.4	14.6	30.4	39.9
			Max	-	-	-	-	-	-	-
9	Aluminium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	-	0.0	-	0.0
			Max	11.1	16.7	8.3	13.9	0.0	5.6	36.1
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Max	15.2	9.1	9.1	15.2	6.1	8.5	18.2
13	Bicarbonate (HCO3)	2010-11	Min	104	113	96	110	136	99	130
			Max	328	198	215	260	491	328	345
		2011-12	Min	80	113	117	107	123	110	107
			Max	417	311	282	259	210	361	373
14	Chloride (CL)	2010-11	Min	6.6	4.4	5.1	7.1	4.3	3.8	6.3
			Max	15.6	10.5	11.3	15.7	18.6	13.7	36.9
		2011-12	Min	3.5	4.9	4.5	4.9	5.3	5.4	7.8
			Max	17.9	13.0	19.2	13.2	16.1	19.5	24.6
15	Fluoride (F)	2010-11	Min	0.18	0.09	0.05	0.23	0.05	0.32	0.23
			Max	0.60	0.53	0.47	0.49	0.43	0.52	0.69
		2011-12	Min	0.05	0.05	0.05	0.05	0.05	0.05	0.06
			Max	0.36	0.42	0.37	0.32	0.34	0.37	0.37
16	Sulphate (SO4)	2010-11	Min	3.3	33.5	1.0	1.0	1.0	1.0	1.0
			Max	32.7	1.0	40.2	13.9	38.8	20.3	40.2
		2011-12	Min	5.0	1.3	1.7	1.5	2.1	2.0	1.9
			Max	14.1	8.9	16.7	8.9	6.4	5.0	7.8
17	Sulphite	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	1.81	1.36	1.83	1.84	2.16	1.77	2.18
			Max	0.05	0.02	0.04	0.13	0.23	0.22	0.19
		2011-12	Min	7.79	4.05	3.93	4.14	3.11	4.44	12.20
			Max	0.00	0.00	0.00	0.00	0.00	0.0	0.00
19	Nitrite (NO2-N)	2010-11	Min	0.07	0.08	0.08	0.09	0.09	0.11	0.06
			Max	0.00	0.00	0.00	0.01	0.00	0.00	0.00
		2011-12	Min	0.13	0.19	0.08	0.33	0.09	0.08	1.10
			Max	0.025	0.018	0.010	0.517	0.016	0.044	0.010
20	Phosphate (pO4)	2010-11	Min	0.580	0.547	0.696	0.029	0.475	0.508	0.452
			Max	0.003	0.002	0.004	0.010	0.001	0.020	0.016
		2011-12	Min	0.447	0.456	0.401	0.182	0.230	0.211	0.572
			Max	11.3	9.8	3.5	15.5	10.6	10.1	1.7
21	Silica (SiO2)	2010-11	Min	38.5	36.1	32.8	33.6	33.1	41.6	36.0
			Max	27.8	19.7	11.6	19.7	20.0	13.9	13.9
		2011-12	Min	49.5	31.4	64.4	34.4	34.5	47.7	39.8
			Max	-	-	-	-	-	-	-

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XI Basin : Narmada										
Sl. No.	Parameter	Year	Name of the Site	Chhidgaon	Hoshangabad	Sandia	Gadarwara	Barman	Belkheri	Patan
			Name of the River/Stream	Ganjal	Narmada	Narmada	Shakkar	Narmada	Sher	Hiran
(1)	(2)	(3)	(4)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
22	DO	2010-11	Min	2.2	5.4	4.2	4.4	2.4	4.1	2.0
			Max	7.7	7.8	7.4	8.4	7.1	7.8	8.8
		2011-12	Min	4.6	4.9	4.5	4.5	3.6	3.1	2.3
			Max	6.5	7.7	7.1	8.0	7.6	7.5	8.1
23	BOD3-27	2010-11	Min	0.2	0.2	0.1	0.3	0.1	0.3	0.6
			Max	1.5	2.4	2.0	1.7	1.4	1.6	2.8
		2011-12	Min	0.1	0.5	0.5	0.3	0.4	0.1	0.8
			Max	1.6	1.6	1.8	2.7	2.8	1.4	2.8
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-	-
			Max	-	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	72	-	59	-	89	72	81
			Max	187	160	128	192	286	229	235
		2011-12	Min	54	78	82	73	87	77	71
			Max	205	151	187	180	141	233	273
40	Sodium % (Na%)	2010-11	Min	14	8	3	11	4	10	5
			Max	35	30	36	34	22	30	30
		2011-12	Min	9	9	8	9	9	7	12
			Max	37	19	20	17	15	17	28
41	SAR	2010-11	Min	0.4	0.2	0.1	0.3	0.1	0.3	0.2
			Max	1.3	0.8	1.0	0.9	0.6	0.8	1.2
		2011-12	Min	0.3	0.2	0.2	0.2	0.2	0.2	0.4
			Max	1.6	0.5	0.5	0.5	0.3	0.6	1.1
42	RSC	2010-11	Min	0.3	0.0	0.1	0.3	0.0	0.2	0.5
			Max	2.4	1.7	1.0	1.2	2.4	1.2	3.2
		2011-12	Min	0.0	0.2	0.2	0.2	0.1	0.2	0.0
			Max	2.8	2.5	1.0	1.1	0.8	3.7	2.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

## XI Basin : Narmada

Sl. No.	Parameter	Year	Name of the Site	Banni	Mohgaon	Manot	Dindori
			Name of the River/ Stream	Banjar	Burhner	Narmada	Narmada
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	5.342
			Max	361.0	2889	1900	490.1
		2011-12	Min	0.000	0.032	0.000	0.000
			Max	403.9	1864	2439	1044
2	Temperature °C	2010-11	Min	27.0	16.3	11.3	11.0
			Max	29.0	29.5	28.0	28.0
		2011-12	Min	16.0	17.5	17.5	15.0
			Max	26.5	30.0	30.0	27.5
3	pH_GEN	2010-11	Min	7.6	7.4	7.5	7.2
			Max	7.8	8.9	8.5	8.4
		2011-12	Min	7.9	8.0	7.6	7.9
			Max	8.3	8.5	8.5	8.4
4	Sp.Conductance	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	0.5
			Max	3.7	3.2	3.4	2.4
		2011-12	Min	1.7	1.1	0.8	0.9
			Max	4.2	2.4	2.1	2.1
6	Sodium (Na)	2010-11	Min	7.9	3.6	4.9	6.8
			Max	11.2	13.6	20.5	17.4
		2011-12	Min	7.3	6.5	4.5	4.8
			Max	9.8	12.9	13.7	14.4
7	Calcium (Ca)	2010-11	Min	16	12	13	18
			Max	23	28	28	32
		2011-12	Min	11	15	17	17
			Max	28	34	33	43
8	Magnesium (Mg)	2010-11	Min	2.7	4.9	3.4	5.1
			Max	7.1	19.7	18.5	20.7
		2011-12	Min	4.1	6.1	4.4	6.1
			Max	10.7	26.7	19.7	18.2
9	Aluminium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
10	Iron (Fe)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	-	-
			Max	0.0	25.0	13.9	8.3
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	6.1	13.9	12.1	9.1
13	Bicarbonate (HCO3)	2010-11	Min	90	71	82	110
			Max	172	212	240	206
		2011-12	Min	74	76	76	120
			Max	167	282	226	219
14	Chloride (CL)	2010-11	Min	4.7	5.7	5.7	7.4
			Max	8.1	32.0	15.8	15.8
		2011-12	Min	4.8	4.7	4.1	7.0
			Max	16.3	38.4	15.5	17.0
15	Fluoride (F)	2010-11	Min	0.26	0.23	0.07	0.20
			Max	0.42	0.52	0.47	0.40
		2011-12	Min	0.08	0.05	0.08	0.06
			Max	0.34	0.34	0.41	0.39
16	Sulphate (SO4)	2010-11	Min	27.9	1.0	1.0	1.0
			Max	33.4	20.3	38.9	47.5
		2011-12	Min	4.1	1.4	1.6	2.8
			Max	10.0	17.5	8.0	8.4
17	Sulphite	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.82	-	-	-
			Max	1.34	1.31	1.72	1.14
		2011-12	Min	0.08	0.01	0.03	0.02
			Max	3.20	3.23	3.17	3.18
19	Nitrite (NO2-N)	2010-11	Min	0.00	0.00	0.00	0.00
			Max	0.03	0.24	0.12	0.20
		2011-12	Min	0.01	0.00	0.00	0.01
			Max	0.14	0.09	0.05	0.24
20	Phosphate (pO4)	2010-11	Min	0.302	0.010	0.010	0.020
			Max	0.458	0.481	0.447	0.493
		2011-12	Min	0.015	0.023	0.022	0.015
			Max	0.253	0.229	0.193	0.140
21	Silica (SiO2)	2010-11	Min	31.8	12.0	2.3	3.4
			Max	37.8	34.2	32.9	45.3
		2011-12	Min	15.0	17.5	19.1	17.5
			Max	25.3	36.1	32.9	31.4

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XI Basin : Narmada							
Sl. No.	Parameter	Year	Name of the Site	Banni	Mohgaon	Manot	Dindori
			Name of the River/Stream	Banjar	Burhner	Narmada	Narmada
(1)	(2)	(3)	(4)	(19)	(20)	(21)	(22)
22	DO	2010-11	Min	4.1	4.5	2.9	3.6
			Max	5.5	7.2	6.8	6.7
		2011-12	Min	4.7	3.7	4.6	1.5
			Max	7.0	7.1	7.5	6.5
23	BOD3-27	2010-11	Min	0.4	0.3	0.3	0.3
			Max	2.0	2.0	1.9	2.3
		2011-12	Min	0.1	0.2	0.1	0.5
			Max	2.2	2.9	2.1	2.3
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
39	Total Hardness	2010-11	Min	-	50	62	-
			Max	86	138	138	142
		2011-12	Min	55	74	65	93
			Max	107	150	148	139
40	Sodium % (Na%)	2010-11	Min	16	7	8	12
			Max	27	32	36	23
		2011-12	Min	15	9	8	7
			Max	22	17	18	18
41	SAR	2010-11	Min	0.4	0.2	0.2	0.3
			Max	0.6	0.8	1.0	0.6
		2011-12	Min	0.3	0.2	0.2	0.2
			Max	0.5	0.5	0.5	0.5
42	RSC	2010-11	Min	0.3	0.2	0.1	0.0
			Max	1.2	0.9	1.3	1.2
		2011-12	Min	0.0	0.2	0.0	0.0
			Max	0.6	0.5	0.8	0.9

Source: Water Quality Year Book (Narmada Basin) for the period of 2010-2011 to 2011-2012.

- Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.  
 2. (-) indicate that analysis of a particular parameter has not been carried out.

Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins									
Sl. No.	Parameter	Year	Name of the Site	Mataji	Rangeli	Paderibadi	Khanpur	Derol Bridge	Voutha
			Name of the River/Stream	Mahi	Som	Mahi	Mahi	Sabarmati	Sabarmati
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	3.273	0.000	5.275
			Max	1017	284.6	250.1	1156	205.5	880
		2011-12	Min	0.000	0.000	0.000	2.090	0.000	6.296
			Max	1227	1195	2382	4363	386.5	1744
2	Temperature °C	2010-11	Min	19.9	21.0	15.0	15.5	26.0	22.0
			Max	29.8	2.0	25.0	29.5	29.0	36.6
		2011-12	Min	27.1	16.0	22.5	15.0	30.0	21.1
			Max	32.0	28.0	31.0	31.0	31.4	33.1
3	pH_GEN	2010-11	Min	7.2	7.3	7.8	7.5	8.1	7.4
			Max	8.5	8.3	8.5	8.9	8.5	8.5
		2011-12	Min	7.3	7.4	7.6	7.5	7.8	7.2
			Max	7.7	8.3	8.8	8.9	7.8	8.2
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	1.7	2.3	2.0	1.8	1.7	24.0
			Max	0.6	0.5	0.7	0.6	0.9	1.4
		2011-12	Min	1.0	0.8	0.9	1.7	0.9	13.9
			Max	7.0	13.7	22.3	19.6	25.5	125.0
6	Sodium (Na)	2010-11	Min	38.0	60.8	47.9	69.3	50.1	472.2
			Max	10.0	18.0	19.6	15.8	12.3	27.9
		2011-12	Min	25.0	30.8	27.9	54.4	20.1	409.8
			Max	26	45	37	29	29	85
7	Calcium (Ca)	2010-11	Min	56	77	51	71	38	197
			Max	29	45	38	35	26	35
		2011-12	Min	59	64	75	75	35	173
			Max	4.9	7.8	5.8	6.8	7.8	12.6
8	Magnesium (Mg)	2010-11	Min	11.7	11.7	10.8	16.5	8.8	29.2
			Max	5.8	7.8	5.8	6.8	7.8	12.6
		2011-12	Min	9.7	11.7	11.7	11.7	10.7	25.3
			Max	64.0	128.0	104	84	91.0	204.0
9	Aluminium	2010-11	Min	156	208	152	200	124	600.0
			Max	0.03	0.02	0.02	0.02	0.01	0.03
		2011-12	Min	0.04	0.04	0.04	0.04	0.01	0.07
			Max	0.2	0.4	0.4	0.20	0.10	0.80
10	Iron (Fe)	2010-11	Min	0.4	0.5	0.7	0.4	0.2	1.10
			Max	0.2	0.4	0.5	0.2	0.1	0.2
		2011-12	Min	0.3	0.5	0.6	0.4	0.1	1.0
			Max	-	-	-	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	0.05	0.05	0.20	0.15	0.34	1.01
			Max	0.18	0.42	0.54	0.54	0.37	37.45
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	2.0	2.0	2.0	7.0	2.0	2.0
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
		2011-12	Min	0.0	0.0	10.0	12.0	0.0	0.0
			Max	78	156	127	102	107	249
13	Bicarbonate (HCO3)	2010-11	Min	190	254	185	244	151	732
			Max	98	156	132	122	98	112
		2011-12	Min	190	205	244	215	137	634
			Max	10	20.0	30.0	26.0	34.0	190
14	Chloride (CL)	2010-11	Min	50	92.0	64.0	90.0	66.0	626
			Max	14.0	28.0	28.0	22.0	20.0	38.0
		2011-12	Min	34.0	42.0	42.0	78.0	30.0	536.0
			Max	0.26	-	0.40	0.35	0.54	0.54
15	Fluoride (F)	2010-11	Min	0.54	-	0.84	0.91	0.55	1.18
			Max	0.17	0.54	0.45	0.19	0.22	0.44
		2011-12	Min	0.54	0.67	0.97	0.92	0.54	0.93
			Max	8.6	13.2	10.6	15.8	15.8	51.2
16	Sulphate (SO4)	2010-11	Min	19.6	25.8	22	24.8	17.5	119.2
			Max	9.1	13.8	10.4	14.3	9.5	24.3
		2011-12	Min	9.8	16.4	14.5	23.6	9.6	130.7
			Max	-	-	-	-	-	-
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	2.77	1.47	1.06	2.74	1.07	2.12
			Max	1.12	0.34	0.20	0.33	0.84	1.29
		2011-12	Min	6.38	2.30	2.88	5.25	1.83	4.73
			Max	0.01	0.01	0.01	0.01	0.22	0.02
19	Nitrite (NO2-N)	2010-11	Min	0.08	0.06	0.04	0.12	1.10	0.16
			Max	0.01	0.01	0.01	0.00	0.03	0.02
		2011-12	Min	0.01	0.01	0.01	0.00	0.03	0.02
			Max	0.06	0.08	0.03	0.08	0.03	0.14
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	0.060	0.080	0.080	0.040	0.070	0.150
			Max	0.060	0.100	0.110	0.090	0.080	0.280
21	Silica (SiO2)	2010-11	Min	19.4	17.0	20.9	18.3	22.9	25.0
			Max	42.7	33.7	37	48.7	25.9	61.6
		2011-12	Min	21.3	8.9	7.6	12.9	23.7	26.3
			Max	60.1	33.3	43.9	46.2	24.7	65.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins									
Sl. No.	Parameter	Year	Name of the Site	Mataji	Rangeli	Paderdibadi	Khanpur	Derol Bridge	Voutha
			Name of the River/Stream	Mahi	Som	Mahi	Maha	Sabarmati	Sabarmati
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
22	DO	2010-11	Min	6.4	6.0	6.5	4.7	6.6	5.4
			Max	10.4	8.6	10.8	8.2	7.4	7.3
		2011-12	Min	7.2	5.6	6.0	5.3	7.4	0.0
			Max	10.9	10.0	12.3	10.1	7.7	8.0
23	BOD3-27	2010-11	Min	1.2	1.2	1.2	1.0	2.2	14.0
			Max	2.7	2.6	3.4	3.1	2.2	38.0
		2011-12	Min	2.4	0.3	0.5	0.6	1.3	4.2
			Max	3.5	3.6	2.9	3.0	3.4	38.0
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	-	145	121	100	109	269
			Max	177	241	169	225	129	606
		2011-12	Min	96	153	125	121	97	141
			Max	181	209	225	225	133	514
40	Sodium % (Na%)	2010-11	Min	15	17	26	26	34	48
			Max	32	38	40	42	46	65
		2011-12	Min	18	20	20	21	22	29
			Max	23	28	27	41	25	63
41	SAR	2010-11	Min	0.3	0.5	0.8	0.9	1.1	3.2
			Max	1.2	1.07	1.7	2	1.9	8.9
		2011-12	Min	0.4	0.6	0.7	0.6	0.5	1.0
			Max	0.8	1.0	0.9	1.8	0.8	7.9
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.1
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.4

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins									
Sl. No.	Parameter	Year	Name of the Site	Abu road	Kamalpur	Chitrasani	Luwara	Ganod	Mahuwa
			Name of the River/Stream	Banas	Banas	Balaram	Shetrunji	Bhadar	Purna
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)	(15)	(16)
1	Q(Cumecs)	2010-11	Min	0.000	0.000	0.000	0.000	0.000	0.007
			Max	40.87	320.2	23.48	713.5	1932	744.5
		2011-12	Min	0.000	0.000	0.000	0.000	23.36	0.000
			Max	338.2	82.36	268.6	854.8	183.0	607.5
2	Temperature °C	2010-11	Min	29.0	28.0	25.6	20.0	27.0	22.0
			Max	29.0	28.7	28.6	25.0	28.0	30.0
		2011-12	Min	17.0	30.0	27.0	18.0	26.0	16.0
			Max	30.0	30.0	28.0	24.0	26.0	28.0
3	pH_GEN	2010-11	Min	8.1	7.8	8.0	8.0	7.9	7.0
			Max	8.1	8.5	8.3	8.3	8.3	8.3
		2011-12	Min	7.8	8.3	8.2	7.7	8.2	6.8
			Max	8.2	8.3	8.2	8.1	8.2	7.8
4	Sp.Conductance	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
5	Potassium (K)	2010-11	Min	146	0.9	1.7	4.4	3.5	11.4
			Max	1.6	0.7	0.9	0.7	1.8	3.8
		2011-12	Min	2.7	0.7	1.4	18.0	2.3	12.6
			Max	7.0	10.7	20.1	24.4	16.9	22.6
6	Sodium (Na)	2010-11	Min	35.1	20.1	51.2	432.3	132.7	138.0
			Max	25.8	8.4	32.0	20.1	44.5	46.0
		2011-12	Min	86.1	8.4	39.4	871.5	125.8	132.7
			Max	42	26	26	32	22	30
7	Calcium (Ca)	2010-11	Min	42	29	43	149	69	34
			Max	32	32	43	13	53	30
		2011-12	Min	77	32	55	205	96	34
			Max	6.8	8.8	7.8	8.8	6.8	5.8
8	Magnesium (Mg)	2010-11	Min	6.8	8.8	8.8	33.1	7.8	8.7
			Max	8.8	6.8	7.8	10.7	6.8	6.6
		2011-12	Min	15.6	6.8	9.7	48.6	8.8	9.2
			Max	-	-	-	-	-	-
9	Aluminium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	0.04	0.02	0.06	0.03	0.03	0.08
			Max	0.06	0.02	0.07	0.07	0.03	0.14
10	Iron (Fe)	2010-11	Min	0.1	0.3	0.1	0.1	0.1	-
			Max	0.1	0.3	0.2	0.5	0.1	-
		2011-12	Min	0.1	0.1	0.2	0.1	0.1	-
			Max	0.2	0.1	0.2	0.3	0.2	-
11	Ammonia (NH3-N)	2010-11	Min	0.22	0.25	0.53	0.18	0.25	-
			Max	0.22	0.32	0.56	0.40	0.26	0.08
		2011-12	Min	0.25	0.14	0.29	0.25	0.46	0.06
			Max	0.45	0.14	0.32	0.51	0.53	0.14
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	7.0	0.0	5.0	0.0	0.0
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0
13	Bicarbonate (HCO3)	2010-11	Min	146	88	107	102	93	98
			Max	146	112	171	488	220	146
		2011-12	Min	127	112	151	83	151	85
			Max	239	112	200	849	293	115
14	Chloride (CL)	2010-11	Min	50.0	14	26.0	36	22	36.7
			Max	50.0	28	68.0	640	174	181.6
		2011-12	Min	34.0	12.0	46.0	26.0	70.0	85.8
			Max	112.0	12.0	52.0	1161.0	186.0	220.6
15	Fluoride (F)	2010-11	Min	0.54	0.28	0.72	0.44	0.50	0.06
			Max	0.54	0.72	0.97	0.88	0.71	0.08
		2011-12	Min	0.57	0.19	0.73	0.35	0.19	0.07
			Max	1.02	0.19	0.97	1.20	0.80	0.14
16	Sulphate (SO4)	2010-11	Min	14.4	11.6	2.4	9.2	2.2	1.0
			Max	14.4	12.0	14	79.4	24.8	12.1
		2011-12	Min	12.1	12.4	14.7	8.2	14.7	7.4
			Max	44.8	12.4	15.4	133.0	16.6	10.0
17	Sulphite	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	0.51	1.18	0.77	7.31	5.92	0.16
			Max	1.55	1.07	0.42	1.03	4.57	0.10
		2011-12	Min	4.95	1.07	1.38	6.69	4.95	0.12
			Max	0.02	0.01	0.00	0.01	0.04	0.05
19	Nitrite (NO2-N)	2010-11	Min	0.02	0.02	0.08	0.10	0.15	0.20
			Max	0.02	0.03	0.01	0.02	0.07	0.01
		2011-12	Min	0.04	0.03	0.02	0.04	0.13	0.04
			Max	-	-	-	-	-	0.020
20	Phosphate (pO4)	2010-11	Min	-	-	-	-	-	0.060
			Max	-	-	-	-	-	0.060
		2011-12	Min	0.100	0.080	0.070	0.040	0.090	0.050
			Max	0.120	0.080	0.070	0.150	0.090	0.160
21	Silica (SiO2)	2010-11	Min	0.040	21.6	27.4	27.4	22.2	10.0
			Max	0.040	29.0	30.3	34.5	30.8	16.6
		2011-12	Min	26.7	34.4	31.7	18.3	34.3	8.0
			Max	42.5	34.4	39.5	42.6	42.5	20.2

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins									
Sl. No.	Year	Name of the Site		Abu road	Kamalpur	Chitrasani	Luwara	Ganod	Mahuwa
		Name of the River/Stream	Name of the River/Stream	Banas	Banas	Balaram	Shetrunji	Bhadar	Purna
(1)	(2)	(3)	(4)	(11)	(12)	(13)	(14)	(15)	(16)
22	DO	2010-11	Min	8.3	6.0	8.0	6.3	7.8	6.2
			Max	8.3	6.1	8.9	9.3	8.7	9.4
		2011-12	Min	6.7	9.0	7.6	6.4	7.4	-
			Max	8.2	9.0	9.8	7.4	10.7	-
23	BOD3-27	2010-11	Min	8.2	0.5	2.4	0.9	1.8	-
			Max	2.1	1.0	2.6	2.7	2.0	2.0
		2011-12	Min	0.2	2.2	1.5	0.3	1.3	0.5
			Max	0.8	2.2	2.7	-	3.8	0.8
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
		2011-12	Min	-	-	-	-	-	-
			Max	-	-	-	-	-	-
39	Total Hardness	2010-11	Min	133	101	97	117	84	99
			Max	133	109	145	510	205	119
		2011-12	Min	117	108	141	77	169	111
			Max	257	108	177	716	269	118
40	Sodium % (Na%)	2010-11	Min	36	19	31	31	30	29
			Max	36	29	43	65	58	71
		2011-12	Min	31	14	33	36	36	44
			Max	42	14	33	72	50	70
41	SAR	2010-11	Min	1.3	0.5	0.9	1.0	0.8	1.0
			Max	1.3	0.8	1.9	8.3	4.0	5.6
		2011-12	Min	1.0	0.3	1.2	1.0	1.5	1.9
			Max	2.3	0.3	1.3	14.2	3.3	5.5
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.2
		2011-12	Min	0.0	0.0	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.0	0.0	0.0	0.0

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins							
Sl. No.	Parameter	Year	Name of the Site	Gadat	Durvesh	Pingalwada	Motinaroli
			Name of the River/Stream	Ambika	Vaitarna	Dhadar	Kim
(1)	(2)	(3)	(4)	(17)	(18)	(19)	(20)
1	Q(Cumecs)	2010-11	Min	0.000	13.48	2.877	0.770
			Max	870.2	1561	655.0	384.2
		2011-12	Min	0.000	0.000	0.000	0.000
			Max	1594	3408	250.1	497.8
2	Temperature °C	2010-11	Min	25.0	27.0	22.0	18.0
			Max	28.0	30.0	27.0	32.0
		2011-12	Min	24.0	27.0	24.0	27.0
			Max	25.0	30.0	27.0	31.0
3	pH_GEN	2010-11	Min	7.7	7.0	6.6	7.3
			Max	8.4	7.5	8.7	8.2
		2011-12	Min	6.5	7.5	6.5	6.6
			Max	7.7	7.5	9.3	9.0
4	Sp.Conductance	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
5	Potassium (K)	2010-11	Min	-	-	-	-
			Max	23.9	2.3	36.6	38.6
		2011-12	Min	8.4	5.1	8.2	5.8
			Max	10.8	14.6	63.6	23.9
6	Sodium (Na)	2010-11	Min	8.6	2.3	12.3	66.9
			Max	79.5	85.6	310.5	306.5
		2011-12	Min	44.5	41.0	86.5	46.2
			Max	130.0	80.6	258.9	154.0
7	Calcium (Ca)	2010-11	Min	32	30	32	29
			Max	36	32	48	48
		2011-12	Min	32	31	34	30
			Max	36	31	42	40
8	Magnesium (Mg)	2010-11	Min	7.2	6.8	9.7	8.7
			Max	9.7	11.7	13.4	16.0
		2011-12	Min	6.6	6.0	8.2	7.4
			Max	8.6	6.8	12.6	14.6
9	Aluminium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	0.06	0.06	0.05	0.06
			Max	0.10	0.10	0.16	0.18
10	Iron (Fe)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
11	Ammonia (NH3-N)	2010-11	Min	-	-	-	-
			Max	0.06	0.08	15.00	1.16
		2011-12	Min	0.06	0.09	0.05	0.10
			Max	0.12	0.09	1.36	0.42
12	Carbonate (CO3)	2010-11	Min	0.0	0.0	0.0	0.0
			Max	20.0	0.0	0.6	0.0
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	10.0	10.0
13	Bicarbonate (HCO3)	2010-11	Min	85	140	98	49
			Max	146	146	280	256
		2011-12	Min	98	92	170	88
			Max	110	98	200	170
14	Chloride (CL)	2010-11	Min	13.6	4.2	19.9	114.7
			Max	145.9	115.4	414.8	409.8
		2011-12	Min	82.3	77.5	152.1	64.2
			Max	222.0	143.0	390.0	216.0
15	Fluoride (F)	2010-11	Min	0.06	0.10	0.06	0.06
			Max	0.26	0.12	0.38	0.38
		2011-12	Min	0.05	0.06	0.06	0.05
			Max	0.16	0.06	1.00	0.30
16	Sulphate (SO4)	2010-11	Min	4.8	3.7	3.7	1.9
			Max	8.5	3.8	65.1	24.3
		2011-12	Min	6.1	8.1	12.8	9.0
			Max	12.0	10.0	42.4	38.4
17	Sulphite	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
18	Nitrate (NO3-N)	2010-11	Min	-	-	0.10	-
			Max	0.24	0.30	4.48	0.32
		2011-12	Min	0.10	0.10	0.06	0.09
			Max	0.10	0.12	0.40	0.27
19	Nitrite (NO2-N)	2010-11	Min	0.10	0.06	0.02	0.01
			Max	0.08	0.10	1.93	0.08
		2011-12	Min	0.01	0.02	0.01	0.01
			Max	0.04	0.02	0.10	0.08
20	Phosphate (pO4)	2010-11	Min	0.040	0.060	0.050	0.050
			Max	0.100	0.080	0.960	0.100
		2011-12	Min	0.080	0.060	0.050	0.050
			Max	0.100	0.100	0.100	0.100
21	Silica (SiO2)	2010-11	Min	20.0	10.0	22.1	10.0
			Max	20.6	14.3	28.7	28.8
		2011-12	Min	8.0	7.4	9.0	8.0
			Max	26.1	24.6	26.8	21.8

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Table 13 : Maximum and minimum values of water quality parameters by site and river basin during 2010-11 to 2011-12

XII Basin : Mahi, Sabarmati & Others Basins							
Sl. No.	Parameter	Year	Name of the Site	Gadat	Durvesh	Pingalwada	Motinaroli
			Name of the River/Stream	Ambica	Vaitarna	Dhadar	Kim
(1)	(2)	(3)	(4)	(17)	(18)	(19)	(20)
22	DO	2010-11	Min	-	9.0	3.0	5.0
			Max	-	9.0	8.0	10.0
		2011-12	Min	-	-	2.5	-
			Max	-	-	10.5	-
23	BOD3-27	2010-11	Min	-	-	1.5	-
			Max	1.1	0.7	50.0	10.0
		2011-12	Min	0.6	1.7	0.6	0.6
			Max	1.3	1.8	10.0	10.0
24	Total Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
25	Faecal Coliform (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
26	Total plate count (no.per 10 ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
27	Phytoplankton (No.per ml)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
28	Zooplankton (No. per Litre)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
29	Arsenic (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
30	Boron (ppm)	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
31	Cadmium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
32	Chromium	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
33	Copper	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
34	Cyanide	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
35	Lead	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
36	Manganese	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
37	Mercury	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
38	Zinc	2010-11	Min	-	-	-	-
			Max	-	-	-	-
		2011-12	Min	-	-	-	-
			Max	-	-	-	-
39	Total Hardness	2010-11	Min	110	-	-	112
			Max	125	125	173	177
		2011-12	Min	108	103	127	112
			Max	126	106	158	153
40	Sodium % (Na%)	2010-11	Min	12	4	16	50
			Max	58	60	80	84
		2011-12	Min	45	44	55	39
			Max	67	59	74	67
41	SAR	2010-11	Min	0.4	0.1	0.5	2.5
			Max	3.3	3.3	10.9	12.7
		2011-12	Min	1.9	1.7	3.3	1.6
			Max	5.1	3.5	10.0	5.6
42	RSC	2010-11	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.1	1.9	0.8
		2011-12	Min	0.0	0.0	0.0	0.0
			Max	0.0	0.0	0.8	0.1

Source: Water Quality Year Book (Mahi, Sabarmati & Others Basin Basins) for the period of 2010-2011 to 2011-2012.

Note : 1. All the ionic concentrations are expressed in mg./lit. unless mentioned otherwise.

2. (-) indicate that analysis of a particular parameter has not been carried out.



Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>I Basin : Mahanadi, Year 2010-11</b>											
<b>i) JHARKHAND</b>											
	Gumla	514951	431274	534318	135341	61433	37838	174931	124775	15914	140689
	<b>Sub Total</b>	<b>514951</b>	<b>431274</b>	<b>534318</b>	<b>135341</b>	<b>61433</b>	<b>37838</b>	<b>174931</b>	<b>124775</b>	<b>15914</b>	<b>140689</b>
<b>ii) ORISSA</b>											
1	Sambalpur	647954	526685	656177	363177	51000	48000	57000	137000	22262	159262
2	Sundergarh	935352	394117	1056732	495732	135000	80000	116000	230000	5764	235764
3	Cuttak	380297	368362	378790	78790	91000	29000	34000	146000	56204	202204
4	Dhenkanal	431065	66017	444764	173762	53000	57000	60000	101000	9832	110832
5	Phulbani	777003	580713	863983	570983	144000	34000	48000	67000	3532	70532
6	Balangir	633243	633243	649385	154385	69000	61000	60000	305000	38082	343082
7	Kalahandi	763306	657009	742801	253801	95000	44000	83000	267000	71359	338359
8	Koraput	818027	669333	677953	187953	167000	36000	81000	206000	28218	234218
9	Puri	343302	343302	280710	13710	64000	32000	27000	144000	192438	48438
	<b>Sub Total</b>	<b>5729549</b>	<b>4238781</b>	<b>5751295</b>	<b>2292293</b>	<b>869000</b>	<b>421000</b>	<b>566000</b>	<b>1603000</b>	<b>427691</b>	<b>1742691</b>
<b>iii) MADHYA PRADESH</b>											
1	Shahdol	1402800	8400	561006	227886	56930	50504	59165	166521	31935	198456
	<b>Sub Total</b>	<b>1402800</b>	<b>8400</b>	<b>561006</b>	<b>227886</b>	<b>56930</b>	<b>50504</b>	<b>59165</b>	<b>166521</b>	<b>31935</b>	<b>198456</b>
<b>iv) CHHATISGARH</b>											
1	Surguja	1512537	24774	1603440	772167	91393	183814	90248	465818	69462	535280
2	Bilaspur	802286	719001	856885	330648	55186	79692	29206	362153	132146	494299
3	Raigarh	681911	681811	652774	207725	68704	69873	34471	272001	31214	303215
4	Rajnandgaon	776454	54676	802252	259031	68560	75068	49970	349623	93874	443497
5	Durg	828760	825676	870180	99817	100778	89417	33207	546961	239276	786237
6	Raipur	1199563	1199563	1344628	525156	103781	130570	47051	538070	135431	673501
7	Bastar	1015259	34786	1010288	497677	74877	92622	29455	315657	10680	326337
	<b>Sub Total</b>	<b>6816770</b>	<b>3540287</b>	<b>7140447</b>	<b>2692221</b>	<b>563279</b>	<b>721056</b>	<b>313608</b>	<b>2850283</b>	<b>712083</b>	<b>3562366</b>
<b>v) MAHARASHTRA</b>											
1	Chandrapur+	2585500	28600	NA	NA	NA	NA	NA	NA	NA	NA
2	Gadchiroli	1396606	29856	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3982106</b>	<b>58456</b>	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Grand Total</b>	<b>18446176</b>	<b>8277198</b>	<b>13987066</b>	<b>5347741</b>	<b>1550642</b>	<b>1230398</b>	<b>1113704</b>	<b>4744579</b>	<b>1187623</b>	<b>5644202</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>II Subernarekha, Burhabalang and Baitarni, Year 2010-11</b>											
i) <b>JHARKHAND</b>											
1	Ranchi	474384	280226	497306	99584	75674	28135	190948	102965	12013	114978
2	Singhbhum West	694129	268733	567769	142336	93457	39735	176206	116035	5370	121405
<b>Sub Total</b>		<b>1168513</b>	<b>548959</b>	<b>1065075</b>	<b>241920</b>	<b>169131</b>	<b>67870</b>	<b>367154</b>	<b>219000</b>	<b>17383</b>	<b>236383</b>
ii) <b>ORISSA</b>											
1	Mayurbhanj	1003564	714663	1030213	439213	79000	94000	126000	292000	11465	303465
2	Balasore	373369	264477	372221	33221	50000	50000	25000	214000	40727	254727
<b>Sub Total</b>		<b>1376933</b>	<b>979140</b>	<b>1402434</b>	<b>472434</b>	<b>129000</b>	<b>144000</b>	<b>151000</b>	<b>506000</b>	<b>52192</b>	<b>558192</b>
iii) <b>WEST BENGAL</b>											
1	Midnapur(East)	389357	8526	396594	899	102925	2625	2093	288052	274878	562930
2	Purulia	600310	93192	625646	75048	108922	11925	213617	216134	1456	217590
<b>Sub Total</b>		<b>989667</b>	<b>101718</b>	<b>1022240</b>	<b>75947</b>	<b>211847</b>	<b>14550</b>	<b>215710</b>	<b>504186</b>	<b>276334</b>	<b>780520</b>
<b>Grand Total</b>		<b>3535113</b>	<b>1629817</b>	<b>3489749</b>	<b>790301</b>	<b>509978</b>	<b>226420</b>	<b>733864</b>	<b>1229186</b>	<b>345909</b>	<b>1575095</b>
<b>III Basin : Brahamani, Year 2010-11</b>											
i) <b>JHARKHAND</b>											
1	Lohardaga	143938	91185	153621	44355	21365	6521	55764	25616	5486	31102
2	Gumla	514951	431274	534318	135341	61433	37838	174931	124775	15914	140689
3	Ranchi	474384	115039	497306	99584	75674	28135	190948	102965	12013	114978
4	Pa. Singhbhum	694129	425395	567769	142336	93457	39735	176206	116035	5370	121405
<b>Sub Total</b>		<b>1827402</b>	<b>1062893</b>	<b>1753014</b>	<b>421616</b>	<b>251929</b>	<b>112229</b>	<b>597849</b>	<b>369391</b>	<b>38783</b>	<b>408174</b>
ii) <b>CHATTISGARH</b>											
<b>Raigarh</b>		681911	681811	652774	207725	68704	69873	34471	272001	31214	303215
<b>Sub Total</b>		<b>681911</b>	<b>681811</b>	<b>652774</b>	<b>207725</b>	<b>68704</b>	<b>69873</b>	<b>34471</b>	<b>272001</b>	<b>31214</b>	<b>303215</b>
iii) <b>ORISSA</b>											
1	Sambalpur	647954	121269	656177	363177	51000	48000	57000	137000	22262	159262
2	Sundergarh	935352	541235	1056732	495732	135000	80000	116000	230000	5764	235764
3	Keonjhar	799691	799691	795718	309718	104000	76000	114000	192000	6325	198325
4	Mayurbhanj	1003564	288901	1030213	439213	79000	94000	126000	292000	11465	303465
5	Balasore	373369	108110	372221	33221	50000	50000	25000	214000	40727	254727
6	Cuttak	380297	11934	378790	78790	91000	29000	34000	146000	56204	202204
7	Dhenkanal	431065	365047	444764	173762	53000	57000	60000	101000	9832	110832
<b>Sub Total</b>		<b>4571292</b>	<b>2236187</b>	<b>4734615</b>	<b>1893613</b>	<b>563000</b>	<b>434000</b>	<b>532000</b>	<b>1312000</b>	<b>152579</b>	<b>1464579</b>
<b>Grand Total</b>		<b>7080605</b>	<b>3980891</b>	<b>7140403</b>	<b>2522954</b>	<b>883633</b>	<b>616102</b>	<b>1164320</b>	<b>1953392</b>	<b>222576</b>	<b>2175968</b>
<b>IV Rushikulya, Vamsadhra, Sarada and Nagavali, Year 2010-11</b>											
<----- Not Available Data ----->											

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>V Basin : Godavari, Year 2010-11</b>											
<b>i) ANDHRA PRADESH</b>											
1	Visakhapatnam	1111536	361427	1116100	441166	239902	48168	84329	302535	73011	375546
2	East Godavari	1057111	588931	1080700	323244	225221	46268	66058	419909	288465	708374
3	West Godavari	758274	168239	774200	81166	193730	38667	20881	439756	288232	727988
	<b>Sub Total</b>	<b>2926921</b>	<b>1118597</b>	<b>2971000</b>	<b>845576</b>	<b>658853</b>	<b>133103</b>	<b>171268</b>	<b>1162200</b>	<b>649708</b>	<b>1811908</b>
<b>ii) TELANGANA</b>											
1	Rangareddy	735888	50532	749300	73075	133596	56808	249683	236138	41130	277268
2	Medak	948996	912893	970000	91390	126920	53938	246084	451668	157776	609444
3	Nizamabad	767438	767438	795600	169343	141868	34413	140629	309347	215093	524440
4	Adilabad	1552699	1552699	1610500	689517	104604	37475	196018	582886	82112	664998
5	Karimnagar	1153977	1153094	1182300	250410	192212	77972	149992	511714	300339	812053
6	Warangal	1244742	624820	1284600	371014	123589	105490	156343	528164	182805	710969
7	Khammam	1564602	999676	1602900	759438	218712	71880	73525	479345	91026	570371
	<b>Sub Total</b>	<b>7968342</b>	<b>6061152</b>	<b>8195200</b>	<b>2404187</b>	<b>1041501</b>	<b>437976</b>	<b>1212274</b>	<b>3099262</b>	<b>1070281</b>	<b>4169543</b>
<b>iii) KARNATAKA</b>											
	Bidar	529388	446912	541765	27707	41133	44261	67940	360724	63243	423967
	<b>Sub Total</b>	<b>529388</b>	<b>446912</b>	<b>541765</b>	<b>27707</b>	<b>41133</b>	<b>44261</b>	<b>67940</b>	<b>360724</b>	<b>63243</b>	<b>423967</b>
<b>iv) MADHYA PRADESH</b>											
1	Betul	969038	212974	1007800	397390	72794	66504	45067	426045	204548	630593
2	Mandla	720148	70924	965559	593243	53205	41666	53468	223977	86107	310084
3	Chhindwara	1136138	797216	1184923	477101	77626	79061	61564	489571	166121	655692
4	Seoni	842270	626958	875401	328437	60934	56938	44606	384486	151401	535887
5	Balaghat	889736	668672	924500	505043	57257	60347	32050	269803	65703	335506
	<b>Sub Total</b>	<b>4557330</b>	<b>2376744</b>	<b>4958183</b>	<b>2301214</b>	<b>321816</b>	<b>304516</b>	<b>236755</b>	<b>1793882</b>	<b>673880</b>	<b>2467762</b>
<b>v) CHHATISGARH</b>											
1	Rajnandgaon	776454	221836	802252	259031	68560	75068	49970	349623	93874	443497
2	Raipur	1199563	1199563	1344628	525156	103781	130570	47051	538070	135431	673501
3	Bastar	1015259	980473	1010288	497677	74877	92622	29455	315657	10680	326337
	<b>Sub Total</b>	<b>2991276</b>	<b>2401872</b>	<b>3157168</b>	<b>1281864</b>	<b>247218</b>	<b>298260</b>	<b>126476</b>	<b>1203350</b>	<b>239985</b>	<b>1443335</b>
<b>vi) MAHARASHTRA</b>											
1	Nashik	1502109	697325	NA	NA	NA	NA	NA	NA	NA	NA
2	Jalgaon	1134974	1566	NA	NA	NA	NA	NA	NA	NA	NA
3	Ahmadnagar	1651041	1036810	NA	NA	NA	NA	NA	NA	NA	NA
4	Pune	1518575	8125	NA	NA	NA	NA	NA	NA	NA	NA
5	Solapur	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
6	Aurangabad	977228	872544	NA	NA	NA	NA	NA	NA	NA	NA
7	Jalana	751009	738659	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8	Parbhani	615498	615498	NA	NA	NA	NA	NA	NA	NA	NA
9	Beed	1024473	879817	NA	NA	NA	NA	NA	NA	NA	NA
10	Nanded	1026074	1026074	NA	NA	NA	NA	NA	NA	NA	NA
11	Osmanabad	734720	298050	NA	NA	NA	NA	NA	NA	NA	NA
12	Latur	700952	700707	NA	NA	NA	NA	NA	NA	NA	NA
13	Buldghana	940967	379629	NA	NA	NA	NA	NA	NA	NA	NA
14	Akola	521495	23	NA	NA	NA	NA	NA	NA	NA	NA
15	Amravati	1176511	402091	NA	NA	NA	NA	NA	NA	NA	NA
16	Yavatmal	1306920	1306920	NA	NA	NA	NA	NA	NA	NA	NA
17	Wardha	608496	608496	NA	NA	NA	NA	NA	NA	NA	NA
18	Nagpur	956449	956449	NA	NA	NA	NA	NA	NA	NA	NA
19	Bhandara	371941	371941	NA	NA	NA	NA	NA	NA	NA	NA
20	Chandrapur	1091727	1091727	NA	NA	NA	NA	NA	NA	NA	NA
21	Gadchiroli	1396606	1366751	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>21457352</b>	<b>14808789</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>ORISSA</b>										
1	Kalahandi	763306	41757	742801	253801	95000	44000	83000	267000	71359	338359
2	Koraput	818027	669333	677953	187953	167000	36000	81000	206000	28218	234218
	<b>Sub Total</b>	<b>1581333</b>	<b>711090</b>	<b>1420754</b>	<b>441754</b>	<b>262000</b>	<b>80000</b>	<b>164000</b>	<b>473000</b>	<b>99577</b>	<b>572577</b>
	<b>Grand Total</b>	<b>42011942</b>	<b>27925156</b>	<b>21244070</b>	<b>7302302</b>	<b>2572521</b>	<b>1298116</b>	<b>1978713</b>	<b>8092418</b>	<b>2796674</b>	<b>10889092</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VI</b>	<b>Basin : Krishna, Year 2010-11</b>										
	<b>ANDHRA PRADESH</b>										
1	Krishna	836525	468680	872700	76186	225588	45391	55798	469737	278654	748391
2	Anantapur	1898772	418559	1913000	196978	312046	64118	238114	1101744	77223	1178967
3	Guntoor +	1118651	654538	1139100	161941	197281	74147	67768	637963	228536	866499
4	Prakasam	1738937	65716	1762600	461983	332583	126414	168650	672970	74624	747594
5	Nellore +	NA	NA	1307600	262787	401152	191350	84972	367339	91217	458556
6	Kurnool	1750331	969679	1765800	340669	268506	53171	214027	889427	131583	1021010
7	East Godavari	NA	NA	1080700	323244	225221	46268	66058	419909	288465	708374
	<b>Sub Total</b>	<b>7343216</b>	<b>2577172</b>	<b>9841500</b>	<b>1823788</b>	<b>1962377</b>	<b>600859</b>	<b>895387</b>	<b>4559089</b>	<b>1170302</b>	<b>5729391</b>
ii)	<b>TELANGANA</b>										
1	Mahaboobnagar	1797402	1797402	1843200	255596	175710	43342	537747	830805	103661	934466
2	Rangareddy	735888	685356	749300	73075	133596	56808	249683	236138	41130	277268
3	Hyderabad	17343	17343	21700	--	21700	--	0	0	--	0
4	Medak	948996	36103	970000	91390	126920	53938	246084	451668	157776	609444
5	Karimnagar	1153977	883	1182300	250410	192212	77972	149992	511714	300339	812053
6	Warangal	1244742	619923	1284600	371014	123589	105490	156343	528164	182805	710969
7	Khammam	1564602	486463	1602900	759438	218712	71880	73525	479345	91026	570371
8	Nalgonda	1374214	1374214	1424000	83073	249103	101840	427574	562410	201407	763817
	<b>Sub Total</b>	<b>8837164</b>	<b>5017687</b>	<b>9078000</b>	<b>1883996</b>	<b>1241542</b>	<b>511270</b>	<b>1840948</b>	<b>3600244</b>	<b>1078144</b>	<b>4678388</b>
iii)	<b>KARNATAKA</b>										
1	Belgaum	1312075	1211373	1344382	190424	114005	39318	162755	837880	261771	1099651
2	Bellary	831109	831109	813196	97017	163768	33917	76315	442179	139690	581869
3	Bidar	529388	82476	541765	27707	41133	44261	67940	360724	63243	423967
4	Bijapur	1026100	1026100	1053471	1977	65086	16393	92681	877334	160623	1037957
5	Chikmagalur	716773	626450	722075	200485	71447	129246	21843	299054	30684	329738
6	Chitradurga	836022	836022	770702	73719	76646	121669	65276	433392	90522	523914
7	Dharwad	420226	278003	427329	35235	26557	6442	48279	310816	201215	512031
8	Gulbarga	1068727	1068708	1094120	35316	73533	36403	24866	924002	137755	1061757
9	Hassan	678918	138462	662602	58775	109242	54048	43378	397159	108266	505425
10	Raichur	827699	827699	835843	18167	40647	44212	222710	510107	152538	662645
11	Shimoga	836130	569409	847784	276855	102020	206642	35421	226846	40375	267221
12	Tumkur	1054389	389756	1064755	45177	152043	160128	148454	558953	72791	631744
13	Uttar Kannada	1004865	66406	1024679	813595	50748	27881	20305	112150	12269	124419
	<b>Sub Total</b>	<b>11142421</b>	<b>7951973</b>	<b>11202703</b>	<b>1874449</b>	<b>1086875</b>	<b>920560</b>	<b>1030223</b>	<b>6290596</b>	<b>1471742</b>	<b>7762338</b>

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**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
iv)	<b>MAHARASHTRA</b>										
1	<b>Ratnagiri</b>	805094	1449	NA	NA	NA	NA	NA	NA	NA	NA
2	<b>Ahmadnagar</b>	1651041	613016	NA	NA	NA	NA	NA	NA	NA	NA
3	<b>Pune</b>	1518575	1479056	NA	NA	NA	NA	NA	NA	NA	NA
4	<b>Satara</b>	1022337	1018731	NA	NA	NA	NA	NA	NA	NA	NA
5	<b>Sangli</b>	834999	834619	NA	NA	NA	NA	NA	NA	NA	NA
6	<b>Solapur</b>	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
7	<b>Kolhapur</b>	750031	723744	NA	NA	NA	NA	NA	NA	NA	NA
8	<b>Bid</b>	1024473	144656	NA	NA	NA	NA	NA	NA	NA	NA
9	<b>Osmanabad+</b>	734720	436670	NA	NA	NA	NA	NA	NA	NA	NA
10	<b>Latur</b>	700952	245	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>10491809</b>	<b>6701773</b>	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Grand Total</b>	<b>37814610</b>	<b>22248605</b>	<b>30122203</b>	<b>5582233</b>	<b>4290794</b>	<b>2032689</b>	<b>3766558</b>	<b>14449929</b>	<b>3720188</b>	<b>18170117</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Note : (1) Totals may not tally due to rounding off.

Note : (2) .: Not available data.

Note : (3) Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VII Basin : Cauvery, Year</b>											
<b>i) KARNATAKA</b>											
1	Bangalore (Urban)	217582	98782	217410	5055	120441	16910	24633	50371	1853	52224
2	Bangalore (Rural)	229462	97892	229519	11322	51102	20275	21686	125134	5967	131101
3	Chikmagalur	716773	75101	722075	200485	71447	129246	21843	299054	30684	329738
4	Hassan	678918	494178	662602	58775	109242	54048	43378	397159	108266	505425
5	Kodagu (Coorg)	411560	289868	410775	134597	55210	44024	7429	169515	15049	184564
6	Mandya	494261	494261	498244	24765	82425	77386	60968	252700	47507	300207
7	Mysore	631907	631907	676382	62851	120776	74086	80702	337967	210638	548605
8	Tumkur	1054389	399200	1064755	45177	152043	160128	148454	558953	72791	631744
	<b>Sub Total</b>	<b>4434852</b>	<b>2581189</b>	<b>4481762</b>	<b>543027</b>	<b>762686</b>	<b>576103</b>	<b>409093</b>	<b>2190853</b>	<b>492755</b>	<b>2683608</b>
<b>ii) KERALA</b>											
1	Kannur	295780	116	297112	48734	38474	6491	3046	200367	10482	210849
2	Wayanad	214118	193614	212966	78787	15329	1301	2583	114966	60226	175192
3	Kozhikode	234784	442	234641	41386	31666	2362	3267	155960	46011	201971
4	Palakkad	454291	61906	447584	136257	59568	25056	29885	196818	106643	303461
5	Idukki	510626	38572	436328	198413	25765	2950	2391	206809	101459	308268
	<b>Sub Total</b>	<b>1709599</b>	<b>294650</b>	<b>1628631</b>	<b>503577</b>	<b>170802</b>	<b>38160</b>	<b>41172</b>	<b>874920</b>	<b>324821</b>	<b>1199741</b>
<b>iii) TAMIL NADU</b>											
1	Dharmapuri +	452954	190674	449777	164177	67281	12898	46220	159201	23269	182470
2	Salem	524741	302708	520530	125682	100189	11976	59313	223370	75151	298521
3	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coimbatore	470871	256937	254485	142577	13352	10645	11739	76172	9	76163
5	Nilgiri	257279	221340	472322	111871	79587	11991	95682	173191	6714	179905
6	Madurai +	376770	376763	374173	48473	88402	17660	84893	134745	2989	137734
7	Dindigul	616499	442905	626664	138923	102391	20553	133303	231494	5132	236626
8	Pudukottai	474011	73416	466329	23535	139707	42868	110852	149367	918	150285
9	Triuchirapalli	456408	403211	440383	36773	97696	10802	128445	166667	13771	180438
10	Thanjavur	343878	222195	339657	3390	83690	17951	33805	200821	66454	267275
	<b>Sub Total</b>	<b>3973411</b>	<b>2490149</b>	<b>3944320</b>	<b>795401</b>	<b>772295</b>	<b>157344</b>	<b>704252</b>	<b>1515028</b>	<b>194407</b>	<b>1709417</b>
<b>iv) PONDICHERY</b>											
1	Karaikal	15498	15498	16012	.	5189	3176	1669	5978	2782	8760
	<b>Sub Total</b>	<b>15498</b>	<b>15498</b>	<b>16012</b>	<b>.</b>	<b>5189</b>	<b>3176</b>	<b>1669</b>	<b>5978</b>	<b>2782</b>	<b>8760</b>
	<b>Grand Total</b>	<b>10133360</b>	<b>5381486</b>	<b>10070725</b>	<b>1842005</b>	<b>1710972</b>	<b>774783</b>	<b>1156186</b>	<b>4586779</b>	<b>1014765</b>	<b>5601526</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VIII Basin : East Folowing Rivers from Mahanadi to Kanyakumari, Year 2010-11</b>											
<b>i) ANDHRA PRADESH</b>											
1	Srikakulam	573080	573080	583700	68641	150102	8918	41757	314282	121870	436152
2	Vizianagaram	582145	582145	653900	119303	151297	19260	68300	295740	106387	402127
3	Vishakhapatnam	1111536	750109	1116100	441166	239902	48168	84329	302535	73011	375546
4	East Godavari	1057111	468180	1080700	323244	225221	46268	66058	419909	288465	708374
5	West Godavari	758274	590034	774200	81166	193730	38667	20881	439756	288232	727988
6	Krishna	836525	367845	872700	76186	225588	45391	55798	469737	278654	748391
7	Guntur+	1118651	464113	1139100	161941	197281	74147	67768	637963	228536	866499
8	Prakasam+	1738937	1578699	1762600	461983	332583	126414	168650	672970	74624	747594
9	Nellore	NA	NA	1307600	262787	401152	191350	84972	367339	91217	458556
10	kurnool	1750331	5934	1765800	340669	268506	53171	214027	889427	131583	1021010
11	Chittoor	NA	NA	1515100	452018	310238	108962	264614	379268	58361	437629
	<b>Sub Total</b>	<b>9526590</b>	<b>5380139</b>	<b>12571500</b>	<b>2789104</b>	<b>2695600</b>	<b>760716</b>	<b>1137154</b>	<b>5188926</b>	<b>1740940</b>	<b>6929866</b>
<b>ii) TELANGANA</b>											
1	Khammam	1564602	78464	1602900	759438	218712	71880	73525	479345	91026	570371
	<b>Sub Total</b>	<b>1564602</b>	<b>78464</b>	<b>1602900</b>	<b>759438</b>	<b>218712</b>	<b>71880</b>	<b>73525</b>	<b>479345</b>	<b>91026</b>	<b>570371</b>
<b>iii) KARNATAKA</b>											
1	Bangalore	217582	98782	217410	5055	120441	16910	24633	50371	1853	52224
2	Bangalore R.	229462	97892	229519	11322	51102	20275	21686	125134	5967	131101
3	Kolar	396844	357991	374966	20620	74547	52824	40501	186474	16807	203281
	<b>Sub Total</b>	<b>843888</b>	<b>554665</b>	<b>821895</b>	<b>36997</b>	<b>246090</b>	<b>90009</b>	<b>86820</b>	<b>361979</b>	<b>24627</b>	<b>386606</b>
<b>iv) KERALA</b>											
	Thiruvananthapuram	224681	433	218781	49861	31687	404	3270	133559	20551	154110
	<b>Sub Total</b>	<b>224681</b>	<b>433</b>	<b>218781</b>	<b>49861</b>	<b>31687</b>	<b>404</b>	<b>3270</b>	<b>133559</b>	<b>20551</b>	<b>154110</b>
<b>v) ORISSA</b>											
1	Phulbani	777003	196290	863983	570983	144000	34000	48000	67000	3532	70532
2	Kalahandi	763306	64540	649385	154385	69000	61000	60000	305000	38082	343082
3	Koraput	818027	148694	742801	253801	95000	44000	83000	267000	71359	338359
4	Ganjam	819771	769821	677953	187953	167000	36000	81000	206000	28218	234218
5	Puri	NA	NA	280710	13710	64000	32000	27000	144000	192438	48438
	<b>Sub Total</b>	<b>3178107</b>	<b>1179345</b>	<b>3214832</b>	<b>1180832</b>	<b>539000</b>	<b>207000</b>	<b>299000</b>	<b>989000</b>	<b>333629</b>	<b>1034629</b>
<b>vi) TAMIL NADU</b>											
1	Chennai	12800	12800	17098	300	16798	-	0	0	0	0
2	Chengai-Anna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	North Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Dharmapuri+	452954	262280	449777	164177	67281	12898	46220	159201	23269	182470
5	Salem	524741	222033	520530	125682	100189	11976	59313	223370	75151	298521
	<b>Tiruchirapalli</b>	<b>456408</b>	<b>53197</b>	<b>440383</b>	<b>36773</b>	<b>97696</b>	<b>10802</b>	<b>128445</b>	<b>166667</b>	<b>13771</b>	<b>180438</b>

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**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
7	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Dindugul +	616499	173594	626664	138923	102391	20553	133303	231494	5132	236626
9	Madurai	376770	376763	374173	48473	88402	17660	84893	134745	2989	137734
10	Thanjavur	343878	121683	339657	3390	83690	17951	33805	200821	66454	267275
11	Pudukottai	474011	400595	466329	23535	139707	42868	110852	149367	918	150285
12	PMT+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	Kamarajar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Ramanathpuram	404052	404051	408957	4488	91271	40480	85290	187428	-	187428
15	Chidambaranar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	Tirunelveli	699899	698202	675850	127758	132799	50238	220008	145047	26105	171152
17	Kanyakumari	174680	7081	167200	54155	32410	939	905	78791	8895	87686
	<b>Sub Total</b>	<b>4536692</b>	<b>2732279</b>	<b>4486618</b>	<b>727654</b>	<b>952634</b>	<b>226365</b>	<b>903034</b>	<b>1676931</b>	<b>222684</b>	<b>1899615</b>
vii)	<b>PONDICHERY</b>										
	Pondicherry (District)	30119	30119	29378	.	12022	2164	3838	11354	9669	21023
	<b>Sub Total</b>	<b>30119</b>	<b>30119</b>	<b>29378</b>	<b>.</b>	<b>12022</b>	<b>2164</b>	<b>3838</b>	<b>11354</b>	<b>9669</b>	<b>21023</b>
	<b>Basin : Penner, Year 2010-2011</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Kurnool	1765800	1409600	1765800	340669	268506	53171	214027	889427	131583	1021010
2	Kadapa	1535900	1535900	1535900	500961	403131	62558	165930	403320	132278	535598
3	Anantapur	NA	NA	191300	196978	312046	64118	238114	1101744	77223	1178967
4	Prakasam+	1738937	1578699	1762600	461983	332583	126414	168650	672970	74624	747594
5	Guntur+	1118651	464113	1139100	161941	197281	74147	67768	637963	228536	866499
6	Nellore+	NA	NA	1307600	262787	401152	191350	84972	367339	91217	458556
7	Chittoor	1495701	1002785	1515100	452018	310238	108962	264614	379268	58361	437629
	<b>Sub Total</b>	<b>7654989</b>	<b>5991097</b>	<b>9217400</b>	<b>2377337</b>	<b>2224937</b>	<b>680720</b>	<b>1204075</b>	<b>4452031</b>	<b>793822</b>	<b>5245853</b>
ii)	<b>KARNATAKA</b>										
1	Bangalore R.	229462	93562	229519	11322	51102	20275	21686	125134	5967	131101
2	Kolar	396844	357991	374966	20620	74547	52824	40501	186474	16807	203281
3	Tumkur	NA	NA	1064755	45177	152043	160128	148454	558953	72791	631744
	<b>Sub Total</b>	<b>626306</b>	<b>451553</b>	<b>1669240</b>	<b>77119</b>	<b>277692</b>	<b>233227</b>	<b>210641</b>	<b>870561</b>	<b>95565</b>	<b>966126</b>
	<b>Grand Total</b>	<b>28185974</b>	<b>16398094</b>	<b>33832544</b>	<b>7998342</b>	<b>7198374</b>	<b>2272485</b>	<b>3921357</b>	<b>14163686</b>	<b>3332513</b>	<b>17208199</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>IX Basin : West Flowing Rivers fro Kanyakumari to Tapi, Year 2010-11</b>											
<b>i) DADRA &amp; NAGAR HAVELI</b>											
1	Daman & Diu	11200	7200	NA	NA	NA	NA	NA	NA	NA	NA
2	Dadra & Nagar Haveli	47707	47707	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>58907</b>	<b>54907</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ii) GOA</b>											
	Goa	370200	370200	361113	125473	37137	54418	12498	131587	28733	160320
	<b>Sub Total</b>	<b>370200</b>	<b>370200</b>	<b>361113</b>	<b>125473</b>	<b>37137</b>	<b>54418</b>	<b>12498</b>	<b>131587</b>	<b>28733</b>	<b>160320</b>
<b>iii) GUJARAT</b>											
1	Surat	417464	135144	NA	NA	NA	NA	NA	NA	NA	NA
2	Valsad	289491	289491	NA	NA	NA	NA	NA	NA	NA	NA
3	Dangs	170082	167507	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>877037</b>	<b>592142</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iv) KARNATAKA</b>											
1	Belgaum	1341500	96600	1344382	190424	114005	39318	162755	837880	261771	1099651
2	Dharwad	1373800	185800	427329	35235	26557	6442	48279	310816	201215	512031
3	Chikmagalur	716773	15222	722075	200485	71447	129246	21843	299054	30684	329738
4	Dak. Kannada	457868	457759	477149	128476	124263	81461	12204	130745	26423	157168
5	Hassan	678918	46278	662602	58775	109242	54048	43378	397159	108266	505425
6	Kodagu	411560	121692	410775	134597	55210	44024	7429	169515	15049	184564
7	Shimoga	836130	265220	847784	276855	102020	206642	35421	226846	40375	267221
8	Utt. Kannada	1004865	103370	1024679	813595	50748	27881	20305	112150	12269	124419
	<b>Sub Total</b>	<b>6821414</b>	<b>1291941</b>	<b>5916775</b>	<b>1838442</b>	<b>653492</b>	<b>589062</b>	<b>351614</b>	<b>2484165</b>	<b>696052</b>	<b>3180217</b>
<b>v) KERALA</b>											
1	Kasargod	196467	196467	199166	5625	38991	10742	1860	141948	2973	144921
2	Kannur	295780	295664	297112	48734	38474	6491	3046	200367	10482	210849
3	Kozhikode	234784	234342	234641	41386	31666	2362	3267	155960	46011	201971
4	Malappuram	359911	359721	355446	103417	52006	6425	15257	178341	59133	237474
5	Palakkad	454291	392385	447584	136257	59568	25056	29885	196818	106643	303461
6	Thrissur	307157	307156	302919	103619	45491	7121	19503	127185	34031	161216
7	Ernakulam	245458	245457	305826	70617	50102	11370	17850	155887	15687	171574
8	Idukki	510626	468242	436328	198413	25765	2950	2391	206809	101459	308268
9	Kottayam	225883	225883	220442	8141	33973	5023	8854	164451	42338	206789
10	Alappuzha	145448	145448	141011	--	33449	13018	7099	87445	21044	108489
11	Pathanamthitt	270955	270462	265277	155214	19556	1640	7095	81772	21669	103441
12	Kollam	255616	254448	248788	81438	33735	1605	6011	125999	33707	159706
13	Thiruvananthrum	224681	224248	218781	49861	31687	404	3270	133559	20551	154110
	<b>Sub Total</b>	<b>3727057</b>	<b>3619923</b>	<b>3673321</b>	<b>1002722</b>	<b>494463</b>	<b>94207</b>	<b>125388</b>	<b>1956541</b>	<b>515728</b>	<b>2472269</b>

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**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
vi)	<b>MAHARASHTRA</b>										
1	Mumbai Sub	43828	43828	NA	NA	NA	NA	NA	NA	NA	NA
2	Thane	920822	920256	NA	NA	NA	NA	NA	NA	NA	NA
3	Raigarh	694267	694014	NA	NA	NA	NA	NA	NA	NA	NA
4	Sindhudurg	496678	484213	NA	NA	NA	NA	NA	NA	NA	NA
5	Nasik	1502109	208862	NA	NA	NA	NA	NA	NA	NA	NA
6	Dhule	692551	5352	NA	NA	NA	NA	NA	NA	NA	NA
7	Kolhapur	750031	26287	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>5100286</b>	<b>2382812</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>TAMIL NADU</b>										
1	The Nilgiri	257279	35939	254485	142577	13352	10645	11739	76172	9	76163
2	Coimbatore	470871	213934	472322	111871	79587	11991	95682	173191	6714	179905
	<b>Sub Total</b>	<b>728150</b>	<b>249873</b>	<b>726807</b>	<b>254448</b>	<b>92939</b>	<b>22636</b>	<b>107421</b>	<b>249363</b>	<b>6723</b>	<b>256068</b>
viii)	<b>PONDICHERY</b>										
1	Yanam	3000	3000	1168	.	1168	492	86	645	418	1063
2	Mahe	990	990	870	.	240	30	12	588	3	591
	<b>Sub Total</b>	<b>3990</b>	<b>3990</b>	<b>2038</b>	<b>0</b>	<b>1408</b>	<b>522</b>	<b>98</b>	<b>1233</b>	<b>421</b>	<b>1654</b>
	<b>Grand Total</b>	<b>17687041</b>	<b>8565788</b>	<b>10680054</b>	<b>3221085</b>	<b>1279439</b>	<b>760845</b>	<b>597019</b>	<b>4822889</b>	<b>1247657</b>	<b>6070528</b>
<b>X</b>	<b>Basin : Tapi, Year 2010-11</b>										
	<----- Not Available Data ----->										

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2010-11

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>XI</b>	<b>Basin : Narmada, Year 2010-11</b>										
i)	<b>GUJARAT</b>										
1	Vadodara	723495	378850	NA	NA	NA	NA	NA	NA	NA	NA
2	Bharuch	508367	184991	NA	NA	NA	NA	NA	NA	NA	NA
3	Surat	417464	16882	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1649326</b>	<b>580723</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	Sagar	889736	221054	1022759	298010	68066	92525	17240	546918	282728	829646
2	Damoh	985818	37179	728583	267536	88797	47552	8425	316273	133647	449920
3	Dewas	706837	41779	701307	206636	47036	53272	1568	392795	296720	689515
4	Jhabua	670019	374087	293057	11006	66752	23429	3550	188320	44962	233282
5	Dhar	330218	792	819541	119740	131512	61607	5518	501164	286998	788162
6	Indore	784230	475636	383097	52208	46863	22785	7787	253454	206112	459566
7	West Nimar (khargaon)	376595	101368	818657	247034	70339	83674	11180	406430	105997	512427
8	East Nimar Khandwa)	775716	739729	775616	305289	98331	52678	15906	303412	112876	416288
9	Vidisha	716974	646919	730197	109615	49038	34947	4697	531900	259943	791843
10	Sehore	NA	NA	656368	172430	50658	34429	2263	396588	290608	687196
11	Raisen	631741	314366	848875	333801	43548	34200	2664	434662	172787	607449
12	Betul	817210	449404	1007800	397390	72794	66504	45067	426045	204548	630593
13	Hoshangabad	969038	371261	668689	256110	46264	48527	11231	306557	232976	539533
14	Jabalpur	645642	645642	519757	77655	75232	57331	31252	278287	108277	386564
15	Narsimhapur	491129	461932	513651	136512	26506	35685	7330	307618	111894	419512
16	Mandla	494728	481819	965559	593243	53205	41666	53468	223977	86107	310084
17	Chhindwara	720148	637163	1184923	477101	77626	79061	61564	489571	166121	655692
18	Seoni	1136138	338922	875401	328437	60934	56938	44606	384486	151401	535887
19	Balaghat	842270	215312	924500	505043	57257	60347	32050	269803	65703	335506
20	Shahdol	1402800	77800	561006	227886	56930	50504	59165	166521	31935	198456
	<b>Sub Total</b>	<b>14386987</b>	<b>6632164</b>	<b>14999343</b>	<b>5122682</b>	<b>1287688</b>	<b>1037661</b>	<b>426531</b>	<b>7124781</b>	<b>3352340</b>	<b>10477121</b>
iii)	<b>CHHATISGARH</b>										
1	Rajnandgaon	776454	7858	802252	259031	68560	75068	49970	349623	93874	443497
	<b>Sub Total</b>	<b>776454</b>	<b>7858</b>	<b>802252</b>	<b>259031</b>	<b>68560</b>	<b>75068</b>	<b>49970</b>	<b>349623</b>	<b>93874</b>	<b>443497</b>
iv)	<b>MAHARASHTRA</b>										
	Dhule	692551	795	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>692551</b>	<b>795</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>17505318</b>	<b>7221540</b>	<b>15801595</b>	<b>5381713</b>	<b>1356248</b>	<b>1112729</b>	<b>476501</b>	<b>7474404</b>	<b>3446214</b>	<b>10920618</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>XII</b>	<b>Basin : Mahi and Sabarmati, Year 2010-11</b>										
(a)	<b>Basin: Mahi</b>										
i)	<b>GUJARAT</b>										
1	<b>Kheda</b>	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
2	<b>Panchmahals</b>	509562	6867	NA	NA	NA	NA	NA	NA	NA	NA
3	<b>Vadodara</b>	723495	344645	NA	NA	NA	NA	NA	NA	NA	NA
4	<b>Bharuch</b>	508367	219942	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>2125777</b>	<b>903994</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	<b>Ratlam</b>	463998	182086	486007	34283	71789	43151	2448	334336	175096	509432
2	<b>Jhabua</b>	330218	329425	293057	11006	66752	23429	3550	188320	44962	233282
3	<b>Dhar</b>	784230	150516	819541	119740	131512	61607	5518	501164	286998	788162
4	<b>Mandsaur</b>	979100	3300	551806	40593	115289	30843	2173	362908	189455	552363
	<b>Sub Total</b>	<b>2557546</b>	<b>665327</b>	<b>2150411</b>	<b>205622</b>	<b>385342</b>	<b>159030</b>	<b>13689</b>	<b>1386728</b>	<b>696511</b>	<b>2083239</b>
iii)	<b>RAJASTHAN</b>										
1	<b>Udaipur</b>	1145912	328985	1388255	397137	471199	202888	74856	242175	93666	335841
2	<b>Chittorgarh</b>	750049	13303	750761	120126	114454	172435	30399	313347	206984	520331
3	<b>Dungarpur</b>	364043	59787	385593	62204	92948	56861	41963	131617	55053	186670
4	<b>Bansewara</b>	433272	433272	453612	91247	62835	36855	36971	225704	106488	332192
	<b>Sub Total</b>	<b>2693276</b>	<b>835347</b>	<b>2978221</b>	<b>670714</b>	<b>741436</b>	<b>469039</b>	<b>184189</b>	<b>912843</b>	<b>462191</b>	<b>1375034</b>
b)	<b>Basin: Sabarmati</b>										
i)	<b>GUJARAT</b>										
1	<b>Surendranagar</b>	1011624	460336	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
2	<b>Banaskantha</b>	1024755	50628	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
3	<b>Sabarkantha</b>	714029	711386	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
4	<b>Mahesana</b>	424435	208736	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
5	<b>Gandhinagar</b>	205507	205507	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.

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**Table 14 : Land utilisation pattern by river basin and State for 2010-11**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
6	Ahmedabad	771266	471807	NA	NA	NA	NA	NA	NA	NA	NA
7	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4535969</b>	<b>2440940</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Sirohi	496134	5466	517947	155467	100106	43173	51273	167928	72627	240555
2	Udaipur	1145912	328985	1388255	397137	471199	202888	74856	242175	93666	335841
3	Dungarpur	364043	59787	385593	62204	92948	56861	41963	131617	55053	186670
	<b>Sub Total</b>	<b>2006089</b>	<b>394238</b>	<b>2291795</b>	<b>614808</b>	<b>664253</b>	<b>302922</b>	<b>168092</b>	<b>541720</b>	<b>221346</b>	<b>763066</b>
c)	<b>Basin : Luni &amp; Others</b>										
i)	<b>GUJARAT</b>										
1	Jammagar	1049091	1049091	NA	NA	NA	NA	NA	NA	NA	NA
2	Rajkot	1076212	1050090	NA	NA	NA	NA	NA	NA	NA	NA
3	Surendranagar	1011624	551288	NA	NA	NA	NA	NA	NA	NA	NA
4	Bhavnagar	806274	784949	NA	NA	NA	NA	NA	NA	NA	NA
5	Amreli	710001	710001	NA	NA	NA	NA	NA	NA	NA	NA
6	Junagadh	849729	849729	NA	NA	NA	NA	NA	NA	NA	NA
7	Kachch	4050820	4050820	NA	NA	NA	NA	NA	NA	NA	NA
8	Banaskantha	1024755	1024755	NA	NA	NA	NA	NA	NA	NA	NA
9	Mahesana	424435	215699	NA	NA	NA	NA	NA	NA	NA	NA
10	Ahemdabad	771266	771266	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>11774207</b>	<b>11057688</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Ajmer	820623	187076	842943	57066	137408	147042	45116	456311	319137	775448
2	Jodhpur	2203760	1332402	2256405	6996	225711	137836	514159	1371703	208423	1580126
3	Nagaur	1702659	609623	1763821	18563	145402	85616	184842	1329398	529810	1859208
4	Pali	1189023	1189023	1233079	86536	197871	138239	161705	648728	238294	887022
5	Jalor	1032233	1032233	1056602	23506	122337	80623	130801	699335	426190	1125525
6	Sirohi	496134	490668	517947	155467	100106	43173	51273	167928	72627	240555
	<b>Sub Total</b>	<b>7444432</b>	<b>4841025</b>	<b>7670797</b>	<b>348134</b>	<b>928835</b>	<b>632529</b>	<b>1087896</b>	<b>4673403</b>	<b>1794481</b>	<b>6467884</b>
iii)	<b>Daman&amp; Diu</b>										
	Diu	3439	3439	941	-	62	250	5	624	-	624
	<b>Sub Total</b>	<b>3439</b>	<b>3439</b>	<b>941</b>	<b>0</b>	<b>62</b>	<b>250</b>	<b>5</b>	<b>624</b>	<b>0</b>	<b>624</b>
	<b>Grant Total</b>	<b>33140735</b>	<b>21141998</b>	<b>15092165</b>	<b>1839278</b>	<b>2719928</b>	<b>1563770</b>	<b>1453871</b>	<b>7515318</b>	<b>3174529</b>	<b>10689847</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>I</b>	<b>Basin : Mahanadi, Year 2011-12</b>										
i)	<b>JHARKHAND</b>										
	Gumla	514951	431274	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>514951</b>	<b>431274</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>ORISSA</b>										
1	Sambalpur	647954	526685	643076	363177	51000	49000	57000	122899	18085	140984
2	Sundergarh	935352	394117	1051654	495732	153000	79000	118000	205922	5956	211878
3	Cuttak	380297	368362	388516	78790	94000	31000	38000	146726	59363	206089
4	Dhenkanal	431065	66017	442310	173762	51000	58000	61000	98548	7479	106027
5	Phulbani	777003	580713	842824	570983	125000	28000	70000	48841	2355	51196
6	Balangir	633243	633243	641452	154385	65000	74000	99000	249067	20747	269814
7	Kalahandi	763306	657009	718188	253801	67000	54000	95000	248387	25922	274309
8	Koraput	818027	669333	715203	187953	186000	66000	93000	182250	16534	198784
9	Puri	343302	343302	282168	13710	65000	41000	31000	131458	47877	179335
	<b>Sub Total</b>	<b>5729549</b>	<b>4238781</b>	<b>5725391</b>	<b>2292293</b>	<b>857000</b>	<b>480000</b>	<b>662000</b>	<b>1434098</b>	<b>204318</b>	<b>1638416</b>
iii)	<b>MADHYA PRADESH</b>										
1	Shahdol	1402800	8400	561006	227886	57487	50603	57173	167857	33828	201685
	<b>Sub Total</b>	<b>1402800</b>	<b>8400</b>	<b>561006</b>	<b>227886</b>	<b>57487</b>	<b>50603</b>	<b>57173</b>	<b>167857</b>	<b>33828</b>	<b>201685</b>
iv)	<b>CHHATISGARH</b>										
1	Surguja	1512537	24774	501980	241189	29940	44787	26430	159634	23816	183450
2	Bilaspur	802286	719001	581849	218436	40197	65618	23366	234232	60344	294576
3	Raigarh	681911	681811	652774	207732	70221	68791	35858	270172	30744	300916
4	Rajnandgaon	776454	54676	802252	259029	68639	74793	50122	349669	94269	443938
5	Durg	828760	825676	231999	--	40187	30767	14196	146849	45365	192214
6	Raipur	1199563	1199563	291437	2820	41512	57362	21072	168671	41842	210513
7	Bastar	1015259	34786	641805	322304	47868	67896	23043	180694	5471	186165
	<b>Sub Total</b>	<b>6816770</b>	<b>3540287</b>	<b>3704096</b>	<b>1251510</b>	<b>338564</b>	<b>410014</b>	<b>194087</b>	<b>1509921</b>	<b>301851</b>	<b>1811772</b>
v)	<b>MAHARASHTRA</b>										
1	Chandrapur+	2585500	28600	NA	NA	NA	NA	NA	NA	NA	NA
2	Gadchiroli	1396606	29856	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3982106</b>	<b>58456</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>18446176</b>	<b>8277198</b>	<b>9990493</b>	<b>3771689</b>	<b>1253051</b>	<b>940617</b>	<b>913260</b>	<b>3111876</b>	<b>539997</b>	<b>3651873</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>II Subernarekha, Burhabalang and Baitarni, Year 2011-12</b>											
<b>i) JHARKHAND</b>											
1	Ranchi	474384	280226	NA	NA	NA	NA	NA	NA	NA	NA
2	Singhbhum West	694129	268733	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1168513</b>	<b>548959</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ii) ORISSA</b>											
1	Mayurbhanj	1003564	714663	1054626	439213	74000	121000	118000	302413	11909	314322
2	Balasore	373369	264477	375958	33221	50000	48000	26000	218737	32530	251267
	<b>Sub Total</b>	<b>1376933</b>	<b>979140</b>	<b>1430584</b>	<b>472434</b>	<b>124000</b>	<b>169000</b>	<b>144000</b>	<b>521150</b>	<b>44439</b>	<b>565589</b>
<b>iii) WEST BENGAL</b>											
1	Midnapur(East)	389357	8526	396594	899	102684	2403	1660	288948	229998	518946
2	Purulia	600310	93192	625646	75048	111068	10891	133239	295400	40955	336355
	<b>Sub Total</b>	<b>989667</b>	<b>101718</b>	<b>1022240</b>	<b>75947</b>	<b>213752</b>	<b>13294</b>	<b>134899</b>	<b>584348</b>	<b>270953</b>	<b>855301</b>
	<b>Grand Total</b>	<b>3535113</b>	<b>1629817</b>	<b>2452824</b>	<b>548381</b>	<b>337752</b>	<b>182294</b>	<b>278899</b>	<b>1105498</b>	<b>315392</b>	<b>1420890</b>
<b>III Basin : Brahmani, Year 2011-12</b>											
<b>i) JHARKHAND</b>											
1	Lohardaga	143938	91185	NA	NA	NA	NA	NA	NA	NA	NA
2	Gumla	514951	431274	NA	NA	NA	NA	NA	NA	NA	NA
3	Ranchi	474384	115039	NA	NA	NA	NA	NA	NA	NA	NA
4	Pa. Singhbhum	694129	425395	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1827402</b>	<b>1062893</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ii) CHATTISGARH</b>											
	Raigarh	681911	681811	652774	207732	70221	68791	35858	270172	30744	300916
	<b>Sub Total</b>	<b>681911</b>	<b>681811</b>	<b>652774</b>	<b>207725</b>	<b>68704</b>	<b>69873</b>	<b>34471</b>	<b>272001</b>	<b>31214</b>	<b>303215</b>
<b>iii) ORISSA</b>											
1	Sambalpur	647954	121269	643076	363177	51000	49000	57000	122899	18085	140984
2	Sundergarh	935352	541235	1051654	495732	153000	79000	118000	205922	5956	211878
3	Konjhar	799691	799691	791957	309718	119000	59000	123000	181239	3368	184607
4	Mayurbhanj	1003564	288901	1054626	439213	74000	121000	118000	302413	11909	314322
5	Balasore	373369	108110	375958	33221	50000	48000	26000	218737	32530	251267
6	Cuttak	380297	11934	388516	78790	94000	31000	38000	146726	59363	206089
7	Dhenkanal	431065	365047	442310	173762	51000	58000	61000	98548	7479	106027
	<b>Sub Total</b>	<b>4571292</b>	<b>2236187</b>	<b>4748097</b>	<b>1893613</b>	<b>592000</b>	<b>445000</b>	<b>541000</b>	<b>1276484</b>	<b>138690</b>	<b>1415174</b>
	<b>Grand Total</b>	<b>7080605</b>	<b>3980891</b>	<b>5400871</b>	<b>2101338</b>	<b>660704</b>	<b>514873</b>	<b>575471</b>	<b>1548485</b>	<b>169904</b>	<b>1718389</b>
<b>IV Rushikulya, Vamsadhra, Sarada and Nagavali, Year 2011-12</b>											
<----- Not Available Data ----->											
Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)											
India-WRIS website ( col. 3 and col. 4 )											



Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>V</b>	<b>Basin : Godavari, Year 2011-</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Visakhapatnam	1111536	361427	1116100	441166	239659	47250	87654	300371	60102	360473
2	East Godavari	1057111	588931	1080700	323244	221394	46031	70598	419433	216931	636364
3	West Godavari	758274	168239	774200	81166	156250	35142	30200	471442	223370	694812
	<b>Sub Total</b>	<b>2926921</b>	<b>1118597</b>	<b>2971000</b>	<b>845576</b>	<b>617303</b>	<b>128423</b>	<b>188452</b>	<b>1191246</b>	<b>500403</b>	<b>1691649</b>
ii)	<b>TELANGANA</b>										
1	Rangareddy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	Medak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Nizamabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Adilabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
iii)	<b>KARNATAKA</b>										
	Bidar	529388	446912	541765	27707	41133	44261	77872	350792	64903	415695
	<b>Sub Total</b>	<b>529388</b>	<b>446912</b>	<b>541765</b>	<b>27707</b>	<b>41133</b>	<b>44261</b>	<b>77872</b>	<b>350792</b>	<b>64903</b>	<b>415695</b>
iv)	<b>MADHYA PRADESH</b>										
1	Betul	969038	212974	1007800	397390	72794	66438	45167	426011	141835	567846
2	Mandla	720148	70924	965559	593232	56218	38275	49134	228700	98007	326707
3	Chhindwara	1136138	797216	1184923	476261	70283	92577	46158	499644	176274	675918
4	Seoni	842270	626958	875401	328479	61317	51680	36082	397843	140601	538444
5	Balaghat	889736	668672	924500	505043	57795	61094	25225	275343	68475	343818
	<b>Sub Total</b>	<b>4557330</b>	<b>2376744</b>	<b>4958183</b>	<b>2300405</b>	<b>318407</b>	<b>310064</b>	<b>201766</b>	<b>1827541</b>	<b>625192</b>	<b>2452733</b>
v)	<b>CHHATISGARH</b>										
1	Rajnandgaon	776454	221836	802252	259029	68639	74793	50122	349669	94269	443938
2	Raipur	1199563	1199563	291437	2820	41512	57362	21072	168671	41842	210513
3	Bastar	1015259	980473	641805	322304	47868	67896	23043	180694	5471	186165
	<b>Sub Total</b>	<b>2991276</b>	<b>2401872</b>	<b>1735494</b>	<b>584153</b>	<b>158019</b>	<b>200051</b>	<b>94237</b>	<b>699034</b>	<b>141582</b>	<b>840616</b>
vi)	<b>MAHARASHTRA</b>										
1	Nashik	1502109	697325	NA	NA	NA	NA	NA	NA	NA	NA
2	Jalgaon	1134974	1566	NA	NA	NA	NA	NA	NA	NA	NA
3	Ahmadnagar	1651041	1036810	NA	NA	NA	NA	NA	NA	NA	NA
4	Pune	1518575	8125	NA	NA	NA	NA	NA	NA	NA	NA
5	Solapur	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
6	Aurangabad	977228	872544	NA	NA	NA	NA	NA	NA	NA	NA
7	Jalana	751009	738659	NA	NA	NA	NA	NA	NA	NA	NA

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**Table 14 : Land utilisation pattern by river basin and State for 2011-12**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8	Parbhani	615498	615498	NA	NA	NA	NA	NA	NA	NA	NA
9	Beed	1024473	879817	NA	NA	NA	NA	NA	NA	NA	NA
10	Nanded	1026074	1026074	NA	NA	NA	NA	NA	NA	NA	NA
11	Osmanabad	734720	298050	NA	NA	NA	NA	NA	NA	NA	NA
12	Latur	700952	700707	NA	NA	NA	NA	NA	NA	NA	NA
13	Buldghana	940967	379629	NA	NA	NA	NA	NA	NA	NA	NA
14	Akola	521495	23	NA	NA	NA	NA	NA	NA	NA	NA
15	Amravati	1176511	402091	NA	NA	NA	NA	NA	NA	NA	NA
16	Yavatmal	1306920	1306920	NA	NA	NA	NA	NA	NA	NA	NA
17	Wardha	608496	608496	NA	NA	NA	NA	NA	NA	NA	NA
18	Nagpur	956449	956449	NA	NA	NA	NA	NA	NA	NA	NA
19	Bhandara	371941	371941	NA	NA	NA	NA	NA	NA	NA	NA
20	Chandrapur	1091727	1091727	NA	NA	NA	NA	NA	NA	NA	NA
21	Gadchiroli	1396606	1366751	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>21457352</b>	<b>14808789</b>	NA	NA	NA	NA	NA	NA	NA	NA
vii)	<b>ORISSA</b>										
1	Kalahandi	763306	41757	718188	253801	67000	54000	95000	248387	25922	274309
2	Koraput	818027	669333	715203	187953	186000	66000	93000	182250	16534	198784
	<b>Sub Total</b>	<b>1581333</b>	<b>711090</b>	<b>1433391</b>	<b>441754</b>	<b>253000</b>	<b>120000</b>	<b>188000</b>	<b>430637</b>	<b>42456</b>	<b>473093</b>
	<b>Grand Total</b>	<b>34043600</b>	<b>21864004</b>	<b>11639833</b>	<b>4199595</b>	<b>1387862</b>	<b>802799</b>	<b>750327</b>	<b>4499250</b>	<b>1374536</b>	<b>5873786</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)

India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VI</b>	<b>Basin : Krishna, Year 2009-2010</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Krishna	836525	468680	872700	76186	187015	45264	53580	510655	215781	726436
2	Anantapur	1898772	418559	1913000	196978	316498	64120	286149	1049255	64828	1114083
3	Guntoor +	1118651	654538	1139100	161941	192768	71842	74878	637671	191641	829312
4	Prakasam	1738937	65716	1762600	461983	335564	123629	233791	607633	28800	636433
5	Nellore +	1309071	609094	1307600	262787	396792	186022	85611	376388	72204	448592
6	Kurnool	1750331	969679	1765800	340669	269070	53547	227083	875431	86759	962190
7	East Godavari	NA	NA	1080700	323244	221394	46031	70598	419433	216931	636364
	<b>Sub Total</b>	<b>8652287</b>	<b>3186266</b>	<b>9841500</b>	<b>1823788</b>	<b>1919101</b>	<b>590455</b>	<b>1031690</b>	<b>4476466</b>	<b>876944</b>	<b>5353410</b>
ii)	<b>TELANGANA</b>										
1	Mahaboobnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	Rangareddy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Hyderabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Medak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Nalgonda	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
iii)	<b>KARNATAKA</b>										
1	Belgaum	1312075	1211373	1344382	190424	114137	39318	233923	766580	244684	1011264
2	Bellary	831109	831109	813196	97017	163768	33917	104422	414072	117944	532016
3	Bidar	529388	82476	541765	27707	41133	44261	77872	350792	64903	415695
4	Bijapur	1026100	1026100	1053471	1977	65127	16393	221170	748804	95398	844202
5	Chikmagalur	716773	626450	722075	200485	71512	129254	27836	292988	30647	323635
6	Chitradurga	836022	836022	770702	73719	76646	121669	111568	387100	66384	453484
7	Dharwad	420226	278003	427329	35235	26967	6442	70043	288642	188383	477025
8	Gulbarga	1068727	1068708	1094120	35316	73533	36403	53042	895826	76680	972506
9	Hassan	678918	138462	662602	58775	109770	54048	80817	359192	90044	449236
10	Raichur	827699	827699	835843	18167	40647	44212	274755	458062	83073	541135
11	Shimoga	836130	569409	847784	276855	102020	206642	34302	227965	39849	267814
12	Tumkur	1054389	389756	1064755	45177	152495	160128	197413	509542	66419	575961
13	Uttar Kannada	1004865	66406	1024679	813595	50781	27881	20120	112302	11253	123555
	<b>Sub Total</b>	<b>11142421</b>	<b>7951973</b>	<b>11202703</b>	<b>1874449</b>	<b>1088536</b>	<b>920568</b>	<b>1507283</b>	<b>5811867</b>	<b>1175661</b>	<b>6987528</b>

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**Table 14 : Land utilisation pattern by river basin and State for 2011-12**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
iv)	<b>MAHARASHTRA</b>										
1	<b>Ratnagiri</b>	805094	1449	NA	NA	NA	NA	NA	NA	NA	NA
2	<b>Ahmadnagar</b>	1651041	613016	NA	NA	NA	NA	NA	NA	NA	NA
3	<b>Pune</b>	1518575	1479056	NA	NA	NA	NA	NA	NA	NA	NA
4	<b>Satara</b>	1022337	1018731	NA	NA	NA	NA	NA	NA	NA	NA
5	<b>Sangli</b>	834999	834619	NA	NA	NA	NA	NA	NA	NA	NA
6	<b>Solapur</b>	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
7	<b>Kolhapur</b>	750031	723744	NA	NA	NA	NA	NA	NA	NA	NA
8	<b>Bid</b>	1024473	144656	NA	NA	NA	NA	NA	NA	NA	NA
9	<b>Osmanabad+</b>	734720	436670	NA	NA	NA	NA	NA	NA	NA	NA
10	<b>Latur</b>	700952	245	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>10491809</b>	<b>6701773</b>	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Grand Total</b>	<b>30286517</b>	<b>17840012</b>	<b>21044203</b>	<b>3698237</b>	<b>3007637</b>	<b>1511023</b>	<b>2538973</b>	<b>10288333</b>	<b>2052605</b>	<b>12340938</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Note : (1) Totals may not tally due to rounding off.

Note : (2) .: Not available data.

Note : (3) Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VII Basin : Cauvery, Year 2011-12</b>											
<b>i) KARNATAKA</b>											
1	Bangalore (Urban)	217582	98782	217410	5055	120717	17035	23170	51433	2158	53591
2	Bangalore (Rural)	229462	97892	229519	11322	51102	20275	21050	125770	4845	130615
3	Chikmagalur	716773	75101	722075	200485	71512	129254	27836	292988	30647	323635
4	Hassan	678918	494178	662602	58775	109770	54048	80817	359192	90044	449236
5	Kodagu (Coorg)	411560	289868	410775	134597	55225	43179	7852	169922	15960	185882
6	Mandya	494261	494261	498244	24765	82425	77432	81218	232404	40120	272524
7	Mysore	631907	631907	676382	62851	120964	74086	73573	344908	191415	536323
8	Tumkur	1054389	399200	1064755	45177	152495	160128	197413	509542	66419	575961
	<b>Sub Total</b>	<b>4434852</b>	<b>2581189</b>	<b>4481762</b>	<b>543027</b>	<b>764210</b>	<b>575437</b>	<b>512929</b>	<b>2086159</b>	<b>441608</b>	<b>2527767</b>
<b>ii) KERALA</b>											
1	Kannur	295780	116	297112	48734	40055	5337	6811	196175	30355	226530
2	Wayanad	214118	193614	212966	78787	15384	1071	2589	115135	57220	172355
3	Kozhikode	234784	442	234641	41386	33719	2241	3968	153327	53644	206971
4	Palakkad	454291	61906	447584	136257	61241	23651	28392	198043	104305	302348
5	Idukki	510626	38572	436328	198413	25635	2877	2495	206908	69585	276493
	<b>Sub Total</b>	<b>1709599</b>	<b>294650</b>	<b>1628631</b>	<b>503577</b>	<b>176034</b>	<b>35177</b>	<b>44255</b>	<b>869588</b>	<b>315109</b>	<b>1184697</b>
<b>iii) TAMIL NADU</b>											
1	Dharmapuri +	452954	190674	NA	NA	NA	NA	NA	NA	NA	NA
2	Salem	524741	302708	NA	NA	NA	NA	NA	NA	NA	NA
3	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coimbatore	470871	256937	NA	NA	NA	NA	NA	NA	NA	NA
5	Nilgiri	257279	221340	NA	NA	NA	NA	NA	NA	NA	NA
6	Madurai +	376770	376763	NA	NA	NA	NA	NA	NA	NA	NA
7	Dindigul	616499	442905	NA	NA	NA	NA	NA	NA	NA	NA
8	Pudukottai	474011	73416	NA	NA	NA	NA	NA	NA	NA	NA
9	Triuchirappalli	456408	403211	NA	NA	NA	NA	NA	NA	NA	NA
10	Thanjavur	343878	222195	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3973411</b>	<b>2490149</b>	NA	NA	NA	NA	NA	NA	NA	NA
<b>iv) PONDICHERY</b>											
1	Karaikal	15498	15498	16012	.	5287	3142	1396	6187	2360	8547
2	<b>Sub Total</b>	<b>15498</b>	<b>15498</b>	<b>16012</b>	.	<b>5287</b>	<b>3142</b>	<b>1396</b>	<b>6187</b>	<b>2360</b>	<b>8547</b>
	<b>Grand Total</b>	<b>10133360</b>	<b>5381486</b>	<b>6126405</b>	<b>1046604</b>	<b>945531</b>	<b>613756</b>	<b>558580</b>	<b>2961934</b>	<b>759077</b>	<b>3721011</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>VIII</b>	<b>Basin : East Following Rivers from Mahanadi to Kanyakumari, Year 2011-12</b>										
	<b>ANDHRA PRADESH</b>										
1	Srikakulam	573080	573080	583700	68641	150885	8918	36463	318793	109468	428261
2	Vizianagaram	582145	582145	653900	119303	150612	20009	77420	286556	92679	379235
3	Vishakhapatnam	1111536	750109	1116100	441166	239659	47250	87654	300371	60102	360473
4	East Godavari	1057111	468180	1080700	323244	221394	46031	70598	419433	216931	636364
5	West Godavari	758274	590034	774200	81166	156250	35142	30200	471442	223370	694812
6	Krishna	836525	367845	872700	76186	187015	45264	53580	510655	215781	726436
7	Guntur+	1118651	464113	1139100	161941	192768	71842	74878	637671	191641	829312
8	Prakasam+	1738937	1578699	1762600	461983	335564	123629	233791	607633	28800	636433
9	Nellore	1309071	284833	1307600	262787	396792	186022	85611	376388	72204	448592
10	kurnool	1750331	5934	1765800	340669	269070	53547	227083	875431	86759	962190
11	Chittoor	NA	NA	1515100	452018	309171	109839	289260	354812	53536	408348
	<b>Sub Total</b>	<b>10835661</b>	<b>5664972</b>	<b>12571500</b>	<b>2789104</b>	<b>2609180</b>	<b>747493</b>	<b>1266538</b>	<b>5159185</b>	<b>1351271</b>	<b>6510456</b>
	<b>TELANGANA</b>										
1	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>KARNATAKA</b>										
1	Bangalore	217582	98782	217410	5055	120717	17035	23170	51433	2158	53591
2	Bangalore R.	229462	97892	229519	11322	51102	20275	21050	125770	4845	130615
3	Kolar	396844	357991	374966	20620	74547	52824	43761	183214	11019	194233
	<b>Sub Total</b>	<b>843888</b>	<b>554665</b>	<b>821895</b>	<b>36997</b>	<b>246366</b>	<b>90134</b>	<b>87981</b>	<b>360417</b>	<b>18022</b>	<b>378439</b>
	<b>KERALA</b>										
	Thiruvananthapuram	224681	433	218781	49861	34476	222	3464	130758	24307	155065
	<b>Sub Total</b>	<b>224681</b>	<b>433</b>	<b>218781</b>	<b>49861</b>	<b>34476</b>	<b>222</b>	<b>3464</b>	<b>130758</b>	<b>24307</b>	<b>155065</b>
	<b>ORISSA</b>										
1	Phulbani	777003	196290	842824	570983	125000	28000	70000	48841	2355	51196
2	Kalahandi	763306	64540	718188	253801	67000	54000	95000	248387	25922	274309
3	Koraput	818027	148694	715203	187953	186000	66000	93000	182250	16534	198784
4	Ganjam	819771	769821	863675	314990	125000	54000	95000	274685	33935	308620
5	Puri	NA	NA	282168	13710	65000	41000	31000	131458	47877	179335
	<b>Sub Total</b>	<b>3178107</b>	<b>1179345</b>	<b>3422058</b>	<b>1341437</b>	<b>568000</b>	<b>243000</b>	<b>384000</b>	<b>885621</b>	<b>126623</b>	<b>1012244</b>
	<b>TAMIL NADU</b>										
1	Chennai	12800	12800	NA	NA	NA	NA	NA	NA	NA	NA
2	Chengai-Anna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	North Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Dharmapuri+	452954	262280	NA	NA	NA	NA	NA	NA	NA	NA
5	Salem	524741	222033	NA	NA	NA	NA	NA	NA	NA	NA
6	Tiruchirapalli	456408	53197	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

**Table 14 : Land utilisation pattern by river basin and State for 2011-12**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
7	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Dindugul +	616499	173594	NA	NA	NA	NA	NA	NA	NA	NA
9	Madurai	376770	376763	NA	NA	NA	NA	NA	NA	NA	NA
10	Thanjavur	343878	121683	NA	NA	NA	NA	NA	NA	NA	NA
11	Pudukottai	474011	400595	NA	NA	NA	NA	NA	NA	NA	NA
12	PMT+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	Kamarajar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Ramanathapuram	404052	404051	NA	NA	NA	NA	NA	NA	NA	NA
15	Chidambaranar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	Tirunelveli	699899	698202	NA	NA	NA	NA	NA	NA	NA	NA
17	Kanyakumari	174680	7081	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4536692</b>	<b>2732279</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vi)	<b>PONDICHERY</b>										
	Pondicherry (District)	30119	30119	29378	399	11703	2162	4373	10741	6703	17444
	<b>Sub Total</b>	<b>30119</b>	<b>30119</b>	<b>29378</b>	<b>399</b>	<b>11703</b>	<b>2162</b>	<b>4373</b>	<b>10741</b>	<b>6703</b>	<b>17444</b>
	<b>Basin : Penner, Year 2009-2010</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Kurnool	1765800	1409600	1765800	340669	269070	53547	227083	875431	86759	962190
2	Cuddapah	1535900	1535900	1535900	500961	403128	62253	216796	352762	80208	432970
2	Anantapur	1898772	418559	1913000	196978	316498	64120	286149	1049255	64828	1114083
4	Prakasam+	1738937	1578699	1762600	461983	335564	123629	233791	607633	28800	636433
5	Guntur+	1118651	464113	1139100	161941	192768	71842	74878	637671	191641	829312
6	Nellore+	NA	NA	1307600	262787	396792	186022	85611	376388	72204	448592
7	Chittoor	1495701	1002785	1515100	452018	309171	109839	289260	354812	53536	408348
	<b>Sub Total</b>	<b>9553761</b>	<b>6409656</b>	<b>10939100</b>	<b>2377337</b>	<b>2222991</b>	<b>671252</b>	<b>1413568</b>	<b>4253952</b>	<b>577976</b>	<b>4831928</b>
ii)	<b>KARNATAKA</b>										
1	Bangalore R.	229462	93562	229519	11322	51102	20275	21050	125770	4845	130615
2	Kolar	396844	357991	374966	20620	74547	52824	43761	183214	11019	194233
3	Tumkur	NA	NA	1064755	45177	152495	160128	197413	509542	66419	575961
	<b>Sub Total</b>	<b>626306</b>	<b>451553</b>	<b>1669240</b>	<b>77119</b>	<b>278144</b>	<b>233227</b>	<b>262224</b>	<b>818526</b>	<b>82283</b>	<b>900809</b>
	<b>Grand Total</b>	<b>29829215</b>	<b>17023022</b>	<b>29671952</b>	<b>6672254</b>	<b>5970860</b>	<b>1987490</b>	<b>3422148</b>	<b>11619200</b>	<b>2187185</b>	<b>13806385</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)

India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>IX</b>	<b>Basin : West Flowing Rivers fro Kanyakumari to Tapi, Year 2011-12</b>										
i)	<b>DADRA &amp; NAGAR HAVELI</b>										
1	Daman & Diu	11200	7200	.	.	.	.	.	.	.	.
2	Dadra & Nagar Haveli	47707	47707	.	.	.	.	.	.	.	.
	<b>Sub Total</b>	<b>58907</b>	<b>54907</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
ii)	Goa	370200	370200	361113	125473	37137	54418	12263	131822	32170	163992
	<b>Sub Total</b>	<b>370200</b>	<b>370200</b>	<b>361113</b>	<b>125473</b>	<b>37137</b>	<b>54418</b>	<b>12263</b>	<b>131822</b>	<b>32170</b>	<b>163992</b>
iii)	<b>GUJARAT</b>										
1	Surat	417464	135144	NA	NA	NA	NA	NA	NA	NA	NA
2	Valsad	289491	289491	NA	NA	NA	NA	NA	NA	NA	NA
3	Dangs	170082	167507	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>877037</b>	<b>592142</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
iv)	<b>KARNATAKA</b>										
1	Belgaum	1341500	96600	1344382	190424	114137	39318	233923	766580	244684	1011264
2	Dharwad	1373800	185800	427329	35235	26967	6442	70043	288642	188383	477025
3	Chikmagalur	716773	15222	722075	200485	71512	129254	27836	292988	30647	323635
4	Dak. Kannada	457868	457759	477149	128476	124289	81233	11705	131446	26237	157683
5	Hassan	678918	46278	662602	58775	109770	54048	80817	359192	90044	449236
6	Kodagu	411560	121692	410775	134597	55225	43179	7852	169922	15960	185882
7	Shimoga	836130	265220	847784	276855	102020	206642	34302	227965	39849	267814
8	Utt. Kannada	1004865	103370	1024679	813595	50781	27881	20120	112302	11253	123555
	<b>Sub Total</b>	<b>6821414</b>	<b>1291941</b>	<b>5916775</b>	<b>1838442</b>	<b>654701</b>	<b>587997</b>	<b>486598</b>	<b>2349037</b>	<b>647057</b>	<b>2996094</b>
v)	<b>KERALA</b>										
1	Kasargod	196467	196467	199166	5625	38545	9933	4275	140788	10023	150811
2	Kannur	295780	295664	297112	48734	40055	5337	6811	196175	30355	226530
3	Kozhikode	234784	234342	234641	41386	33719	2241	3968	153327	53644	206971
4	Malappuram	359911	359721	355446	103417	54156	5985	14010	177878	62999	240877
5	Palakkad	454291	392385	447584	136257	61241	23651	28392	198043	104305	302348
6	Thrissur	307157	307156	302919	103619	44537	6700	19168	128895	52392	181287
7	Ernakulam	245458	245457	305826	70617	60369	12525	18998	143317	29132	172449
8	Idukki	510626	468242	436328	198413	25635	2877	2495	206908	69585	276493
9	Kottayam	225883	225883	220442	8141	33737	8833	11832	157899	51553	209452
10	Alappuzha	145448	145448	141011	--	34883	15415	5554	85159	22230	107389
11	Pathanamthitt	270955	270462	265277	155214	19634	2449	6909	81071	21314	102385
12	Kollam	255616	254448	248788	81438	34661	1649	6261	124779	32564	157343
13	Thiruvananthrum	224681	224248	218781	49861	34476	222	3464	130758	24307	155065
	<b>Sub Total</b>	<b>3727057</b>	<b>3619923</b>	<b>3673321</b>	<b>1002722</b>	<b>515648</b>	<b>97817</b>	<b>132137</b>	<b>1924997</b>	<b>564403</b>	<b>2489400</b>

Contd/...



**Table 14 : Land utilisation pattern by river basin and State for 2011-12**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
vi)	<b>MAHARASHTRA</b>										
1	Mumbai Sub	43828	43828	NA	NA	NA	NA	NA	NA	NA	NA
2	Thane	920822	920256	NA	NA	NA	NA	NA	NA	NA	NA
3	Raigarh	694267	694014	NA	NA	NA	NA	NA	NA	NA	NA
4	Sindhudurg	496678	484213	NA	NA	NA	NA	NA	NA	NA	NA
5	Nasik	1502109	208862	NA	NA	NA	NA	NA	NA	NA	NA
6	Dhule	692551	5352	NA	NA	NA	NA	NA	NA	NA	NA
7	Kolhapur	750031	26287	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>5100286</b>	<b>2382812</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
vii)	<b>TAMIL NADU</b>										
1	The Nilgiri	257279	35939	NA	NA	NA	NA	NA	NA	NA	NA
2	Coimbatore	470871	213934	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>728150</b>	<b>249873</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
viii)	<b>PONDICHERY</b>										
1	Yanam	3000	3000	2391	.	1156	491	129	615	289	904
2	Mahe	990	990	870	.	242	30	12	586	2	588
	<b>Sub Total</b>	<b>3990</b>	<b>3990</b>	<b>3261</b>	<b>0</b>	<b>1398</b>	<b>521</b>	<b>141</b>	<b>1201</b>	<b>291</b>	<b>1492</b>
	<b>Grand Total</b>	<b>17687041</b>	<b>8565788</b>	<b>9954470</b>	<b>2966637</b>	<b>1208884</b>	<b>740753</b>	<b>631139</b>	<b>4407057</b>	<b>1243921</b>	<b>5650978</b>
X	Basin : Tapi, Year 2011-12										
	<----- Not Available Data ----->										

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
XI	<b>Basin : Narmada, Year 2011-12</b>										
i)	<b>GUJARAT</b>										
1	Vadodara	723495	378850	NA	NA	NA	NA	NA	NA	NA	NA
2	Bharuch	508367	184991	NA	NA	NA	NA	NA	NA	NA	NA
3	Surat	417464	16882	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1649326</b>	<b>580723</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	Sagar	889736	221054	1022759	296910	69710	90444	18158	547537	329043	876580
2	Damoh	985818	37179	728583	267536	88973	47596	8398	316080	134052	450132
3	Dewas	706837	41779	701307	206636	47046	52198	1515	393912	296613	690525
4	Jhabua	670019	374087	293057	11021	67112	23315	3463	188146	49107	237253
5	Dhar	330218	792	819541	119740	132519	61916	4737	500629	269071	769700
6	Indore	784230	475636	383097	52208	52457	20845	8044	249543	206184	455727
7	West Nimar (khargaon)	376595	101368	818657	247031	75604	81444	11017	403561	102100	505661
8	East Nimar Khandwa)	775716	739729	775616	305287	98683	51459	13876	306311	117878	424189
9	Vidisha	716974	646919	730197	109615	50860	35389	4261	530072	258344	788416
10	Sehore	631741	314366	656368	172383	50889	35318	2006	395772	298862	694634
11	Raisen	631741	314366	848746	331972	45243	33607	2525	435399	198573	633972
12	Betul	817210	449404	1007800	397390	72794	66438	45167	426011	141835	567846
13	Hoshangabad	969038	371261	668689	256110	46279	48417	11384	306499	236871	543370
14	Jabalpur	645642	645642	519757	77655	75702	58566	30150	277684	123189	400873
15	Narsimhapur	491129	461932	513651	136512	26594	34604	7156	308785	115727	424512
16	Mandla	494728	481819	965559	593232	56218	38275	49134	228700	98007	326707
17	Chhindwara	720148	637163	1184923	476261	70283	92577	46158	499644	176274	675918
18	Seoni	1136138	338922	875401	328479	61317	51680	36082	397843	140601	538444
19	Balaghat	842270	215312	924500	505043	57795	61094	25225	275343	68475	343818
20	Shahdol	1402800	77800	561006	227886	57487	50603	57173	167857	33828	201685
	<b>Sub Total</b>	<b>15018728</b>	<b>6946530</b>	<b>14999214</b>	<b>5118907</b>	<b>1303565</b>	<b>1035785</b>	<b>385629</b>	<b>7155328</b>	<b>3394634</b>	<b>10549962</b>
iii)	<b>CHHATISGARH</b>										
1	Rajnandgaon	776454	7858	802252	259029	68639	74793	50122	349669	94269	443938
	<b>Sub Total</b>	<b>776454</b>	<b>7858</b>	<b>802252</b>	<b>259029</b>	<b>68639</b>	<b>74793</b>	<b>50122</b>	<b>349669</b>	<b>94269</b>	<b>443938</b>
iv)	<b>MAHARASHTRA</b>										
	Dhule	692551	795	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>692551</b>	<b>795</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>18137059</b>	<b>7535906</b>	<b>15801466</b>	<b>5377936</b>	<b>1372204</b>	<b>1110578</b>	<b>435751</b>	<b>7504997</b>	<b>3488903</b>	<b>10993900</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)

India-WRIS website ( col. 3 and col. 4 )

Table 14 : Land utilisation pattern by river basin and State for 2011-12

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands Excluding Fallow Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>XII</b>	<b>Basin : Mahi and Sabarmati, Year 2011-12</b>										
a)	<b>Basin: Mahi</b>										
i)	<b>GUJARAT</b>										
1	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
2	Panchmahals	509562	6867	NA	NA	NA	NA	NA	NA	NA	NA
3	Vadodara	723495	344645	NA	NA	NA	NA	NA	NA	NA	NA
4	Bharuch	508367	219942	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>2125777</b>	<b>903994</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	Ratlam	463998	182086	486007	34283	72130	42741	1819	335034	204279	539313
2	Jhabua	330218	329425	293057	11021	67112	23315	3463	188146	49107	237253
3	Dhar	784230	150516	819541	119740	132519	61916	4737	500629	269071	769700
4	Mandsaur	979100	3300	551806	40593	118798	30113	2001	360301	230464	590765
	<b>Sub Total</b>	<b>2557546</b>	<b>665327</b>	<b>2150411</b>	<b>205637</b>	<b>390559</b>	<b>158085</b>	<b>12020</b>	<b>1384110</b>	<b>752921</b>	<b>2137031</b>
iii)	<b>RAJASTHAN</b>										
1	Udaipur	1145912	328985	1388255	397137	471200	205362	71765	242791	105365	348156
2	Chittorgarh	750049	13303	750761	120267	115745	169794	33050	311905	193533	505438
3	Dungarpur	364043	59787	385593	62204	92943	56589	39387	134470	65417	199887
4	Bansewara	433272	433272	453587	91250	62589	36415	36521	226812	109930	336742
	<b>Sub Total</b>	<b>2693276</b>	<b>835347</b>	<b>2978196</b>	<b>670858</b>	<b>742477</b>	<b>468160</b>	<b>180723</b>	<b>915978</b>	<b>474245</b>	<b>1390223</b>
b)	<b>Basin: Sabarmati</b>										
i)	<b>GUJARAT</b>										
1	Surendranagar	1011624	460336	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
2	Banaskantha	1024755	50628	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
3	Sabarkantha	714029	711386	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
4	Mahesana	424435	208736	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.
5	Gandhinagar	205507	205507	NA.	NA.	NA.	NA.	NA.	NA.	NA.	NA.

Contd/...

Table 14 : Land utilisation pattern by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Reporting Area For Land Utilisation	Classification of Reporting Area					Area Sown more than once	Total Cropped Area
					Forest	Not available for Cultivation	Other uncultivated Lands	Fallow Lands	Net Area Sown		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
6	Ahmedabad	771266	471807	NA	NA	NA	NA	NA	NA	NA	NA
7	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4535969</b>	<b>2440940</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Sirohi	496134	5466	517947	155470	100131	43175	55803	163368	69343	232711
2	Udaipur	1145912	328985	1388255	397137	471200	205362	71765	242791	105365	348156
3	Dungarpur	364043	59787	385593	62204	92943	56589	39387	134470	65417	199887
	<b>Sub Total</b>	<b>2006089</b>	<b>394238</b>	<b>2291795</b>	<b>614811</b>	<b>664274</b>	<b>305126</b>	<b>166955</b>	<b>540629</b>	<b>240125</b>	<b>780754</b>
c)	<b>Basin : Luni &amp; Others</b>										
i)	<b>GUJARAT</b>										
1	Jamnagar	1049091	1049091	NA	NA	NA	NA	NA	NA	NA	NA
2	Rajkot	1076212	1050090	NA	NA	NA	NA	NA	NA	NA	NA
3	Surendranagar	1011624	551288	NA	NA	NA	NA	NA	NA	NA	NA
4	Bhavnagar	806274	784949	NA	NA	NA	NA	NA	NA	NA	NA
5	Amreli	710001	710001	NA	NA	NA	NA	NA	NA	NA	NA
6	Junagadh	849729	849729	NA	NA	NA	NA	NA	NA	NA	NA
7	Kachch	4050820	4050820	NA	NA	NA	NA	NA	NA	NA	NA
8	Banaskantha	1024755	1024755	NA	NA	NA	NA	NA	NA	NA	NA
9	Mahesana	424435	215699	NA	NA	NA	NA	NA	NA	NA	NA
10	Ahmedabad	771266	771266	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>11774207</b>	<b>11057688</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Ajmer	820623	187076	843048	57516	136531	150634	49318	449049	191095	640144
2	Jodhpur	2203760	1332402	2256405	7264	225892	138850	543303	1341096	175233	1516329
3	Nagaur	1702659	609623	1763821	18765	145235	85877	237534	1276410	192447	1468857
4	Pali	1189023	1189023	1233079	86534	197979	139029	195472	614065	87739	701804
5	Jalor	1032233	1032233	1056602	23506	122420	79315	149459	681902	229236	911138
6	Sirohi	496134	490668	517947	155470	100131	43175	55803	163368	69343	232711
	<b>Sub Total</b>	<b>7444432</b>	<b>4841025</b>	<b>7670902</b>	<b>349055</b>	<b>928188</b>	<b>636880</b>	<b>1230889</b>	<b>4525890</b>	<b>945093</b>	<b>5470983</b>
iii)	<b>Daman &amp; Diu</b>										
	Diu	3439	3439	866	-	62	250	5	549	76	625
	<b>Sub Total</b>	<b>3439</b>	<b>3439</b>	<b>866</b>	<b>-</b>	<b>62</b>	<b>250</b>	<b>5</b>	<b>549</b>	<b>-</b>	<b>625</b>
	<b>Grant Total</b>	<b>33140735</b>	<b>21141998</b>	<b>15092170</b>	<b>1840361</b>	<b>2725560</b>	<b>1568501</b>	<b>1590592</b>	<b>7367156</b>	<b>2412384</b>	<b>9779616</b>

Sources: - Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website) ( col. 5 onwards)  
India-WRIS website ( col. 3 and col. 4 )

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>I</b>	<b>Basin : Mahanadi, Year 2011-12</b>										
i)	<b>JHARKHAND</b>										
	Gumla	514951	431274	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>514951</b>	<b>431274</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>ORISSA</b>										
1	Sambalpur	647954	526685	42701	2620	45321	838	3574	360	--	50093
2	Sundergarh	935352	394117	6102	6327	12429	206	4052	377	--	17064
3	Cuttak	380297	368362	60754	1134	61888	1273	14541	1090	--	78792
4	Dhenkanal	431065	66017	9439	1192	10631	653	1711	374	--	13369
5	Phulbani	777003	580713	NA	NA	NA	NA	NA	NA	NA	NA
6	Balangir	633243	633243	828	4858	5686	1787	7088	2093	--	16654
7	Kalahandi	763306	657009	72112	11021	83133	324	1172	791	--	85420
8	Koraput	818027	669333	33125	35330	68455	6591	1075	95	--	76216
9	Puri	343302	343302	60783	12722	73505	NA	25406	158	--	99069
	<b>Sub Total</b>	<b>5729549</b>	<b>4238781</b>	<b>285844</b>	<b>75204</b>	<b>361048</b>	<b>11672</b>	<b>58619</b>	<b>5338</b>	<b>--</b>	<b>436677</b>
iii)	<b>MADHYA PRADESH</b>										
1	Shahdol	1402800	8400	5088	--	5088	2858	5285	5242	8650	27123
	<b>Sub Total</b>	<b>1402800</b>	<b>8400</b>	<b>5088</b>	<b>--</b>	<b>5088</b>	<b>2858</b>	<b>5285</b>	<b>5242</b>	<b>8650</b>	<b>27123</b>
iv)	<b>CHHATISGARH</b>										
1	Surguja	1512537	24774	6435	30	6465	418	430	1735	7438	16486
2	Bilaspur	802286	719001	19229	70	19299	9085	71774	1401	2042	103601
3	Raigarh	681911	681811	20215	21	20236	4927	35263	672	7593	68691
4	Rajnandgaon	776454	54676	49535	--	49535	4314	38131	2574	1685	96239
5	Durg	828760	825676	55174	--	55174	1132	48207	568	4000	109081
6	Raipur	1199563	1199563	114118	--	114118	3482	20188	768	4048	142604
7	Bastar	1015259	34786	923	--	923	586	1648	212	2645	6014
	<b>Sub Total</b>	<b>6816770</b>	<b>3540287</b>	<b>265629</b>	<b>121</b>	<b>265750</b>	<b>23944</b>	<b>215641</b>	<b>7930</b>	<b>29451</b>	<b>542716</b>
v)	<b>MAHARASHTRA</b>										
1	Chandrapur+	2585500	28600	NA	NA	NA	NA	NA	NA	NA	NA
2	Gadchiroli	1396606	29856	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3982106</b>	<b>58456</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>18446176</b>	<b>8277198</b>	<b>556561</b>	<b>75325</b>	<b>631886</b>	<b>38474</b>	<b>279545</b>	<b>18510</b>	<b>38101</b>	<b>1006516</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>II Subernarekha, Burhabalang and Baitarni, Year 2011-12</b>											
<b>i) JHARKHAND</b>											
1	Ranchi	474384	280226	NA	NA	NA	NA	NA	NA	NA	NA
2	Singhbhum	694129	268733	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1168513</b>	<b>548959</b>	NA	NA	NA	NA	NA	NA	NA	NA
<b>ii) ORISSA</b>											
1	Mayurbhanj	1003564	714663	22825	24748	47573	4085	10485	2142	--	64285
2	Balasore	373369	264477	20792	81	20873	NA	50335	1202	--	72410
	<b>Sub Total</b>	<b>1376933</b>	<b>979140</b>	<b>43617</b>	<b>24829</b>	<b>68446</b>	<b>4085</b>	<b>60820</b>	<b>3344</b>	--	<b>136695</b>
<b>iii) WEST BENGAL</b>											
1	Midnapur(East)	389357	8526	NA	NA	NA	NA	NA	NA	NA	NA
2	Purulia	600310	93192	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>989667</b>	<b>101718</b>	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Grand Total</b>	<b>3535113</b>	<b>1629817</b>	<b>43617</b>	<b>24829</b>	<b>68446</b>	<b>4085</b>	<b>60820</b>	<b>3344</b>	--	<b>136695</b>
<b>III Basin : Brahmani, Year 2011-2012</b>											
<b>i) JHARKHAND</b>											
1	Lohardaga	143938	91185	NA	NA	NA	NA	NA	NA	NA	NA
2	Gumla	514951	431274	NA	NA	NA	NA	NA	NA	NA	NA
3	Ranchi	474384	115039	NA	NA	NA	NA	NA	NA	NA	NA
4	Pa. Singhbhum	694129	425395	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1827402</b>	<b>1062893</b>	NA	NA	NA	NA	NA	NA	NA	NA
<b>ii) CHATTISGARH</b>											
	Raigarh	681911	681811	20215	21	20236	4927	35263	672	7593	68691
	<b>Sub Total</b>	<b>681911</b>	<b>681811</b>	<b>20215</b>	<b>21</b>	<b>20236</b>	<b>4927</b>	<b>35263</b>	<b>672</b>	<b>7593</b>	<b>68691</b>
<b>iii) ORISSA</b>											
1	Sambalpur	647954	121269	42701	2620	45321	838	3574	360	NA	50093
2	Sundergarh	935352	541235	6102	6327	12429	206	4052	377	NA	17064
3	Keonjhar	799691	799691	15405	5638	21043	3113	1773	775	NA	26704
4	Mayurbhanj	1003564	288901	22825	24748	47573	4085	10485	2142	NA	64285
5	Balasore	373369	108110	19229	70	19299	9085	71774	1401	2042	103601
6	Cuttak	380297	11934	60754	1134	61888	1273	14541	1090	NA	78792
7	Dhenkanal	431065	365047	9439	1192	10631	653	1711	374	NA	13369
	<b>Sub Total</b>	<b>4571292</b>	<b>2236187</b>	<b>176455</b>	<b>41729</b>	<b>218184</b>	<b>19253</b>	<b>107910</b>	<b>6519</b>	<b>2042</b>	<b>353908</b>
	<b>Grand Total</b>	<b>7080605</b>	<b>3980891</b>	<b>196670</b>	<b>41750</b>	<b>238420</b>	<b>24180</b>	<b>143173</b>	<b>7191</b>	<b>9635</b>	<b>422599</b>
<b>IV Rushikulya, Vamsadhra, Sarada and Nagavali, Year 2011-2012</b>											
<----- Not Available Data ----->											

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>V Basin : Godavari, Year 2011-2012</b>											
<b>i) ANDHRA PRADESH</b>											
1	Visakhapatnam	1111536	361427	57094	--	57094	33949	19464	11297	24703	146507
2	East Godavari	1057111	588931	275928	--	275928	25877	116755	43	16221	434824
3	West Godavari	758274	168239	285274	--	285274	18167	279826	2768	12181	598216
	<b>Sub Total</b>	<b>2926921</b>	<b>1118597</b>	<b>618296</b>	<b>--</b>	<b>618296</b>	<b>77993</b>	<b>416045</b>	<b>14108</b>	<b>53105</b>	<b>1179547</b>
<b>ii) TELANGANA</b>											
1	Rangareddy	735888	50532	NA	NA	NA	NA	NA	NA	NA	NA
2	Medak	948996	912893	NA	NA	NA	NA	NA	NA	NA	NA
3	Nizamabad	767438	767438	NA	NA	NA	NA	NA	NA	NA	NA
4	Adilabad	1552699	1552699	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	1153977	1153094	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	1244742	624820	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	1564602	999676	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>7968342</b>	<b>6061152</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iii) KARNATAKA</b>											
1	Bidar	529388	446912	7771	--	7771	1262	28257	26747	2210	66247
	<b>Sub Total</b>	<b>529388</b>	<b>446912</b>	<b>7771</b>	<b>--</b>	<b>7771</b>	<b>1262</b>	<b>28257</b>	<b>26747</b>	<b>2210</b>	<b>66247</b>
<b>iv) MADHYA PRADESH</b>											
1	Betul	969038	212974	10520	--	10520	124	31635	74223	10546	127048
2	Mandla	720148	70924	21882	--	21882	292	NA	4679	2569	29422
3	Chhindwara	1136138	797216	14210	--	14210	4598	40398	109750	19305	188261
4	Seoni	842270	626958	62769	--	62769	9578	6230	44887	17927	141391
5	Balaghat	889736	668672	86496	--	86496	32685	1180	28525	9410	158296
	<b>Sub Total</b>	<b>4557330</b>	<b>2376744</b>	<b>195877</b>	<b>--</b>	<b>195877</b>	<b>47277</b>	<b>79443</b>	<b>262064</b>	<b>59757</b>	<b>644418</b>
<b>v) CHHATISGARH</b>											
1	Rajnandgaon	776454	221836	49535	--	49535	4314	38131	2574	1685	96239
2	Raipur	1199563	1199563	114118	--	114118	3482	20188	768	4048	142604
3	Bastar	1015259	980473	923	--	923	586	1648	212	2645	6014
	<b>Sub Total</b>	<b>2991276</b>	<b>2401872</b>	<b>164576</b>	<b>--</b>	<b>164576</b>	<b>8382</b>	<b>59967</b>	<b>3554</b>	<b>8378</b>	<b>244857</b>
<b>vi) MAHARASHTRA</b>											
1	Nashik	1502109	697325	NA	NA	NA	NA	NA	NA	NA	NA
2	Jalgaon	1134974	1566	NA	NA	NA	NA	NA	NA	NA	NA
3	Ahmadnagar	1651041	1036810	NA	NA	NA	NA	NA	NA	NA	NA
4	Pune	1518575	8125	NA	NA	NA	NA	NA	NA	NA	NA
5	Solapur	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
6	Aurangabad	977228	872544	NA	NA	NA	NA	NA	NA	NA	NA
7	Jalana	751009	738659	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
8	Parbhani	615498	615498	NA	NA	NA	NA	NA	NA	NA	NA
9	Beed	1024473	879817	NA	NA	NA	NA	NA	NA	NA	NA
10	Nanded	1026074	1026074	NA	NA	NA	NA	NA	NA	NA	NA
11	Osmanabad	734720	298050	NA	NA	NA	NA	NA	NA	NA	NA
12	Latur	700952	700707	NA	NA	NA	NA	NA	NA	NA	NA
13	Buldghana	940967	379629	NA	NA	NA	NA	NA	NA	NA	NA
14	Akola	521495	23	NA	NA	NA	NA	NA	NA	NA	NA
15	Amravati	1176511	402091	NA	NA	NA	NA	NA	NA	NA	NA
16	Yavatmal	1306920	1306920	NA	NA	NA	NA	NA	NA	NA	NA
17	Wardha	608496	608496	NA	NA	NA	NA	NA	NA	NA	NA
18	Nagpur	956449	956449	NA	NA	NA	NA	NA	NA	NA	NA
19	Bhandara	371941	371941	NA	NA	NA	NA	NA	NA	NA	NA
20	Chandrapur	1091727	1091727	NA	NA	NA	NA	NA	NA	NA	NA
21	Gadchiroli	1396606	1366751	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>21457352</b>	<b>14808789</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>ORISSA</b>										
1	Kalahandi	763306	41757	72112	11021	83133	324	1172	791	NA	85420
2	Koraput	818027	669333	33125	35330	68455	6591	1075	95	NA	76216
	<b>Sub Total</b>	<b>1581333</b>	<b>711090</b>	<b>105237</b>	<b>46351</b>	<b>151588</b>	<b>6915</b>	<b>2247</b>	<b>886</b>		<b>161636</b>
	<b>Grand Total</b>	<b>42011942</b>	<b>27925156</b>	<b>1091757</b>	<b>46351</b>	<b>1138108</b>	<b>141829</b>	<b>585959</b>	<b>307359</b>	<b>123450</b>	<b>2296705</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)



Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VI Basin : Krishna, Year 2011-2012</b>											
<b>i) ANDHRA PRADESH</b>											
1	Krishna	836525	468680	220403	--	220403	30039	107895	3927	12969	375233
2	Anantapur	1898772	418559	23458	--	23458	928	138559	6841	2146	171932
3	Guntoor +	1118651	654538	369183	--	369183	5651	117625	5684	28705	526848
4	Prakasam	1738937	65716	86094	--	86094	12360	126635	3835	15977	244901
5	Nellore +	NA	NA	133901	--	133901	80675	100660	14332	5737	335305
6	Kurnool	1750331	969679	142629	--	142629	8446	101563	30696	15508	298842
7	East Godavari	NA	NA	275928	--	275928	25877	116755	43	16221	434824
<b>Sub Total</b>		<b>7343216</b>	<b>2577172</b>	<b>1251596</b>	<b>--</b>	<b>1251596</b>	<b>163976</b>	<b>809692</b>	<b>65358</b>	<b>97263</b>	<b>2387885</b>
<b>ii) TELANGANA</b>											
1	Mahaboobnagar	1797402	1797402	NA	NA	NA	NA	NA	NA	NA	NA
2	Rangareddy	735888	685356	NA	NA	NA	NA	NA	NA	NA	NA
3	Hyderabad	17343	17343	NA	NA	NA	NA	NA	NA	NA	NA
4	Medak	948996	36103	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	1153977	883	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	1244742	619923	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	1564602	486463	NA	NA	NA	NA	NA	NA	NA	NA
8	Nalgonda	1374214	1374214	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>8837164</b>	<b>5017687</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iii) KARNATAKA</b>											
1	Belgaum	1312075	1211373	98154	0	98154	508	181690	156475	86301	523128
2	Bellary	831109	831109	135078	0	135078	1995	89944	4165	57353	288535
3	Bidar	529388	82476	7771	0	7771	1262	28257	26747	2210	66247
4	Bijapur	1026100	1026100	128098	0	128098	735	105855	94174	17819	346681
5	Chikmagalur	716773	626450	9493	0	9493	11475	13586	624	12867	48045
6	Chitradurga	836022	836022	2160	0	2160	0	93592	0	0	95752
7	Dharwad	420226	278003	53886	0	53886	0	24622	0	0	78508
8	Gulbarga	1068727	1068708	28429	0	28429	689	28434	37291	4626	99469
9	Hassan	678918	138462	42307	0	42307	30747	36627	645	2106	112432
10	Raichur	827699	827699	206196	0	206196	1317	15767	7830	7242	238352
11	Shimoga	836130	569409	57450	0	57450	56738	43001	6082	10837	174108
12	Tumkur	1054389	389756	4199	0	4199	13265	164781	896	0	183141
13	Uttar Kannada	1004865	66406	0	0	0	7042	3876	10016	11470	32404
<b>Sub Total</b>		<b>11142421</b>	<b>7951973</b>	<b>773221</b>	<b>0</b>	<b>773221</b>	<b>125773</b>	<b>830032</b>	<b>344945</b>	<b>212831</b>	<b>2286802</b>

Contd/...

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
iv)	<b>MAHARASHTRA</b>										
1	Ratnagiri	805094	1449	NA	NA	NA	NA	NA	NA	NA	NA
2	Ahmadnagar	1651041	613016	NA	NA	NA	NA	NA	NA	NA	NA
3	Pune	1518575	1479056	NA	NA	NA	NA	NA	NA	NA	NA
4	Satara	1022337	1018731	NA	NA	NA	NA	NA	NA	NA	NA
5	Sangli	834999	834619	NA	NA	NA	NA	NA	NA	NA	NA
6	Solapur	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
7	Kolhapur	750031	723744	NA	NA	NA	NA	NA	NA	NA	NA
8	Bid	1024473	144656	NA	NA	NA	NA	NA	NA	NA	NA
9	Osmanabad+	734720	436670	NA	NA	NA	NA	NA	NA	NA	NA
10	Latur	700952	245	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>10491809</b>	<b>6701773</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>37814610</b>	<b>22248605</b>	<b>2024817</b>	<b>0</b>	<b>2024817</b>	<b>289749</b>	<b>1639724</b>	<b>410303</b>	<b>310094</b>	<b>4674687</b>

Sources: Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Note : (1) Totals may not tally due to rounding off.

Note : (2) : Not available data.

Note : (3) Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VII Basin : Cauvery, Year 2011-2012</b>											
<b>i) KARNATAKA</b>											
1	Bangalore (Urban)	217582	98782	0	0	0	0	12081	0	0	12081
2	Bangalore (Rural)	229462	97892	0	0	0	0	29719	0	0	29719
3	Chikmagalur	716773	75101	9493	0	9493	11475	13586	624	12867	48045
4	Hassan	678918	494178	42307	0	42307	30747	36627	645	2106	112432
5	Kodagu (Coorg)	411560	289868	1611	0	1611	275	88	0	410	2384
6	Mandya	494261	494261	125757	0	125757	21428	7268	9407	4259	168119
7	Mysore	631907	631907	119669	0	119669	18447	34231	25379	240	197966
8	Tumkur	1054389	399200	4199	0	4199	13265	164781	896	0	183141
	<b>Sub Total</b>	<b>4434852</b>	<b>2581189</b>	<b>303036</b>	<b>0</b>	<b>303036</b>	<b>95637</b>	<b>298381</b>	<b>36951</b>	<b>19882</b>	<b>753887</b>
<b>ii) KERALA</b>											
1	Kannur	295780	116	--	--	--	--	--	--	--	--
2	Wayanad	214118	193614	--	--	--	--	--	--	--	--
3	Kozhikode	234784	442	--	--	--	--	--	--	--	--
4	Palakkad	454291	61906	--	--	--	--	--	--	--	--
5	Idukki	510626	38572	--	--	--	--	--	--	--	--
	<b>Sub Total</b>	<b>1709599</b>	<b>294650</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>iii) TAMIL NADU</b>											
1	Dharmapuri +	452954	190674	NA	NA	NA	NA	NA	NA	NA	NA
2	Salem	524741	302708	NA	NA	NA	NA	NA	NA	NA	NA
3	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coimbatore+Periyar	470871	256937	NA	NA	NA	NA	NA	NA	NA	NA
5	Nilgiri	257279	221340	NA	NA	NA	NA	NA	NA	NA	NA
6	Madurai +	376770	376763	NA	NA	NA	NA	NA	NA	NA	NA
7	Dindigul	616499	442905	NA	NA	NA	NA	NA	NA	NA	NA
8	Pudukottai	474011	73416	NA	NA	NA	NA	NA	NA	NA	NA
9	Triuchirapalli	456408	403211	NA	NA	NA	NA	NA	NA	NA	NA
10	Thanjavur	343878	222195	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3973411</b>	<b>2490149</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iv) PONDICHERY</b>											
1	Karaikal	15498	15498	5432	--	5432	--	651	--	34	6117
	<b>Sub Total</b>	<b>15498</b>	<b>15498</b>	<b>5432</b>	<b>0</b>	<b>5432</b>	<b>0</b>	<b>651</b>	<b>0</b>	<b>34</b>	<b>6117</b>
	<b>Grand Total</b>	<b>10133360</b>	<b>5381486</b>	<b>308468</b>	<b>0</b>	<b>308468</b>	<b>95637</b>	<b>299032</b>	<b>36951</b>	<b>19916</b>	<b>760004</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VIII Basin : East Folowing Rivers from Mahanadi to Kanyakumari, Year 2011-2012</b>											
<b>i) ANDHRA PRADESH</b>											
1	Srikakulam	573080	573080	116064	--	116064	69845	15055	15850	3077	219891
2	Vizianagaram	582145	582145	45478	--	45478	86351	26979	14364	5616	178788
3	Vishakhapatnam	1111536	750109	57094	--	57094	33949	19464	11297	24703	146507
4	East Godavari	1057111	468180	275928	--	275928	25877	116755	43	16221	434824
5	West Godavari	758274	590034	285274	--	285274	18167	279826	2768	12181	598216
6	Krishna	836525	367845	220403	--	220403	30039	107895	3927	12969	375233
7	Guntur+	1118651	464113	369183	--	369183	5651	117625	5684	28705	526848
8	Prakasam+	1738937	1578699	86094	--	86094	12360	126635	3835	15977	244901
9	Nellore	NA	NA	133901	--	133901	80675	100660	14332	5737	335305
10	kurnool	1750331	5934	142629	--	142629	8446	101563	30696	15508	298842
11	Chittoor	NA	NA	5736	--	5736	17557	147617	21778	109	192797
<b>Sub Total</b>		<b>9526590</b>	<b>5380139</b>	<b>1737784</b>	<b>--</b>	<b>1737784</b>	<b>388917</b>	<b>1160074</b>	<b>124574</b>	<b>140803</b>	<b>3552152</b>
<b>ii) TELANGANA</b>											
1	Khammam	1564602	78464	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>1564602</b>	<b>78464</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iii) KARNATAKA</b>											
1	Bangalore	217582	98782	0	0	0	0	12081	0	0	12081
2	Bangalore R.	229462	97892	0	0	0	0	29719	0	0	29719
3	Kolar	396844	357991	0	0	0	0	36370	0	0	36370
<b>Sub Total</b>		<b>843888</b>	<b>554665</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>78170</b>	<b>0</b>	<b>0</b>	<b>78170</b>
<b>iv) KERALA</b>											
1	Thiruvananthapuram	224681	433	--	--	--	--	--	--	--	--
<b>Sub Total</b>		<b>224681</b>	<b>433</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>v) ORISSA</b>											
1	Phulbani	777003	196290	NA	NA	NA	NA	NA	NA	NA	NA
2	Kalahandi	763306	64540	72112	11021	83133	324	1172	791	NA	85420
3	Koraput	818027	148694	33125	35330	68455	6591	1075	95	NA	76216
4	Ganjam	819771	769821	94111	34058	128169	46309	7180	385	NA	182043
5	Puri	NA	NA	60783	12722	73505	NA	25406	158	NA	99069
<b>Sub Total</b>		<b>3178107</b>	<b>1179345</b>	<b>260131</b>	<b>93131</b>	<b>353262</b>	<b>53224</b>	<b>34833</b>	<b>1429</b>	<b>0</b>	<b>442748</b>
<b>vi) TAMIL NADU</b>											
1	Chennai	12800	12800	NA	NA	NA	NA	NA	NA	NA	NA
2	Chengai-Anna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	North Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Dharmapuri+	452954	262280	NA	NA	NA	NA	NA	NA	NA	NA
5	Salem	524741	222033	NA	NA	NA	NA	NA	NA	NA	NA
6	Tiruchirapalli	456408	53197	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
7	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Dindugul +	616499	173594	NA	NA	NA	NA	NA	NA	NA	NA
9	Madurai	376770	376763	NA	NA	NA	NA	NA	NA	NA	NA
10	Thanjavur	343878	121683	NA	NA	NA	NA	NA	NA	NA	NA
11	Pudukottai	474011	400595	NA	NA	NA	NA	NA	NA	NA	NA
12	PMT+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	Kamarajar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Ramanathpuram	404052	404051	NA	NA	NA	NA	NA	NA	NA	NA
15	Chidambaranar+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	Tirunelveli	699899	698202	NA	NA	NA	NA	NA	NA	NA	NA
17	Kanyakumari	174680	7081	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4536692</b>	<b>2732279</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>PONDICHERY</b>										
	Pondicherry (District)	30119	30119	--	--	--	--	15194	--	--	15194
	<b>Sub Total</b>	<b>30119</b>	<b>30119</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15194</b>	<b>0</b>	<b>0</b>	<b>15194</b>
	<b>Basin : Penner, Year 2011-2012</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Kurnool	1765800	1409600	142629	--	142629	8446	101563	30696	15508	298842
2	Cuddapah	1535900	1535900	22537	--	22537	3892	164370	4525	1062	196386
3	Anantapur	1898772	418559	23458	--	23458	928	138559	6841	2146	171932
4	Prakasam+	1738937	1578699	86094	--	86094	12360	126635	3835	15977	244901
5	Guntur+	1118651	464113	369183	--	369183	5651	117625	5684	28705	526848
6	Nellore+	NA	NA	133901	--	133901	80675	100660	14332	5737	335305
7	Chittoor	1495701	1002785	5736	--	5736	17557	147617	21778	109	192797
	<b>Sub Total</b>	<b>9553761</b>	<b>6409656</b>	<b>783538</b>	<b>0</b>	<b>783538</b>	<b>129509</b>	<b>897029</b>	<b>87691</b>	<b>69244</b>	<b>1967011</b>
ii)	<b>KARNATAKA</b>										
1	Bangalore R.	229462	93562	0	0	0	0	29719	0	0	29719
2	Kolar	396844	357991	0	0	0	0	36370	0	0	36370
3	Tumkur	NA	NA	4199	0	4199	13265	164781	896	0	183141
	<b>Sub Total</b>	<b>626306</b>	<b>451553</b>	<b>4199</b>	<b>0</b>	<b>4199</b>	<b>13265</b>	<b>230870</b>	<b>896</b>	<b>0</b>	<b>249230</b>
	<b>Grand Total</b>	<b>30084746</b>	<b>16816653</b>	<b>2785652</b>	<b>93131</b>	<b>2878783</b>	<b>584915</b>	<b>2416170</b>	<b>214590</b>	<b>210047</b>	<b>6304505</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>IX Basin : West Flowing Rivers fro Kanyakumari to Tapi, Year 2009-2010</b>											
<b>i) DADRA &amp; NAGAR HAVELI</b>											
1	Daman & Diu	11200	7200	NA	NA	NA	NA	NA	NA	NA	NA
2	Dadra & Nagar Haveli	47707	47707	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>58907</b>	<b>54907</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>GOA</b>											
ii)	Goa	370200	370200	8035	--	8035	22791	5005	2863	2285	40979
<b>Sub Total</b>		<b>370200</b>	<b>370200</b>	<b>8035</b>	<b>0</b>	<b>8035</b>	<b>22791</b>	<b>5005</b>	<b>2863</b>	<b>2285</b>	<b>40979</b>
<b>iii) GUJARAT</b>											
1	Surat	417464	135144	NA	NA	NA	NA	NA	NA	NA	NA
2	Valsad	289491	289491	NA	NA	NA	NA	NA	NA	NA	NA
3	Dangs	170082	167507	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>877037</b>	<b>592142</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iv) KARNATAKA</b>											
1	Belgaum	1341500	96600	98154	--	98154	508	181690	156475	86301	523128
2	Dharwad	1373800	185800	53886	--	53886	0	24622	0	0	78508
3	Chikmagalur	716773	15222	9493	--	9493	11475	13586	624	12867	48045
4	Dak. Kannada	457868	457759	--	--	--	--	9916	41104	21358	72378
5	Hassan	678918	46278	42307	--	42307	30747	36627	645	2106	112432
6	Kodagu	411560	121692	1611	--	1611	275	88	0	410	2384
7	Shimoga	836130	265220	57450	--	57450	56738	43001	6082	10837	174108
8	Utt. Kannada	1004865	103370	0	--	0	7042	3876	10016	11470	32404
<b>Sub Total</b>		<b>6821414</b>	<b>1291941</b>	<b>262901</b>	<b>--</b>	<b>262901</b>	<b>106785</b>	<b>313406</b>	<b>214946</b>	<b>145349</b>	<b>1043387</b>
<b>v) KERALA</b>											
1	Kasargod	196467	196467	--	--	--	--	--	--	--	--
2	Kannur	295780	295664	--	--	--	--	--	--	--	--
3	Kozhikode	234784	234342	--	--	--	--	--	--	--	--
4	Malappuram	359911	359721	--	--	--	--	--	--	--	--
5	Palakkad	454291	392385	--	--	--	--	--	--	--	--
6	Thrissur	307157	307156	--	--	--	--	--	--	--	--
7	Ernakulam	245458	245457	--	--	--	--	--	--	--	--
8	Idukki	510626	468242	--	--	--	--	--	--	--	--
9	Kottayam	225883	225883	--	--	--	--	--	--	--	--
10	Alappuzha	145448	145448	--	--	--	--	--	--	--	--
11	Pathanamthitt	270955	270462	--	--	--	--	--	--	--	--
12	Kollam	255616	254448	--	--	--	--	--	--	--	--
13	Thiruvananthrum	224681	224248	--	--	--	--	--	--	--	--
<b>Sub Total</b>		<b>3727057</b>	<b>3619923</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Contd/...

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
vi)	<b>MAHARASHTRA</b>										
1	Mumbai Sub	43828	43828	NA	NA	NA	NA	NA	NA	NA	NA
2	Thane	920822	920256	NA	NA	NA	NA	NA	NA	NA	NA
3	Raigarh	694267	694014	NA	NA	NA	NA	NA	NA	NA	NA
4	Sindhudurg	496678	484213	NA	NA	NA	NA	NA	NA	NA	NA
5	Nasik	1502109	208862	NA	NA	NA	NA	NA	NA	NA	NA
6	Dhule	692551	5352	NA	NA	NA	NA	NA	NA	NA	NA
7	Kolhapur	750031	26287	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>5100286</b>	<b>2382812</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>TAMIL NADU</b>										
1	The Nilgiri	257279	35939	NA	NA	NA	NA	NA	NA	NA	NA
2	Coimbatore	470871	213934	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>728150</b>	<b>249873</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
viii)	<b>PONDICHERY</b>										
1	Yanam	3000	3000	499	--	499	--	--	--	--	499
2	Mahe	990	990	--	--	--	--	--	--	30	30
	<b>Sub Total</b>	<b>3990</b>	<b>3990</b>	<b>499</b>	<b>0</b>	<b>499</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>529</b>
	<b>Grand Total</b>	<b>17687041</b>	<b>8565788</b>	<b>271435</b>	<b>0</b>	<b>271435</b>	<b>129576</b>	<b>318411</b>	<b>217809</b>	<b>147664</b>	<b>1084895</b>
X	Basin : Tapi, Year 2011-2012										
<----- Not Available Data ----->											

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>XI Basin : Narmada, Year 2011-2012</b>											
<b>i) GUJARAT</b>											
1	Vadodara	723495	378850	NA	NA	NA	NA	NA	NA	NA	NA
2	Bharuch	508367	184991	NA	NA	NA	NA	NA	NA	NA	NA
3	Surat	417464	16882	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>1649326</b>	<b>580723</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>ii) MADHYA PRADESH</b>											
1	Sagar	889736	221054	5999	--	5999	5308	49224	140841	77847	279219
2	Damoh	985818	37179	12127	--	12127	1254	35442	36032	38694	123549
3	Dewas	706837	41779	8260	--	8260	7030	126917	99828	17220	259255
4	Jhabua	670019	374087	8850	--	8850	10534	2647	15438	16619	54088
5	Dhar	330218	792	20163	--	20163	16221	142840	84319	47898	311441
6	Indore	784230	475636	3472	--	3472	2229	156416	20667	3086	185870
7	West Nimar (khargaon)	376595	101368	56739	--	56739	2895	37518	93319	67993	258464
8	East Nimar Khandwa)	775716	739729	22741	--	22741	3083	30117	97518	18940	172399
9	Vidisha	716974	646919	34674	--	34674	7052	77137	61996	126691	307550
10	Sehore			62263	--	62263	24608	73174	100192	49308	309545
11	Raisen	631741	314366	76387	--	76387	7653	112243	47678	40393	284354
12	Betul	817210	449404	10520	--	10520	124	31635	74223	10546	127048
13	Hoshangabad	969038	371261	142566	--	142566	920	73043	57249	24273	298051
14	Jabalpur	645642	645642	14618	--	14618	140	113585	27499	21841	177683
15	Narsimhapur	491129	461932	940	--	940	6	150794	43455	5914	201109
16	Mandla	494728	481819	21882	--	21882	292	--	4679	2569	29422
17	Chhindwara	720148	637163	14210	--	14210	4598	40398	109750	19305	188261
18	Seoni	1136138	338922	62769	--	62769	9578	6230	44887	17927	141391
19	Balaghat	842270	215312	86496	--	86496	32685	1180	28525	9410	158296
20	Shahdol	1402800	77800	5088	--	5088	2858	5285	5242	8650	27123
<b>Sub Total</b>		<b>14386987</b>	<b>6632164</b>	<b>670764</b>	<b>--</b>	<b>670764</b>	<b>139068</b>	<b>1265825</b>	<b>1193337</b>	<b>625124</b>	<b>3894118</b>
<b>iii) CHHATISGARH</b>											
1	Rajnandgaon	776454	7858	49535	--	49535	4314	38131	2574	1685	96239
<b>Sub Total</b>		<b>776454</b>	<b>7858</b>	<b>49535</b>	<b>--</b>	<b>49535</b>	<b>4314</b>	<b>38131</b>	<b>2574</b>	<b>1685</b>	<b>96239</b>
<b>iv) MAHARASHTRA</b>											
1	Dhule	692551	795	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>692551</b>	<b>795</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Grand Total</b>		<b>17505318</b>	<b>7221540</b>	<b>720299</b>	<b>0</b>	<b>720299</b>	<b>143382</b>	<b>1303956</b>	<b>1195911</b>	<b>626809</b>	<b>3990357</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)



Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>XII Basin : Mahi and Sabarmati, Year 2011-2012</b>											
a) <b>Basin: Mahi</b>											
i) <b>GUJARAT</b>											
1	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
2	Panchmahals	509562	6867	NA	NA	NA	NA	NA	NA	NA	NA
3	Vadodara	723495	344645	NA	NA	NA	NA	NA	NA	NA	NA
4	Bharuch	508367	219942	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>2125777</b>	<b>903994</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii) <b>MADHYA PRADESH</b>											
1	Ratlam	463998	182086	4950	--	4950	3090	82033	68111	21140	179324
2	Jhabua	330218	329425	8850	--	8850	10534	2647	15438	16619	54088
3	Dhar	784230	150516	20163	--	20163	16221	142840	84319	47898	311441
4	Mandsaur	979100	3300	1827	--	1827	1413	15995	173527	17279	210041
<b>Sub Total</b>		<b>2557546</b>	<b>665327</b>	<b>35790</b>	<b>--</b>	<b>35790</b>	<b>31258</b>	<b>243515</b>	<b>341395</b>	<b>102936</b>	<b>754894</b>
iii) <b>RAJASTHAN</b>											
1	Udaipur	1145912	328985	3737	--	3737	18551	16201	60605	1453	100547
2	Chittorgarh	750049	13303	10466	--	10466	970	115063	90243	1850	218592
3	Dungarpur	364043	59787	9327	--	9327	2606	2894	30230	2959	48016
4	Banewara	433272	433272	59031	--	59031	5036	3940	15393	18758	102158
<b>Sub Total</b>		<b>2693276</b>	<b>835347</b>	<b>82561</b>	<b>0</b>	<b>82561</b>	<b>27163</b>	<b>138098</b>	<b>196471</b>	<b>25020</b>	<b>469313</b>
b) <b>Basin: Sabarmati</b>											
i) <b>GUJARAT</b>											
1	Surendranagar	1011624	460336	NA	NA	NA	NA	NA	NA	NA	NA
2	Banaskantha	1024755	50628	NA	NA	NA	NA	NA	NA	NA	NA
3	Sabarkantha	714029	711386	NA	NA	NA	NA	NA	NA	NA	NA
4	Mahesana	424435	208736	NA	NA	NA	NA	NA	NA	NA	NA
5	Gandhinagar	205507	205507	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

Table 15 : Gross area irrigated by Sources by river basin and State for 2011-2012

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
6	Ahmedabad	771266	471807	NA	NA	NA	NA	NA	NA	NA	NA
7	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4535969</b>	<b>2440940</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Sirohi	496134	5466	5238	--	5238	4449	1347	108439	329	119802
2	Udaipur	1145912	328985	3737	--	3737	18551	16201	60605	1453	100547
3	Dungarpur	364043	59787	9327	--	9327	2606	2894	30230	2959	48016
	<b>Sub Total</b>	<b>2006089</b>	<b>394238</b>	<b>18302</b>	<b>--</b>	<b>18302</b>	<b>25606</b>	<b>20442</b>	<b>199274</b>	<b>4741</b>	<b>268365</b>
c)	<b>Basin : Luni &amp; Others</b>										
i)	<b>GUJARAT</b>										
1	Jamnagar	1412500	1412500	NA	NA	NA	NA	NA	NA	NA	NA
2	Rajkot	1120300	1120300	NA	NA	NA	NA	NA	NA	NA	NA
3	Surendranagar	1048900	683900	NA	NA	NA	NA	NA	NA	NA	NA
4	Bhavnagar	1115500	1115500	NA	NA	NA	NA	NA	NA	NA	NA
5	Amreli	676000	676000	NA	NA	NA	NA	NA	NA	NA	NA
6	Junagadh	1060700	1060700	NA	NA	NA	NA	NA	NA	NA	NA
7	Kachch	4565200	4565200	NA	NA	NA	NA	NA	NA	NA	NA
8	Banaskantha	1270300	1217800	NA	NA	NA	NA	NA	NA	NA	NA
9	Mahesana	902700	800700	NA	NA	NA	NA	NA	NA	NA	NA
10	Ahemdabad	870700	410700	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>14042800</b>	<b>13063300</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Ajmer	848100	84900	4763	--	4763	5269	4143	102906	2700	119781
2	Jodhpur	2285000	685500	--	--	--	--	430263	4593	56	434912
3	Nagaur	1771800	708900	--	--	--	--	247493	73440	23	320956
4	Pali	1238700	1238700	18863	--	18863	6147	20321	81229	74	126634
5	Jalor	1064000	1064000	54864	--	54864	319	143774	156627	886	356470
6	Sirohi	513600	503600	5238	--	5238	4449	1347	108439	329	119802
	<b>Sub Total</b>	<b>7721200</b>	<b>4285600</b>	<b>83728</b>	<b>0</b>	<b>83728</b>	<b>16184</b>	<b>847341</b>	<b>527234</b>	<b>4068</b>	<b>1478555</b>
iii)	<b>Daman &amp; Diu</b>										
1	Diu	11200	4000	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>11200</b>	<b>4000</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grant Total</b>	<b>35693857</b>	<b>22592746</b>	<b>220381</b>	<b>0</b>	<b>220381</b>	<b>100211</b>	<b>1249396</b>	<b>1264374</b>	<b>136765</b>	<b>2971127</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>I</b>	<b>Basin : Mahanadi, Year 2011-12</b>										
i)	<b>JHARKHAND</b>										
	<b>Gumla</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ii)	<b>ORISSA</b>										
1	<b>Sambalpur</b>	647954	526685	--	--	--	--	--	--	32817	32817
2	<b>Sundergarh</b>	935352	394117	--	--	--	--	--	--	14886	14886
3	<b>Cuttak</b>	380297	368362	--	--	--	--	--	--	75889	75889
4	<b>Dhenkanal</b>	431065	66017	--	--	--	--	--	--	12485	12485
5	<b>Phulbani</b>	777003	580713	--	--	--	--	--	--	2434	2434
6	<b>Balangir</b>	633243	633243	--	--	--	--	--	--	13087	13087
7	<b>Kalahandi</b>	763306	657009	--	--	--	--	--	--	13087	13087
8	<b>Koraput</b>	1346260	10447	--	--	--	--	--	--	63456	63456
9	<b>Puri</b>	343302	343302	--	--	--	--	--	--	91012	91012
	<b>Sub Total</b>	<b>6257782</b>	<b>3579895</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>319153</b>	<b>319153</b>
iii)	<b>MADHYA PRADESH</b>										
1	<b>Shahdol</b>	1286904	12178	5088	--	5088	2858	5285	5242	8650	27123
	<b>Sub Total</b>	<b>1286904</b>	<b>12178</b>	<b>5088</b>	<b>0</b>	<b>5088</b>	<b>2858</b>	<b>5285</b>	<b>5242</b>	<b>8650</b>	<b>27123</b>
iv)	<b>CHHATISGARH</b>										
1	<b>Surguja</b>	1512537	24774	6435	30	6465	418	430	992	7172	15477
2	<b>Bilaspur</b>	802286	719001	19229	70	19299	9085	71774	1401	2042	103601
3	<b>Raigarh</b>	681911	681811	17979	21	18000	4661	31845	665	7183	62354
4	<b>Rajnandgaon</b>	776454	54676	46320	--	46320	3504	21523	1706	1415	74468
5	<b>Durg</b>	828760	825676	55174	--	55174	1132	28918	523	4000	89747
6	<b>Raipur</b>	1199563	1199563	114118	--	114118	3482	16686	679	3444	138409
7	<b>Bastar</b>	1015259	34786	923	--	923	586	1648	212	2645	6014
	<b>Sub Total</b>	<b>6816770</b>	<b>3540287</b>	<b>260178</b>	<b>121</b>	<b>260299</b>	<b>22868</b>	<b>172824</b>	<b>6178</b>	<b>27901</b>	<b>490070</b>
v)	<b>MAHARASHTRA</b>										
1	<b>Chandrapur+</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	<b>Gadchiroli</b>	1396606	29856	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1396606</b>	<b>29856</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>15758062</b>	<b>7162216</b>	<b>265266</b>	<b>121</b>	<b>265387</b>	<b>25726</b>	<b>178109</b>	<b>11420</b>	<b>355704</b>	<b>836346</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>II Subernarekha, Burhabalang and Baitarni, Year 2011-12</b>											
<b>i) JHARKHAND</b>											
1	Ranchi	474384	280226	NA	NA	NA	NA	NA	NA	NA	NA
2	Singhbhum	694129	268733	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>1168513</b>	<b>548959</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ii) ORISSA</b>											
1	Mayurbhanj	1003564	714663	--	--	--	--	--	--	60943	60943
2	Balasore	373369	264477	--	--	--	--	--	--	65566	65566
<b>Sub Total</b>		<b>1376933</b>	<b>979140</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>126509</b>	<b>126509</b>
<b>iii) WEST BENGAL</b>											
1	Midnapur(East)	389357	8526	NA	NA	NA	NA	NA	NA	NA	NA
2	Purulia	600310	93192	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>989667</b>	<b>101718</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Grand Total</b>		<b>3535113</b>	<b>1629817</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>126509</b>	<b>126509</b>
<b>III Basin : Brahamani, Year 2011-12</b>											
<b>i) JHARKHAND</b>											
1	Lohardaga	143938	91185	NA	NA	NA	NA	NA	NA	NA	NA
2	Gumla	514951	431274	NA	NA	NA	NA	NA	NA	NA	NA
3	Ranchi	474384	115039	NA	NA	NA	NA	NA	NA	NA	NA
4	Pa. Singhbhum	694129	425395	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>1827402</b>	<b>1062893</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ii) CHATTISGARH</b>											
	Raigarh	681911	681811	17979	21	18000	4661	31845	665	7183	62354
<b>Sub Total</b>		<b>681911</b>	<b>681811</b>	<b>17979</b>	<b>21</b>	<b>18000</b>	<b>4661</b>	<b>31845</b>	<b>665</b>	<b>7183</b>	<b>62354</b>
<b>iii) ORISSA</b>											
1	Sambalpur	647954	121269	--	--	--	--	--	--	32817	32817
2	Sundergarh	935352	541235	--	--	--	--	--	--	14886	14886
3	Keonjhar	799691	799691	--	--	--	--	--	--	25679	25679
4	Mayurbhanj	1003564	288901	--	--	--	--	--	--	60943	60943
5	Balasore	373369	108110	--	--	--	--	--	--	65566	65566
6	Cuttak	380297	11934	--	--	--	--	--	--	75889	75889
7	Dhenkanal	431065	365047	--	--	--	--	--	--	12485	12485
<b>Sub Total</b>		<b>4571292</b>	<b>2236187</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>288265</b>	<b>288265</b>
<b>Grand Total</b>		<b>7080605</b>	<b>3980891</b>	<b>17979</b>	<b>21</b>	<b>18000</b>	<b>4661</b>	<b>31845</b>	<b>665</b>	<b>295448</b>	<b>350619</b>
<b>IV Rushikulya, Vamsadhra, Sarada and Nagavali, Year 2011-12</b>											
<----- Not Available Data ----->											

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>V Basin : Godavari, Year 2011-12</b>											
<b>i) ANDHRA PRADESH</b>											
1	Visakhapatnam	1111536	361427	48507	--	48507	30993	9604	5074	22964	117142
2	East Godavari	1057111	588931	181165	--	181165	23871	62503	37	16016	283592
3	West Godavari	758274	168239	178762	--	178762	18161	171985	2663	7708	379279
<b>Sub Total</b>		<b>2926921</b>	<b>1118597</b>	<b>408434</b>	<b>0</b>	<b>408434</b>	<b>73025</b>	<b>244092</b>	<b>7774</b>	<b>46688</b>	<b>780013</b>
<b>ii) TELANGANA</b>											
1	Rangareddy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	Medak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Nizamabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Adilabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Sub Total</b>		<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iii) KARNATAKA</b>											
1	Bidar	529388	446912	6803	--	6803	953	25983	23373	1938	59050
<b>Sub Total</b>		<b>529388</b>	<b>446912</b>	<b>6803</b>	<b>--</b>	<b>6803</b>	<b>953</b>	<b>25983</b>	<b>23373</b>	<b>1938</b>	<b>59050</b>
<b>iv) MADHYA PRADESH</b>											
1	Betul	969038	212974	10520	--	10520	124	31635	74223	10546	127048
2	Mandla	720148	70924	21882	--	21882	292	--	4679	2569	29422
3	Chhindwara	1136138	797216	14210	--	14210	4598	40398	109750	19305	188261
4	Seoni	842270	626958	62769	--	62769	9578	6230	44887	17927	141391
5	Balaghat	889736	668672	74904	--	74904	29017	1067	23118	7793	135899
<b>Sub Total</b>		<b>4557330</b>	<b>2376744</b>	<b>184285</b>	<b>0</b>	<b>184285</b>	<b>43609</b>	<b>79330</b>	<b>256657</b>	<b>58140</b>	<b>622021</b>
<b>v) CHHATISGARH</b>											
1	Rajnandgaon	776454	221836	46320	--	46320	3504	21523	1706	1415	74468
2	Raipur	1199563	1199563	114118	--	114118	3482	16686	679	3444	138409
3	Bastar	1015259	980473	923	--	923	586	1648	212	2645	6014
<b>Sub Total</b>		<b>2991276</b>	<b>2401872</b>	<b>161361</b>	<b>0</b>	<b>161361</b>	<b>7572</b>	<b>39857</b>	<b>2597</b>	<b>7504</b>	<b>218891</b>
<b>vi) MAHARASHTRA</b>											
1	Nashik	1502109	697325	NA	NA	NA	NA	NA	NA	NA	NA
2	Jalgaon	1134974	1566	NA	NA	NA	NA	NA	NA	NA	NA
3	Ahmadnagar	1651041	1036810	NA	NA	NA	NA	NA	NA	NA	NA
4	Pune	1518575	8125	NA	NA	NA	NA	NA	NA	NA	NA
5	Solapur	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
6	Aurangabad	977228	872544	NA	NA	NA	NA	NA	NA	NA	NA
7	Jalana	751009	738659	NA	NA	NA	NA	NA	NA	NA	NA

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Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
8	Parbhani	615498	615498	NA	NA	NA	NA	NA	NA	NA	NA
9	Beed	1024473	879817	NA	NA	NA	NA	NA	NA	NA	NA
10	Nanded	1026074	1026074	NA	NA	NA	NA	NA	NA	NA	NA
11	Osmanabad	734720	298050	NA	NA	NA	NA	NA	NA	NA	NA
12	Latur	700952	700707	NA	NA	NA	NA	NA	NA	NA	NA
13	Buldghana	940967	379629	NA	NA	NA	NA	NA	NA	NA	NA
14	Akola	521495	23	NA	NA	NA	NA	NA	NA	NA	NA
15	Amravati	1176511	402091	NA	NA	NA	NA	NA	NA	NA	NA
16	Yavatmal	1306920	1306920	NA	NA	NA	NA	NA	NA	NA	NA
17	Wardha	608496	608496	NA	NA	NA	NA	NA	NA	NA	NA
18	Nagpur	956449	956449	NA	NA	NA	NA	NA	NA	NA	NA
19	Bhandara	371941	371941	NA	NA	NA	NA	NA	NA	NA	NA
20	Chandrapur	1091727	1091727	NA	NA	NA	NA	NA	NA	NA	NA
21	Gadchiroli	1396606	1366751	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>21457352</b>	<b>14808789</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>ORISSA</b>										
1	Kalahandi	763306	41757	--	--	--	--	--	--	75735	75735
2	Koraput	818027	669333	--	--	--	--	--	--	63456	63456
	<b>Sub Total</b>	<b>1581333</b>	<b>711090</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>139191</b>	<b>139191</b>
	<b>Grand Total</b>	<b>34043600</b>	<b>21864004</b>	<b>760883</b>	<b>0</b>	<b>760883</b>	<b>125159</b>	<b>389262</b>	<b>290401</b>	<b>253461</b>	<b>1819166</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VI</b>	<b>Basin : Krishna, Year 2011-12</b>										
i)	<b>ANDHRA PRADESH</b>										
1	Krishna	836525	468680	219428	--	219428	29082	59824	3080	11826	323240
2	Anantapur	1898772	418559	22836	--	22836	898	111525	5579	1548	142386
3	Guntoor +	1118651	654538	348719	--	348719	5552	72000	4828	21134	452233
4	Prakasam	1738937	65716	83811	--	83811	12360	116594	3835	15821	232421
5	Nellore +	NA	NA	96889	--	96889	70783	79681	12494	5124	264971
6	Kurnool	1750331	969679	130156	--	130156	8264	86379	26400	13239	264438
7	East Godavari	NA	NA	181165	--	181165	23871	62503	37	16016	283592
	<b>Sub Total</b>	<b>7343216</b>	<b>2577172</b>	<b>1083004</b>	<b>0</b>	<b>1083004</b>	<b>150810</b>	<b>588506</b>	<b>56253</b>	<b>84708</b>	<b>1963281</b>
ii)	<b>TELANGANA</b>										
1	Mahaboobnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	Rangareddy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Hyderabad	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Medak	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Karimnagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6	Warangal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Nalgonda	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
iii)	<b>KARNATAKA</b>										
1	Belgaum	1312075	1211373	78368	--	78368	508	160578	139057	72187	450698
2	Bellary	831109	831109	90766	--	90766	1454	60601	3122	37500	193443
3	Bidar	529388	82476	6803	--	6803	953	25983	23373	1938	59050
4	Bijapur	1026100	1026100	111699	--	111699	735	81952	83047	15381	292814
5	Chikmagalur	716773	626450	6447	--	6447	11375	12484	624	12411	43341
6	Chitradurga	836022	836022	1870	--	1870	--	75734	--	--	77604
7	Dharwad	420226	278003	35454	--	35454	--	19635	--	--	55089
8	Gulbarga	1068727	1068708	26615	--	26615	689	26649	34087	3977	92017
9	Hassan	678918	138462	36734	--	36734	25773	31287	630	1814	96238
10	Raichur	827699	827699	168293	--	168293	1271	11526	6534	5390	193014
11	Shimoga	836130	569409	45240	--	45240	53621	30182	4932	9230	143205
12	Tumkur	1054389	389756	4199	--	4199	11994	142717	892	--	159802
13	Uttar Kannada	1004865	66406	--	--	--	6590	3564	9806	11212	31172
	<b>Sub Total</b>	<b>11142421</b>	<b>7951973</b>	<b>612488</b>	<b>0</b>	<b>612488</b>	<b>114963</b>	<b>682892</b>	<b>306104</b>	<b>171040</b>	<b>1887487</b>

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Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
iv)	<b>MAHARASHTRA</b>										
1	<b>Ratnagiri</b>	805094	1449	NA	NA	NA	NA	NA	NA	NA	NA
2	<b>Ahmadnagar</b>	1651041	613016	NA	NA	NA	NA	NA	NA	NA	NA
3	<b>Pune</b>	1518575	1479056	NA	NA	NA	NA	NA	NA	NA	NA
4	<b>Satara</b>	1022337	1018731	NA	NA	NA	NA	NA	NA	NA	NA
5	<b>Sangli</b>	834999	834619	NA	NA	NA	NA	NA	NA	NA	NA
6	<b>Solapur</b>	1449587	1449587	NA	NA	NA	NA	NA	NA	NA	NA
7	<b>Kolhapur</b>	750031	723744	NA	NA	NA	NA	NA	NA	NA	NA
8	<b>Bid</b>	1024473	144656	NA	NA	NA	NA	NA	NA	NA	NA
9	<b>Osmanabad+</b>	734720	436670	NA	NA	NA	NA	NA	NA	NA	NA
10	<b>Latur</b>	700952	245	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>10491809</b>	<b>6701773</b>	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Grand Total</b>	<b>28977446</b>	<b>17230918</b>	<b>1695492</b>	<b>0</b>	<b>1695492</b>	<b>265773</b>	<b>1271398</b>	<b>362357</b>	<b>255748</b>	<b>3850768</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Note : (1) Totals may not tally due to rounding off.

Note : (2) : Not available data.

Note : (3) Estimated on the basis of the percentage of the area of each district, within the basin, to the district as a whole.



Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VII Basin : Cauvery, Year 2011-12</b>											
<b>i) KARNATAKA</b>											
1	Bangalore (Urban)	217582	98782	--	--	--	--	10261	--	--	10261
2	Bangalore (Rural)	229462	97892	--	--	--	--	25635	--	--	25635
3	Chikmagalur	716773	75101	6447	--	6447	11375	12484	624	12411	43341
4	Hassan	678918	494178	36734	--	36734	25773	31287	630	1814	96238
5	Kodagu (Coorg)	411560	289868	1611	--	1611	275	58	--	410	2354
6	Mandya	494261	494261	107550	--	107550	18207	5248	7635	2858	141498
7	Mysore	631907	631907	113858	--	113858	15280	25437	19080	240	173895
8	Tumkur	1054389	399200	4199	--	4199	11994	142717	892	--	159802
<b>Sub Total</b>		<b>4434852</b>	<b>2581189</b>	<b>270399</b>	<b>0</b>	<b>270399</b>	<b>82904</b>	<b>253127</b>	<b>28861</b>	<b>17733</b>	<b>653024</b>
<b>ii) KERALA</b>											
1	Kannur	295780	116	354	248	602	1637	70	14597	4349	21255
2	Wayanad	214118	193614	46	332	378	96	32	188	13208	13902
3	Kozhikode	234784	442	601	136	737	502	94	2919	1155	5407
4	Palakkad	454291	61906	41938	118	42056	6763	7519	14779	19187	90304
5	Idukki	510626	38572	2873	281	3154	15240	1132	5211	13160	37897
<b>Sub Total</b>		<b>1709599</b>	<b>294650</b>	<b>45812</b>	<b>1115</b>	<b>46927</b>	<b>24238</b>	<b>8847</b>	<b>37694</b>	<b>51059</b>	<b>168765</b>
<b>iii) TAMIL NADU</b>											
1	Dharmapuri +	452954	190674	353	0	353	1543	224	81086	0	83206
2	Salem	524741	302708	1260	0	1260	0	13882	101843	0	116985
3	South Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Coimbatore+Periyar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	Nilgiri	257279	221340	0	0	0	0	0	364	19	383
6	Madurai +	376770	376763	25152	0	25152	25052	773	37578	0	88555
7	Dindigul	616499	442905	4229	0	4229	9828	2877	103239	721	120894
8	Pudukottai	474011	73416	5489	0	5489	73929	28191	8428	0	116037
9	Triuchirapalli	456408	403211	40460	0	40460	5480	4513	48070	0	98523
10	Thanjavur	343878	222195	140255	52	140307	253	33175	1011	0	174746
<b>Sub Total</b>		<b>3502540</b>	<b>2233212</b>	<b>217198</b>	<b>52</b>	<b>217250</b>	<b>116085</b>	<b>83635</b>	<b>381619</b>	<b>740</b>	<b>799329</b>
<b>iv) PONDICHERY</b>											
1	Karaikal	15498	15498	5432	--	5432	--	2	--	17	5451
<b>Sub Total</b>		<b>15498</b>	<b>15498</b>	<b>5432</b>	<b>--</b>	<b>5432</b>	<b>--</b>	<b>2</b>	<b>--</b>	<b>17</b>	<b>5451</b>
<b>Grand Total</b>		<b>9662489</b>	<b>5124549</b>	<b>538841</b>	<b>1167</b>	<b>540008</b>	<b>223227</b>	<b>345611</b>	<b>448174</b>	<b>69549</b>	<b>1626569</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>VIII Basin : East Folowing Rivers from Mahanadi to Kanyakumari, Year 2011-12</b>											
<b>i) ANDHRA PRADESH</b>											
1	Srikakulam	573080	573080	112894	--	112894	65769	4538	5647	2814	191662
2	Vizianagaram	582145	582145	41930	--	41930	80720	13878	5399	5064	146991
3	Vishakhapatnam	1111536	750109	48507	--	48507	30993	9604	5074	22964	117142
4	East Godavari	1057111	468180	181165	--	181165	23871	62503	37	16016	283592
5	West Godavari	758274	590034	178762	--	178762	18161	171985	2663	7708	379279
6	Krishna	836525	367845	219428	--	219428	29082	59824	3080	11826	323240
7	Guntur+	1118651	464113	348719	--	348719	5552	72000	4828	21134	452233
8	Prakasam+	1738937	1578699	83811	--	83811	12360	116594	3835	15821	232421
9	Nellore	NA	NA	96889	--	96889	70783	79681	12494	5124	264971
10	kurnool	1750331	5934	130156	--	130156	8264	86379	26400	13239	264438
11	Chittoor	1495701	1002785	5685	--	5685	16531	107185	16690	106	146197
12	<b>Sub Total</b>	<b>11022291</b>	<b>6382924</b>	<b>1447946</b>	<b>0</b>	<b>1447946</b>	<b>362086</b>	<b>784171</b>	<b>86147</b>	<b>121816</b>	<b>2802166</b>
<b>ii) TELANGANA</b>											
1	Khammam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>iii) KARNATAKA</b>											
1	Bangalore	217582	98782	--	--	--	--	10261	--	--	10261
2	Bangalore R.	229462	97892	--	--	--	--	25635	--	--	25635
3	Kolar	396844	357991	--	--	--	--	25351	--	--	25351
	<b>Sub Total</b>	<b>843888</b>	<b>554665</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>61247</b>	<b>0</b>	<b>0</b>	<b>61247</b>
<b>iv) KERALA</b>											
1	Thiruvananthrum	224681	433	3722	185	3907	130	62	2780	1505	8384
	<b>Sub Total</b>	<b>224681</b>	<b>433</b>	<b>3722</b>	<b>185</b>	<b>3907</b>	<b>130</b>	<b>62</b>	<b>2780</b>	<b>1505</b>	<b>8384</b>
<b>v) ORISSA</b>											
1	Phulbani	777003	196290	--	--	--	--	--	--	2434	2434
2	Kalahandi	763306	64540	--	--	--	--	--	--	75735	75735
3	Koraput	818027	148694	--	--	--	--	--	--	63456	63456
4	Ganjam	819771	769821	--	--	--	--	--	--	180086	180086
5	Puri	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3178107</b>	<b>1179345</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>321711</b>	<b>321711</b>
<b>vi) TAMIL NADU</b>											
1	Chennai	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	Chengai-Anna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	North Arcot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4	Dharmapuri+	452954	262280	353	0	353	1543	224	81086	0	83206
5	Salem	524741	222033	1260	0	1260	0	13882	101843	0	116985
6	Tiruchirapalli	456408	53197	40460	0	40460	5480	4513	48070	0	98523

Contd/...

**Table 16 : Net area irrigated by Sources by river basin and State for 2011-12**

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
7	<b>South Arcot</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	<b>Dindugul +</b>	616499	173594	4229	0	4229	9828	2877	103239	721	120894
9	<b>Madurai</b>	376770	376763	25152	0	25152	25052	773	37578	0	88555
10	<b>Thanjavur</b>	343878	121683	140255	52	140307	253	33175	1011	0	174746
11	<b>Pudukottai</b>	474011	400595	5489	0	5489	73929	28191	8428	0	116037
12	<b>PMT+</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	<b>Kamarajar+</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	<b>Ramanathpuram</b>	404052	404051	0	0	0	54779	1458	10659	0	66896
15	<b>Chidambaranar+</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16	<b>Tirunelveli</b>	699899	698202	18121	0	18121	48587	808	49969	0	117485
17	<b>Kanyakumari</b>	174680	7081	10975	0	10975	16200	312	496	123	28106
	<b>Sub Total</b>	<b>4523892</b>	<b>2719479</b>	<b>246294</b>	<b>52</b>	<b>246346</b>	<b>235651</b>	<b>86213</b>	<b>442379</b>	<b>844</b>	<b>1011433</b>
vii)	<b>PONDICHERY</b>										
	Pondicherry (District)	30119	30119	--	--	--	--	9561	--	--	9561
	<b>Sub Total</b>	<b>30119</b>	<b>30119</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>9561</b>	<b>--</b>	<b>--</b>	<b>9561</b>
	<b>Basin : Penner, Year 2011-12</b>										
i)	<b>ANDHRA PRADESH</b>										
1	<b>Kurnool</b>	1765800	1409600	130156	--	130156	8264	86379	26400	13239	264438
2	<b>Kadapa</b>	1535900	1535900	21758	--	21758	3892	129983	4168	887	160688
3	<b>Anantapur</b>	NA	NA	22836	--	22836	898	111525	5579	1548	142386
4	<b>Prakasam+</b>	1738937	1578699	83811	--	83811	12360	116594	3835	15821	232421
5	<b>Guntur+</b>	1118651	464113	96889	--	96889	70783	79681	12494	5124	264971
6	<b>Nellore+</b>	NA	NA	348719	--	348719	5552	72000	4828	21134	452233
7	<b>Chittoor</b>	1495701	1002785	5685	--	5685	16531	107185	16690	106	146197
	<b>Sub Total</b>	<b>7654989</b>	<b>5991097</b>	<b>709854</b>	<b>0</b>	<b>709854</b>	<b>118280</b>	<b>703347</b>	<b>73994</b>	<b>57859</b>	<b>1663334</b>
ii)	<b>KARNATAKA</b>										
1	<b>Bangalore R.</b>	229462	93562	--	--	--	--	25635	--	--	25635
2	<b>Kolar</b>	396844	357991	--	--	--	--	25351	--	--	25351
3	<b>Tumkur</b>	1054389	389756	4199	--	4199	11994	142717	892	--	159802
	<b>Sub Total</b>	<b>1680695</b>	<b>841309</b>	<b>4199</b>	<b>0</b>	<b>4199</b>	<b>11994</b>	<b>193703</b>	<b>892</b>	<b>0</b>	<b>210788</b>
	<b>Grand Total</b>	<b>29158662</b>	<b>17699371</b>	<b>2412015</b>	<b>237</b>	<b>2412252</b>	<b>728141</b>	<b>1838304</b>	<b>606192</b>	<b>503735</b>	<b>6088624</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>IX</b>	<b>Basin : West Flowing Rivers fro Kanyakumari to Tapi, Year 2011-12</b>										
i)	<b>DADRA &amp; NAGAR HAVELI and Daman &amp; Diu</b>										
1	Daman & Diu	7098	7098	NA	NA	NA	NA	NA	NA	NA	NA
2	Dadra & Nagar Haveli	47707	47707	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>54805</b>	<b>54805</b>	NA	NA	NA	NA	NA	NA	NA	NA
ii)	<b>GOA</b>										
	Goa	356729	356729	8035	--	8035	22791	5005	2863	2285	40979
	<b>Sub Total</b>	<b>356729</b>	<b>356729</b>	<b>8035</b>	--	<b>8035</b>	<b>22791</b>	<b>5005</b>	<b>2863</b>	<b>2285</b>	<b>40979</b>
iii)	<b>GUJARAT</b>										
1	Surat	417464	135144	NA	NA	NA	NA	NA	NA	NA	NA
2	Valsad	289491	289491	NA	NA	NA	NA	NA	NA	NA	NA
3	Dangs	170082	167507	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>877037</b>	<b>592142</b>	NA	NA	NA	NA	NA	NA	NA	NA
iv)	<b>KARNATAKA</b>										
1	Belgaum	1312075	100702	78368	--	78368	508	160578	139057	72187	450698
2	Dharwad	420226	142224	35454	--	35454	--	19635	--	--	55089
3	Chikmaglur	716773	15222	6447	--	6447	11375	12484	624	12411	43341
4	Dak. Kannada	457868	457759	--	--	--	--	9628	40550	20733	70911
5	Hassan	678918	46278	36734	--	36734	25773	31287	630	1814	96238
6	Kodagu	411560	121692	1611	--	1611	275	58	--	410	2354
7	Shimoga	836130	265220	45240	--	45240	53621	30182	4932	9230	143205
8	Utt. Kannada	1004865	103370	--	--	--	6590	3564	9806	11212	31172
	<b>Sub Total</b>	<b>5838415</b>	<b>1252467</b>	<b>203854</b>	<b>0</b>	<b>203854</b>	<b>98142</b>	<b>267416</b>	<b>195599</b>	<b>127997</b>	<b>893008</b>
v)	<b>KERALA</b>										
1	Kasargod	196467	196467	492	266	758	10855	8025	28459	2995	51092
2	Kannur	295780	295664	354	248	602	1637	70	14597	4349	21255
3	Kozhikode	234784	234342	601	136	737	502	94	2919	1155	5407
4	Malappuram	359911	359721	4223	52	4275	5598	803	17071	4688	32435
5	Palakkad	454291	392385	41938	118	42056	6763	7519	14779	19187	90304
6	Thrissur	307157	307156	13785	336	14121	3684	644	37194	8756	64399
7	Ernakulam	245458	245457	9151	1	9152	1656	581	7272	6884	25545
8	Idukki	510626	468242	2873	281	3154	15240	1132	5211	13160	37897
9	Kottayam	225883	225883	--	1	1	146	13	1390	13662	15212
10	Alappuzha	145448	145448	1212	--	1212	673	6069	1083	25758	34795
11	Pathanamthitt	270955	270462	2506	4	2510	15	5	2438	12	4980
12	Kollam	255616	254448	834	11	845	117	19	1812	514	3307
13	Thiruvananthapuram	224681	224248	3722	185	3907	130	62	2780	1505	8384
	<b>Sub Total</b>	<b>3727057</b>	<b>3619923</b>	<b>81691</b>	<b>1639</b>	<b>83330</b>	<b>47016</b>	<b>25036</b>	<b>137005</b>	<b>102625</b>	<b>395012</b>

Contd/...

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
vi)	<b>MAHARASHTRA</b>										
1	Mumbai Sub	43828	43828	NA	NA	NA	NA	NA	NA	NA	NA
2	Thane	920822	920256	NA	NA	NA	NA	NA	NA	NA	NA
3	Raigarh	694267	694014	NA	NA	NA	NA	NA	NA	NA	NA
4	Sindhudurg	496678	484213	NA	NA	NA	NA	NA	NA	NA	NA
5	Nasik	1502109	208862	NA	NA	NA	NA	NA	NA	NA	NA
6	Dhule	692551	5352	NA	NA	NA	NA	NA	NA	NA	NA
7	Kolhapur	750031	26287	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>5100286</b>	<b>2382812</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
vii)	<b>TAMIL NADU</b>										
1	The Nilgiri	257279	35939	--	--	--	--	--	364	19	383
2	Coimbatore	470871	213934	22140	0	22140	0	21025	70073	1161	114399
	<b>Sub Total</b>	<b>728150</b>	<b>249873</b>	<b>22140</b>	<b>0</b>	<b>22140</b>	<b>0</b>	<b>21025</b>	<b>70437</b>	<b>1180</b>	<b>114782</b>
viii)	<b>PONDICHERY</b>										
1	Yanam	NA	NA	329	--	329	--	--	--	--	329
2	Mahe	990	990	--	--	--	--	--	--	28	28
	<b>Sub Total</b>	<b>990</b>	<b>990</b>	<b>329</b>	<b>0</b>	<b>329</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>357</b>
	<b>Grand Total</b>	<b>16683469</b>	<b>8509741</b>	<b>316049</b>	<b>1639</b>	<b>317688</b>	<b>167949</b>	<b>318482</b>	<b>405904</b>	<b>234115</b>	<b>1444138</b>
X	<b>Basin : Tapi, Year 2011-12</b>										
<----- Not Available Data ----->											

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>XI</b>	<b>Basin : Narmada, Year 2011-12</b>										
i)	<b>GUJARAT</b>										
1	Vadodara	723495	378850	NA	NA	NA	NA	NA	NA	NA	NA
2	Bharuch	508367	184991	NA	NA	NA	NA	NA	NA	NA	NA
3	Surat	417464	16882	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>1649326</b>	<b>580723</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	Sagar	889736	221054	5999	--	5999	5308	49224	140841	77847	279219
2	Damoh	985818	37179	12127	--	12127	1254	26211	26107	38694	104393
3	Dewas	706837	41779	8260	--	8260	7030	126583	99803	17220	258896
4	Jhabua	670019	374087	8834	--	8834	10376	2576	15216	16200	53202
5	Dhar	330218	792	20163	--	20163	16221	142840	84319	47898	311441
6	Indore	784230	475636	3472	--	3472	2229	156406	20469	3086	185662
7	West Nimar (khargaon)	376595	101368	22140	--	22140	160	22838	67588	43869	156595
8	East Nimar Khandwa)	775716	739729	22741	--	22741	3083	30117	97518	18940	172399
9	Vidisha	716974	646919	34674	--	34674	7052	77137	61996	126691	307550
10	Sehore	631741	314366	59903	--	59903	24608	71469	98185	49308	303473
11	Raisen	631741	314366	76387	--	76387	7653	112243	47678	40393	284354
12	Betul	817210	449404	10520	--	10520	124	31635	74223	10546	127048
13	Hoshangabad	969038	371261	142566	--	142566	920	73043	57249	24273	298051
14	Jabalpur	645642	645642	14424	--	14424	140	87090	25605	21628	148887
15	Narsimhapur	491129	461932	940	--	940	6	148032	43455	5914	198347
16	Mandla	494728	481819	21882	--	21882	292	--	4679	2569	29422
17	Chhindwara	720148	637163	14210	--	14210	4598	40398	109750	19305	188261
18	Seoni	1136138	338922	62769	--	62769	9578	6230	44887	17927	141391
19	Balaghat	842270	215312	74904	--	74904	29017	1067	23118	7793	135899
20	Shahdol	1286904	11849	5088	--	5088	2858	5285	5242	8650	27123
	<b>Sub Total</b>	<b>14902832</b>	<b>6880579</b>	<b>622003</b>	<b>0</b>	<b>622003</b>	<b>132507</b>	<b>1210424</b>	<b>1147928</b>	<b>598751</b>	<b>3711613</b>
iii)	<b>CHHATISGARH</b>										
1	Rajnandgaon	776454	7858	46320	--	46320	3504	21523	1706	1415	74468
	<b>Sub Total</b>	<b>776454</b>	<b>7858</b>	<b>46320</b>	<b>--</b>	<b>46320</b>	<b>3504</b>	<b>21523</b>	<b>1706</b>	<b>1415</b>	<b>74468</b>
iv)	<b>MAHARASHTRA</b>										
1	Dhule	692551	5352	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>692551</b>	<b>5352</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>	<b>18021163</b>	<b>7474512</b>	<b>668323</b>	<b>0</b>	<b>668323</b>	<b>136011</b>	<b>1231947</b>	<b>1149634</b>	<b>600166</b>	<b>3786081</b>

Sources:- Directorate of Economics &amp; Statistics, Ministry of Agriculture. (Data received from DES website)

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
1	2	3	4	5	6	7	8	9	10	11	12
<b>XII</b>	<b>Basin : Mahi and Sabarmati, Year 2011-12</b>										
a)	<b>Basin: Mahi</b>										
i)	<b>GUJARAT</b>										
1	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
2	Panchmahals	509562	6867	NA	NA	NA	NA	NA	NA	NA	NA
3	Vadodara	723495	344645	NA	NA	NA	NA	NA	NA	NA	NA
4	Bharuch	508367	219942	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>2125777</b>	<b>903994</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>MADHYA PRADESH</b>										
1	Ratlam	463998	182086	4950	--	4950	3090	81940	68025	21140	179145
2	Jhabua	330218	329425	8834	--	8834	10376	2576	15216	16200	53202
3	Dhar	784230	150516	20163	--	20163	16221	142840	84319	47898	311441
4	Mandsaur	1033844	6675	1827	--	1827	1413	15995	173322	17279	209836
	<b>Sub Total</b>	<b>2612290</b>	<b>668702</b>	<b>35774</b>	<b>0</b>	<b>35774</b>	<b>31100</b>	<b>243351</b>	<b>340882</b>	<b>102517</b>	<b>753624</b>
iii)	<b>RAJASTHAN</b>										
1	Udaipur	1145912	328985	3692	--	3692	17099	15287	56295	1432	93805
2	Chittorgarh	750049	13303	10445	--	10445	936	105633	81750	1695	200459
3	Dungarpur	364043	59787	9295	--	9295	2489	2849	28589	2855	46077
4	Bansewara	433272	433272	59019	--	59019	5005	3832	14167	18205	100228
	<b>Sub Total</b>	<b>2693276</b>	<b>835347</b>	<b>82451</b>	<b>0</b>	<b>82451</b>	<b>25529</b>	<b>127601</b>	<b>180801</b>	<b>24187</b>	<b>440569</b>
b)	<b>Basin: Sabarmati</b>										
i)	<b>GUJARAT</b>										
1	Surendranagar	1011624	460336	NA	NA	NA	NA	NA	NA	NA	NA
2	Banaskantha	1024755	50628	NA	NA	NA	NA	NA	NA	NA	NA
3	Sabarkantha	714029	711386	NA	NA	NA	NA	NA	NA	NA	NA
4	Mahesana	424435	208736	NA	NA	NA	NA	NA	NA	NA	NA
5	Gandhinagar	205507	205507	NA	NA	NA	NA	NA	NA	NA	NA

Contd/...

Table 16 : Net area irrigated by Sources by river basin and State for 2011-12

(Area in hectare)

Sl. No.	Basin/State/District Name	District Area	District Basin Area	Canals		Total Canals	Tanks	Wells		Other Sources	Grand Total
				Government	Private			Tubewells	Other wells		
	2	3	4	5	6	7	8	9	10	11	12
6	Ahmedabad	771266	471807	NA	NA	NA	NA	NA	NA	NA	NA
7	Kheda	384353	332540	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>4535969</b>	<b>2440940</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Sirohi	496134	5466	5178	--	5178	4449	1092	84226	329	95274
2	Udaipur	1145912	328985	3692	--	3692	17099	15287	56295	1432	93805
3	Dungarpur	364043	59787	9295	--	9295	2489	2849	28589	2855	46077
	<b>Sub Total</b>	<b>2006089</b>	<b>394238</b>	<b>18165</b>	<b>0</b>	<b>18165</b>	<b>24037</b>	<b>19228</b>	<b>169110</b>	<b>4616</b>	<b>235156</b>
c)	<b>Basin : Luni &amp; Others</b>										
i)	<b>GUJARAT</b>										
1	Jamnagar	1049091	1049091	NA	NA	NA	NA	NA	NA	NA	NA
2	Rajkot	1076212	1050090	NA	NA	NA	NA	NA	NA	NA	NA
3	Surendranagar	1011624	551288	NA	NA	NA	NA	NA	NA	NA	NA
4	Bhavnagar	806274	784949	NA	NA	NA	NA	NA	NA	NA	NA
5	Amreli	710001	710001	NA	NA	NA	NA	NA	NA	NA	NA
6	Junagadh	849729	849729	NA	NA	NA	NA	NA	NA	NA	NA
7	Kachch	4050820	4050820	NA	NA	NA	NA	NA	NA	NA	NA
8	Banaskantha	1024755	1024755	NA	NA	NA	NA	NA	NA	NA	NA
9	Mahesana	424435	215699	NA	NA	NA	NA	NA	NA	NA	NA
10	Ahemdabad	771266	771266	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>11774207</b>	<b>11057688</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
ii)	<b>RAJASTHAN</b>										
1	Ajmer	820623	187076	4750	--	4750	5256	2664	90090	2671	105431
2	Jodhpur	2203760	1332402	--	--	--	--	282044	4244	56	286344
3	Nagaur	1702659	609623	--	--	--	--	171523	65988	18	237529
4	Pali	1189023	1189023	18863	--	18863	6059	17864	74209	74	117069
5	Jalor	1032233	1032233	54145	--	54145	319	124380	136015	885	315744
6	Sirohi	496134	490668	5178	--	5178	4449	1092	84226	329	95274
	<b>Sub Total</b>	<b>7444432</b>	<b>4841025</b>	<b>82936</b>	<b>0</b>	<b>82936</b>	<b>16083</b>	<b>599567</b>	<b>454772</b>	<b>4033</b>	<b>1157391</b>
iii)	<b>Daman &amp; Diu</b>										
1	Diu	3439	3439	NA	NA	NA	NA	NA	NA	NA	NA
	<b>Sub Total</b>	<b>3439</b>	<b>3439</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
	<b>Grant Total</b>	<b>33195479</b>	<b>21145373</b>	<b>219326</b>	<b>0</b>	<b>219326</b>	<b>96749</b>	<b>989747</b>	<b>1145565</b>	<b>135353</b>	<b>2586740</b>

Sources:- Directorate of Economics & Statistics, Ministry of Agriculture. (Data received from DES website)



# **Appendix B**

## **Glossary of Terms**



## Glossary of Terms

Active (usable) storage capacity	The total amount of reservoir capacity normally available for release from a reservoir below the maximum storage level. It is total or reservoir capacity minus inactive storage capacity. More specifically, it is the volume of water between the outlet works and the spillway crest.
Alluvium	Sediments deposited by erosion processes, usually by streams.
Area Sown more than once	This represents the areas on which crops are cultivated more than once during the agricultural year. This is obtained by deducting 'Net Area Sown' from 'Total Cropped Area'.
Area under Non-agricultural Uses	This includes all lands occupied by buildings, roads and railways or under water, e.g. rivers and canals and other lands put to uses for other than agricultural purposes.
Barren and Unculturable Land:	This includes all barren and unculturable land like mountains, deserts, etc. land whether such land is in isolated blocks or within cultivated holdings which cannot be brought under cultivation, except at an exorbitant cost, is classified as unculturable land
Basin boundary	The topographic dividing line around the perimeter of a basin, beyond which overland flow (i.e., runoff) drains away into another basin.
Bed load	Sand, silt, gravel, or soil and rock detritus carried by a stream on or immediately above its bed. The particles of this material have a density or grain size such as to preclude movement far above or for a long distance out of contact with the stream bed under natural conditions of flow.
Bed material	The sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.
Biochemical Oxygen Demand (B.O.D.)	The measure of oxygen required for natural oxidation of organic matter with the aid of bacteria. The test is made by taking duplicate samples of water in two completely filled bottles, one of which is sealed and kept stored for 5 days. The dissolved oxygen content of the first sample gives the biochemical oxygen demand, or shortly B.O.D. value. The B.O.D. value of surface waters may be 1 to 10 p.p.m., and for deep well water it would be much less.

Coliform Group	All waters contain bacteria, vast majority of which are perfectly harmless. One organism, bacillus Coli, found in the intestines of men and warm-blooded animals, which in itself is usually quite and may therefore be regarded as danger signal. The group of bacteria of intestinal origin is known as coliform group. The bacilli of this group ferment lactose with gas formation. Since organisms of the coliform group normally live longer in water than other bacteria, absence of such organisms indicates that the water is safe. Also this group is more resistant to treatment than pathogens, their existence or otherwise gives a useful indication of the efficiency of water treatment methods.
Coliform Index	The probable number of coliform organisms present in 100 ml. is known as coliform index. If out of 5 portions be isolated from one sample only, the number of coliforms would be considered to be 1 in 50 ml. or 2 in 100 ml., which would be the coliform index, assuming that the gas formation was due to one coliform only.
Culturable Waste Land	This includes land available for cultivation, whether not taken up for cultivation or taken up for cultivation once but not cultivated during the last five years or more in succession including the current year for one reason or the other. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. They may be assessed or unassessed and may lie in isolated blocks or within cultivated holdings.
Current Fallows	This represents cropped area, which are kept fallow during the current year. For example, if any seeding area is not cropped against the same year it may be treated as current fallow.
dam	Any artificial barrier which impounds or diverts water. A dam is generally considered hydrologically significant if it is (i) One and one quarter feet (0.4 meters) or more in height from the natural bed of the stream and has a storage of at least 15 acre-feet, or (ii) has an impounding capacity of 50 acre-feet or more and is at least six feet (2 meters) above the natural bed of the stream.
Discharge	The quantity of water flowing across a section of a channel in a unit time is called the discharge. It is measured in cubic feet or meters per second, briefly called cusecs and cumecs respectively and is equal to the area of section X average velocity. Common units are cubic feet per second (cfs), second-day feet (sdf), and cubic meter per second (cumecs). Two types of discharges are often measured and recorded: (i) instantaneous discharge: the discharge at a particular instant of time. (ii) mean discharge: the arithmetic mean of individual discharges during a period of time. Discharges given are daily observed discharges commencing at 08.00 hrs.

Drainage area	An area around a river and rainfall of which flows into the river. Also known as watershed, catchment area and drainage basin.
Drainage basin	A part of the earth's surface which is occupied by a drainage system which consists of a surface stream with all its tributaries and impounded bodies of water. Also known as watershed, catchment area, and drainage area.
Fallow Land	This includes fallow land other than current fallows and current fallow land of land use classification which are explained below.
Fallow Lands other than Current Fallows	This includes all lands, which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years.
Forest	This includes all lands classified as forest under any legal enactment dealing with forests or administered as forests, whether state-owned or private, and whether wooded or maintained as potential forest land. The area of crops rose in the forest and grazing lands or areas open for grazing within the forests remains included under the forest area.
Gross capacity	The maximum volume of water that can be stored in a reservoir.
Gross reservoir capacity	The total amount of storage capacity available in a reservoir for all purposes from the streambed to the normal water or normal water or normal pool surface level. It does not include surcharge, but does include dead storage.
Ground water	Water within the earth that supplies wells and springs; water in the zone of saturation where all openings in rocks and soil are filled, the upper surface of which forms the water table. Also termed Phreatic water.
Ground water runoff	That part of the runoff which has passed into the ground, has become ground water, and has been discharged into a stream channel as spring, or seepage water.
Hardness	Hardness of water is generally caused by the presence of salts of calcium and magnesium. Hardness due to the presence of bicarbonates of calcium and magnesium is called temporary hardness. Permanent hardness is caused by the presence of sulphates and chlorides of these metals, and is not removable by boiling. The sum of these two hardness is called total hardness. It is expressed in terms of calcium carbonate. Since one gallon of water weighs 70,000 grains, degrees of hardness can be converted in p.p.m. by multiplying by 14.3. A water having 50 to 100 p.p.m. hardness is called soft water, one with 100 to 200 p.p.m. Moderately hard, and that with 200 to 300 p.p.m. hard. Hardness of 80 to 90 p.p.m. is considered to be the best.

Headwater basin	A basin at the headwaters of a river. All discharge of the river at this point is developed within the basin.
Hydrogen-ion Concentration (pH)	<p>Acidity and Alkalinity determinations is the measures of acid and alkali present, while the H-ion concentration determines the strength of the acid and alkali in water. An ion is an atom or a group of atoms that carries an electric charge.</p> <p>The H-ion concentration is expressed in terms of logarithm of the reciprocal of the H-ion concentration. This term is called the pH value (potential of Hydrogen). <math>\text{Log } 1/10^{-7} = 7</math>, so that pH value 7 denotes neutrality while values above 7, signify alkalinity and those below 7, acidity. The determination of pH value provides information concerning the corrosive character of water. Waters with pH between 7.4 and 8.4 are practically inactive.</p> <p>Waters with pH above 8.6 or 8.8 are likely to cause precipitation of calcium carbonate in the distribution system, while waters over-carbonate with CO<sub>2</sub> may dissolve the slight carbonate film on the inside of mains and start active corrosion, depending upon the pH value. When the pH of natural waters is below 7 it may be found necessary to add a small amount of soda ash or lime to the water before admittance to the mains, as otherwise corrosion may be caused.</p>
Hydrologic Cycle	Water is lost to the atmosphere as vapour from the earth, which is then precipitated back in the form of rain, snow, hail, dew, frost, etc. The process of evaporation and precipitation which combines forever and thereby maintaining a balance between the two is called Hydrologic Cycle.
Hydrologic unit	A geographical area representing part or all of a surface drainage basin or distinct hydrologic feature such as a reservoir, lake, etc.
Inactive storage Capacity	The portion of capacity below which the reservoir is not normally drawn, and which is provided for sedimentation, recreation, fish and wildlife, aesthetic reasons, or for the creation of a minimum controlled operational or power head in compliance with operating agreements or restrictions.
Inches of runoff	the volume of water from runoff of a given depth over the entire

	drainage.
Irrigated area	The gross farm area upon which water is artificially applied for the production of crops, with no reduction for access roads, canals, or farm buildings.
Irrigation efficiency	The percentage of water applied that can be accounted for in soil moisture increase for conjunctive use.
Irrigation requirement	The quantity of water, exclusive of precipitation, that is required for crop production. It includes surface evaporation and other economically unavoidable wastes.
Land under Miscellaneous Tree Crops, etc	This includes all cultivable land which is not included in 'Net area sown' but is put to some agricultural use. Lands under Casuarinas trees, thatching grasses, bamboo bushes and other groves for fuel, etc. which are not included under 'Orchards' are classified under this category.
Live capacity	The minimum volume of water required for maintaining flow of water from the Reservoir. It is the total amount of storage capacity available in a reservoir for all purposes, from the dead storage level to the normal water or normal pool level surface level. Does not include surcharge, or dead storage, but does include inactive storage, active conservation storage and exclusive flood control storage.
Long term storage dams	Reservoirs used for recreational use or storage of irrigation, municipal or industrial water. Because water is impounded on a "permanent" basis, the design of these dams is more complex than for tailings or flood control detention dams. A long term storage dam may include an impermeable core surrounded by shell material; have many types of drains and filters, outlet works, with gates and valves, seepage collection boxes, and possibly several spillways. The capacity of the spillway is dependent upon the downstream hazard potential.
Mean annual rainfall	Mean annual rainfall is usually worked out as a simple average of the total rainfall of various years.
Mean depth	The average depth of water in a stream channel or conduit. It is equal to the cross-sectional area divided by the surface width.
Moisture equivalent	The ratio of (1) the weight of water which the soil, after saturation, will retain against a centrifugal force 1,000 times the force of gravity, to (2) the weight of the soil when dry. The ratio is stated as a percentage.
Net Area Sown	This represents the total area sown with crops and orchards but area sown more than once in the same year is counted only once.

Net rainfall	The portion of rainfall which reaches a stream channel or the concentration point as direct surface flow.
Normal year	The year during which the precipitation or stream flow approximates the average for a long period of record.
Not available for cultivation	This includes area under non-agricultural uses and barren & unculturable land which are briefly described below.
Other Cultivated land excluding fellow land	This includes (i) permanent pastures and other grazing land (ii) land under miscellaneous trees, crops and groves not included in net area and (iii) culturable waste land which are briefly described below.
Peak discharge	Rate of discharge of a volume of water passing a given location. (Usually in cubic feet per second.)
Permanent Pastures and other Grazing Lands	This includes all grazing lands whether they are permanent pastures and meadows or not. Village common grazing land is included under this head.
Point discharge	Instantaneous rate of discharge, in contrast to the mean rate for an interval of time.
Point precipitation	Precipitation at a particular site, in contrast to the mean precipitation over an area.
Reporting Area for Land Utilisation Statistics	The Reporting area stands for the area for which data on land use classification of area are available. In areas where land utilization figures are based on land records, reporting area is the area according to village papers, i.e. the papers prepared by the village accountants. In some cases, the village papers may not be maintained in respect of the entire area of the State. For example, village papers are not prepared for forest areas for which no village paper exists for which ad-hoc estimates of classification of area etc. framed to complete the coverage.
River Basin	Drainage area of a river and its tributaries.
River gauge datum	The arbitrary zero datum elevation which all stage measurements are made from.
Runoff	Water which is not absorbed by the soil and flows to lower ground, eventually draining into a stream, river, or other body of water. It is that part of precipitation that flows toward the streams on the surface of the ground or within the ground. Runoff is composed of base flow and surface runoff.



Runoff/ potential	Runoff/ potential of a river for a specified period at a site is the total volume of water flow/passed from/through the site during the specified period. It is the notional depth of water in mm over the catchment, equivalent to annual runoff (in M.Cum.)/Catchment Area (km <sup>2</sup> )* 1000 and calculated at the discharge measurement station.
Second-day feet	The volume of water represented by a flow of one cubic foot per second for 24 hours; equal to 84,000 cubic feet. This is used extensively as a unit of runoff volume. Often abbreviated as SDF.
Sediment storage capacity	The volume of a reservoir planned for the deposition of sediment.
Soil moisture	Water contained in the upper regions near the earth's surface.
Stage	The level of the water surface above an established "zero" plane or datum at a given location.
Surface runoff	The runoff that travels overland to the stream channel. Rain that falls on the stream channel is often lumped with this quantity.
Surface water	Water that flows in streams and rivers and in natural lakes, in wetlands, and in reservoirs constructed by humans.
Temperature	The in-situ temperature in degree centigrade by thermometer is recorded in terms of water intended use, the treatment to remove impurities and its transport.
Total Cropped Area	This represents the total area covered with crops, i.e. the sum total of areas covered by all the individual crops; areas sown with crops more than once during the year being counted as separate areas for each crop. It is also known as Gross Cropped Area.
Tributary	A stream or river whose water flows into a larger stream or river.
Watershed	The sum total of all the land and smaller bodies of water which drains into a particular stream or river.
Zero R.L. of gauge	The Zero R.L. of a gauge is the datum level fixed for a given site, which is kept 1 or 2 m lower than the lowest water level recorded in a perennial stream. In a no perennial stream, it is kept 1 or 2 m lower than the lowest bed level of the stream.

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