4 ECONOMIC INFRASTRUCTURE

The major areas covered in this chapter are irrigation, power, transport and communications.

The cumulative irrigation potential likely to be created under major, medium and minor irrigation (only surface water) up to the end of 2003-04 is expected to be 30.91 lakh hectares, as against an ultimate irrigation potential of 35 lakh hectares for major and medium irrigation and 10 lakh hectares for minor irrigation (surface water).

An additional irrigation potential of 1.48 lakh hectares is anticipated to be created during the current year through major and medium irrigation projects. The additional potential likely to be created is 1.29 lakh hectares under plan projects and 0.19 lakh hectares under projects pending approval. In the Upper Krishna project alone a potential of 0.85 lakh hectares is anticipated to be created in 2003-04. Under minor irrigation (surface water), additional potential of 7921 hectares will be created during the year. In all, additional irrigation potential of 1.56 lakh hectares is anticipated to be created from major, medium and minor irrigation (surface water) projects.

The responsibility of implementation of the Upper Krishna project has been entrusted to the Krishna Bhagya Jala Nigam Limited (KBJNL). The company has raised Rs.5409.85 crores through market borrowings from 1995-96 to 2002-03. In the current year up to December 2003, the Nigam has raised Rs. 110.50 crores through market borrowings.

Karnataka Neeravari Nigam Limited has been constituted to raise funds and take up execution of projects in Krishna basin other than Upper Krishna Project. The projects entrusted to this Nigam are Ghataprabha Stage III, Malaprabha, Markendaya, Hippargi, Bhima Lift, Singatalur, Upper Tunga, Harinala, Tunga anecut, Gandhorinala, Kalasanala, Bandurinala and Dudhganga projects. Further during the year 2003-04 additional projects viz. Bennithora, Lower Mullamari, Ittagi Sasalwad LIS and Basapur LIS are entrusted to Nigam. In the current year the Nigam has planned to borrow an amount of Rs. 250 crores through market borrowings.

The Cauvery Neeravari Nigam Ltd. was constituted during 2003-04 to raise funds and to complete all on going and modernisation of projects in Cauvery Basin. Cauvery Neeravari Nigam Ltd., has started functioning from June 2003. The Nigam has plans to raise Rs.1500 crores in a period of three years. During the current year it has raised Rs.250 crores.

The Minor Irrigation Department has established the Karnataka Jala Samvardhana Yojna Sangha (JSYS) for monitoring and speedy implementation of minor irrigation works with aid from the World Bank. The department will rejuvenate 2000 tanks in nine districts of Kolar, Tumkur, Bidar, Bellary, Chitradurga, Bagalkote, Haveri, Raichur and Koppal. Field irrigation channels are to be given the required focus in coming years to maximise utilisation of the irrigation potential created with considerable investment. The area likely to be brought under field irrigation channels in 2003-04 will be 95910 hectares. Water Users Co-operative Societies have been established in the command areas and these societies are empowered to collect water rates.

Karnataka Power Corporation is implementing projects that will create 2675 MWs of capacity over the next four years. These include the 290 MWs Almatti Dam Power House, 500 MWs

Bellary Thermal Power Station, 1400 MWs combined Cycle Power Plants at Bidadi and 210 MWs Unit 8 of Raichur Thermal Power Station.

Karnataka Power Transmission Company Ltd. has unbundled 'distribution' functions. Four independent government owned electricity supply companies (ESCOMs) were formed on a regional basis with their headquarters located at Bangalore, Mangalore, Hubli, and Gulbarga. All the four distribution companies were assigned distribution and retail supply license of KPTCL after obtaining approval from KERC. They are fully operational with effect from 1-6-2002 and started functioning independently during 2003-04.

Government of Karnataka has recognized the fact that priority must be accorded to achieving the financial turnaround as the first and foremost milestone in the power sector. Accordingly, a ten-year financial restructuring plan (FRP) was announced; with a commitment to extend financial support to the power sector of Rs.12141 crores over a ten-year period. Power reform is the major component in the revised Medium Term Fiscal Plan (MTFP) of the State (2003-04 to 2006-07) and the sectoral FRP is consistent with MTFP.

Three Tariff orders have so far been passed by the Karnataka Electricity Regulatory Commission with 17%, 16.2% and 2.03% increases across the board during the years 2000, 2002 and 2003 respectively. With the intention of arranging reliable and quality power supply to IP set installations, a new scheme known as "Own Your Transformer" (OYT) Scheme, has been introduced. The scheme will be effective in avoiding unauthorised connections and theft of energy. A scheme "Grama Jyothi" to provide 24 hours of power supply to domestic and single-phase consumers in rural areas has been taken up as pilot project, which will be spread throughout the state. Micro controllers will be installed on rural feeders at the station panels to regulate power supply to IP set consumers at predetermined duration.

An additional capacity of 15 MWs in the public sector and 176.22 MWs in the private sector will be added during the current year. The first unit of 15 mw of Almatti dam powerhouse is expected to be commissioned during January 2004. Installed capacity in the public sector is likely to be 4714.03 MWs by the end of 2003-04, 3111.55 MWs of hydel power, 1597.92 MWs of thermal and diesel power and 4.56 MWs of wind power. Installed capacity in the private sector will be 610.67 MWs by the end of 2003-04. The State has still a long way to go to in fully harness the ultimate hydel potential of 7750 MWs.

Thermal power generation is increasing steadily in the State. The hydel-thermal mix is anticipated to be 66:34 in 2003-04**.** In view of the increasing dependence on thermal generation, the unit cost of generation, which was at the level of 57 paise per unit during 1994-95, has gone up to 182 paise per unit during 2003-04. The cost of supplying power at the consumer end, which was at the level of 124 paise per unit during 1994-95, has gone up to 356 paise per unit during 2003-04. This continuous increase in the cost of supply over the years is due to increasing transmission & distribution losses and extending supply to increasing low-tension rural customers including irrigation pumpsets. On the other hand, there has been no corresponding increase in revenue realisation to match the cost of supply. This realisation rate was at 105 paise per unit during 1994-95, i.e. 19 paise less than cost and it will be at 286 paise during 2003-04, i.e. 70 paise less than the cost.

Energy generation in 2003-04 at 17675 MUs in the public sector is expected to show a decline of 2.4 per cent over the 2002-03 level of 18105 MUs. Hydel generation in 2003-04 at 6960 MUs is expected to show a decline of 2.3 per cent over the 2002-03 level of 7128 MUs. The failure of the monsoon three years in succession is certainly a contributory factor. Thermal generation in 2003-04 at 10715 MUs is expected to show a decrease of 2.4 per cent over the level of 10977 MUs in 2002-03. The generation from the private sector is expected to be 1000 MUs in 2002-03. Generation of power is estimated at 28675 MUs including imports of 10000 MUs from Central Generating Stations and other States in 2003-04.

In the current year up to the end of November 2003, five 220 KV transmission lines were

completed viz.DC line from Ambevadi to Narendra (55.60 ckms), LILO line to 220/66 KV station at Chitradurga (10 ckms), DC line to 220 KV station at Harohalli (1.10 ckms), LILO line to Madhugiri (0.90 ckm) and DC line to 220/66 KV station at Honalli (0.48 ckm) have been commissioned. One 400/220 KV (630 MVA) station at Talaguppa and five 220/66 KV stations at Madhugiri (200 MVA), Harohalli (50 MVA), Tataguni (50 MVA), Chitradurga (212.40 MVA) and Honalli (200 MVA) have been commissioned.

The number of motor vehicles in the State went up by more than 5.54 lakhs in 2002-03 to 44.61 lakhs. The largest numbers of vehicles are motor cycles (32.46 lakhs). The revenue realisation of the Motor Vehicles Department was Rs.670 crores in 2002-03. It is expected to become Rs. 771 crores in 2003-04. Up to end of November 2003, the revenue realised was Rs.480 crores.

Increase in the traffic handled at Karnataka's ports is anticipated during the current year. The telecommunications sector is expected to perform satisfactorily. A detailed review of the state of economic infrastructure is presented below.

Irrigation

The cumulative irrigation potential under major, medium and minor irrigation (surface water) is anticipated to go up to 30.91 lakh hectares (excluding ground water) in 2003-04 from 29.35 lakh hectares in 2002-03. Additional potential of 1.56 lakh hectares is anticipated to be created during the year (Table 4.1)

Table 4.1
Irrigation potential created by source 2001-02 to 2003-2004

Lakh hectares (cumulative)

Source	2001-02	2002-03	2003-04 (anticipated)
1. Major and Medium Irrigation	19.05	19.70	21.18
2. Minor Irrigation (Surface water)	9.58	9.65	9.73
Total	**28.63**	**29.35**	**30.91**

Source: Irrigation department, Government of Karnataka

The progress of work on selected major projects is given below:

Major and medium projects, which have been completed, have so far contributed to the creation of irrigation potential of 4.61 lakh hectares. Twenty major projects and twenty-one medium projects are under implementation.

1. Major and medium irrigation

Revised estimates of expenditure on major and medium irrigation projects were Rs.2474.27 crores under the Plan and Rs.215.69 crores under projects pending approval in 2002-03. The expenditure anticipated in 2003-04 is Rs.2752.91 crores for Plan projects and Rs.50.00 crores for projects pending approval. In the current years Projects works amounting to Rs.250 crores are being taken up through Cauvery Neeravari Nigam. Expenditure incurred up to the end of November 2003 was Rs.1789.91 crores for Plan projects and Rs.73.96 crores for projects pending approval. The expenditure on UKP alone up to the end of November 2003 is Rs.1507.09 crores. Expenditure on flood control and anti-sea erosion projects in the current year is anticipated at Rs.6.00 crores.

a. Plan projects - the Krishna basin

The latest estimated cost for Upper Krishna project, Stage I, is Rs.5613.83 crores. In December 2000, the Planning Commission has approved Upper Krishna Project, Stage II at an estimated cost of Rs.2358.86 crores. The expenditure up to the end of March 2003 on Upper Krishna Project (Stage I and Stage II) was Rs. 9771.52 crores. Out of a total of Rs. 2752.91 crores of anticipated expenditure in 2003-04 the Upper Krishna Project alone accounts for Rs.2128.00 crores (77 per cent). The Stage-I first phase is completed and the works on phase II and III of Stage-I and Stage-II are under progress.

The project covers the following works

Sl. No.	Component of work	Length in km. (In Ha.)	Irrigation Command (in tmc)	Utilisation of water
1	Narayanpur Left Bank Canal	78	47233	13.10
2	Shahapur Branch Canal	76	122120	34.00
3	Mudbal Branch Canal	50.8	51000	14.10
4	Indi Branch Canal	172	131260	37.50
5	Jewargi Branch Canal	86	57100	15.80
6	Almatti Left Bank Canal	103	20235	05.60
7	Narayanpur Right Bank Canal	95	84000	22.40
8	Almatti Right Bank Canal	67	16100	04.50
9	Mulwad L.I.S.	128.5	30850	08.50
10	Rampur L.I.S.	51.5	20235	05.60
11	Indi L.I.S.	96	41900	11.90
12	Relocation of Bagalkot town,			
13	Rehabilitation and resettlement of project affected families			
14	CADA works			

The Narayanpur and Almatti Dams have been completed.

During 2003-04, a potential of 84699 hectares is anticipated to be created Against irrigation potential of 6.22 lakh hectares under the Upper Krishna project, Stage I & II, the anticipated creation of irrigation potential by the end of March 2004 is likely to be 5.14 lakh hectares.

b. Malaprabha and Ghataprabha stage III

Progress (financial and physical) is as below:

	Unit	Ghataprabha, Stage III	Malaprabha
Estimated cost	Rs.crores	947.00	816.00
Expenditure up to 2002-2003	Rs.crores	651.83	680.89
Expenditure expected in 2003-04	Rs.crores	135.00	40.00
Irrigation potential	Lakh hectares	1.78	2.18
Potential created up to 2002-03	Hectares	91270	191523
Potential anticipated to be created in 2003-04	Hectares	25256	2882

c. The National Hydrology Project

The National Hydrology project was taken up with World Bank assistance in 1996-97. It envisages setting up a reliable and well-designed network for the collection of hydrological and meteorological data for surface and ground water. The project was administratively approved for Rs.32 crores, later revised it for Rs. 34.86 crores of which the World Bank will reimburse Rs.27 crores. The implementation period is seven years. The surface water component is Rs.20.35 crores and the ground water component is Rs.14.51 crores. Revised Expenditure in 2002-03 was Rs.5.19 crores on the surface component and Rs. 2.00 crores on the ground water component. Expenditure till 2002-03 is Rs 20.61 crores for surface water component and Rs 12.80 crores on ground water component. Expenditure incurred up to end of October 2003 is Rs.0.56 crores on surface water component and Rs 0.20 crores for ground water component.

d. NABARD assistance

Loan assistance of Rs.106.98 crores have been sanctioned by NABARD under the Rural Infrastructure Development Fund (RIDF), Phase I for completing six medium irrigation projects – Votehole, Lower Mullamari, Amarja, Maskinala, Chulkinala and Manchanabele. Out of which Votehole, Maskinala, Chulkinala and Manchanabele projects have been completed and irrigation potential of 33971 hectares will be created. The NABARD assistance has been revised to Rs.118.85 crores for projects under Phase I. The reimbursement on Phase I projects has been Rs. 104.98 crores. Under Phase II approval has been accorded for loan assistance of Rs.50 crores and Rs. 22.75 crores towards cost escalation for completing the Bennithora project by December 2002. Rs. 69.00 crores has been reimbursed under phase II.

e. Accelerated Irrigation Benefit Programme

Under the Accelerated Irrigation Benefit Programme (AIBP) of the Government of India, 50 per cent of Central loan assistance amounting to Rs.61.25 crores was released in 1996-97 for the Upper Krishna, Stage I, Phase III, Malaprabha and Hirehalla projects. In 1997-98 Rs.90.50 crores were released, which has been fully utilised on five ongoing projects, the Upper Krishna Project stage I, phase III, Malaprabha, Hirehalla, Ghataprabha stage III and Karanja. In 1998-99, Rs.94.50 crores were released for the same projects. In 1999-2000, Rs.157.14 crores were released. In 1999-2000 the central loan assistance was provided in the ratio of 2:1 (centre: state) instead of existing 1:1 (centre: state) for expeditious completion of the approved ongoing major projects. In 2000-01, Rs. 250.00 crores was sanctioned for the same projects and the amount released was Rs.171.00 crores. In 2001-02, Rs. 502.50 crores have been released and assistance has been extended to Upper Krishna Project, Stage II and Gandhorinala projects also. In 2002-03 amount sanctioned was Rs 683.88 crores and the amount released was Rs.620.85 crores The central loan assistance sanctioned for 2003-04 is Rs 450.00 crores. Aggregate expenditure up to the end of Oct 2003 has been Rs.1353.79 crores.

f. Projects pending approval

Progress (financial and physical) is as below*:*

	Unit	Harangi	Hemavathi	Kabini
Estimated cost (latest)	Rs crores	373.00	3710.00	1122.50
Expenditure up to 2002-03	Rs crores	324.07	1611.10	387.49
Expenditure expected in 2003-04	Rs crores	25.62	141.96	16.49
Irrigation Potential	Hectares	53538	283596	87900
Potential created up to 2002-03	Hectares	44153	198791	41083
Potential anticipated to be created in 2003-04	Hectares	5200	3413	140

Cauvery Neeravari Nigam has been formed to implement works of Cauvery basin projects (projects pending approval); Nigam has targeted to raise 1500 crores in a period of 3 years.

2. Minor irrigation - surface water

Irrigation works with an atchkat of up to 2000 hectares are classified as minor irrigation works. They have the advantage of providing immediate benefits from potential created. Minor irrigation works with atchkat of up to 40 hectares come under the control of Zilla Panchayats. Others are under the Minor Irrigation department.

Table 4.2
Development of minor irrigation from Surface water: 1993-94 to 2003-2004

Year	Expenditure (Rs lakhs)	Potential created (in hectares)
1993-94	6174.94	7000
1994-95	7025.00	5310
1995-96	6175.70	4020
1996-97	7157.33	5105
1997-98	6789.45	4838
1998-99	8917.31	3258
1999-00	10791.90	5317
2000-01	12117.71	7136
2001-02	10316.36	4967
2002-03(R.E)	9654.69	7295
2003-04(A)	21681.76	7921

(A) Anticipated (RE) Revised Estimate

Source: Economic survey of Karnataka 2002-03
Annual Plan 2003-04
Details of Provisions for Plan Expenditure, 2003-04

In 2002-03 the revised expenditure on minor irrigation works is Rs.9654.69 lakhs. In 2003-04 an allocation of Rs. 1400.02 lakhs has been made for construction of new tanks, Rs.1900.01 lakhs have been provided for construction and improvements to anecuts, pickups and feeder channels. An allocation of Rs.300.01 lakhs has been provided for rejuvenation of tanks. An allocation of Rs.700.01 lakhs has been provided for Lift Irrigation schemes. Allocation of Rs.2601.60 lakhs is provided for SCP and TSP. Besides this allocation of Rs. 708.33 lakhs has been provided for the Zilla Panchayat to take up minor irrigation with an atchkat of 40 hectares or below. It is programmed to create a potential of 7921 hectares. The development of surface irrigation from 1993-94 onwards is summarised in Table 4.2.

The government has formed Karnataka Jala Samvardhane Yojana Sangha (JSYS) within the framework of Registration of Societies Act, 1860. The main purpose of this Sangha is to develop and strengthen water sector (minor irrigation) with participatory system in tanks and ground water for improving livelihood of the rural people. It will promote and organise activities of capacity building, provide strategic resource and logistic support for training and orientation, promote and undertake efforts for integrated, multi-dimensional interventions in related sectors and ensure timely and adequate flow of funds from all possible sources, including World Bank. A proposal has been approved by the World Bank to restore tanks. The budgetary allocation for JSYS during the year 2003-04 was Rs.113.50 crores and an expenditure of Rs.6.23 crores was incurred in 2003-04, up to the end of October 2003. JSYS has initiated series of activities as per the project implementation plan. Project partners are fully involved at various levels in ensuring organising of capacity building programmes, review meeting at village, cluster, district and State levels, interactions with Panchayat Raj Institutions and line departments and implementation of Integrated Tank Development Programmes.

3. Command area development

The Command Area Development (CAD) programme which was started during the Fifth Plan period was intended to tackle the problem of non-utilisation of irrigation potential created under major and medium irrigation projects and reduce the gap between the potential created and utilised. The Government of Karnataka have constituted five CADAs namely Tungabhadra Project, Munirabad; Malaprabha and Ghataprabha Projects, Belgaum; Cauvery Basin Project, Mysore; Upper Krishna Project, Bheemarayanagudi and Bhadra Reservoir Project, Shimoga and irrigation project zone Gulbarga to ensure rapid and optimum utilisation of Irrigation Potential created under Major and Medium Irrigation Projects. The CADAs take up on-farm development works like land levelling and shaping; construction of field channels, adoption of Warabandi and Construction of field drains. In 2003-04 the expenditure anticipated is Rs.22.10 crores, against Rs.21.00 crores spent in 2002-03. The Central assistance for CADAs in 2003-04 is likely to be Rs.12.13 crores. In addition, the KBJNL and KNNL have been carrying out CADA works out of the funds raised by them. Progress made by the CADA is presented in Table 4.3.

Table 4.3
Command area development programme in Karnataka 2001-02 to 2003-04

('000 hectares)

Item of work	2001-02	2002-03	2003-04 (Anticipated)
1. Construction of field Irrigation channels	60.97	81.91	95.91
2. Land levelling	18.05	21.91	21.12
3. Construction of field Drains	6.93	4.32	7.12
4. Warabandi	15.88	3.59	4.25

Source: 1. Irrigation Department, Govt. of Karnataka
2. Annual plan 2003-04

Karnataka has announced **State Water Policy in January 2002**. The Objectives of the Policy are to:

(a) Provide drinking water at the rate of 55 litres per person per day in rural areas, 70 litres per person per day in towns and 100 litres per person per day in the city municipal council areas and 135 litres per person per day in city corporation areas.

(b) Create an ultimate irrigation potential of 45 lakh hectares under major, medium and minor irrigation projects. Facilitate creation of an additional irrigation potential of 16 lakh hectares by individual farmers using ground water.

(c) Improve performance of all water resources projects.

(d) Improve productivity of irrigated agriculture by involving users in irrigation management.

(e) Harness the hydropower potential in the State.

(f) Provide a legislative, administrative and infrastructural environment, which will ensure fair, just and equitable distribution and utilisation of the water resources of the State to benefit all the people of the State.

Power

During the first nine months (April-December 2003) of 2003-04, power generation had gone up by 3.0 per cent as compared with 4.2 per cent increase in the corresponding period of 2002. Plant load factor has decreased to 70.53 per cent during the current period from 71.71 per cent a year ago.

Hydel power generation showed an increase of 9.4% in April-December 2003. This growth is as compared to a decline of 8.0 per cent registered during April-December 2002. The thermal and nuclear electricity generation showed a lower increase of 2.0% in April-December 2003 as compared with 6.4% increase recorded in the same period of last year.

The Centre's attempts to introduce performance benchmarks in the power sector are yielding results. During 2002-03, eight states have shown encouraging progress in ensuring the commercial viability of their electricity boards. Maharashtra, Gujarat, Haryana have shown cash loss reduction and Andhra Pradesh, Haryana, Karnataka and Rajasthan have shown reduction in technical and commercial losses.

State and Central governments have agreed upon a package to solve outstanding dues of SEBs. About 21 States have signed tripartite agreements with the Union Ministry of Finance and Reserve Bank of India for issuing bonds in favour of Central Power Utilities.

The Union Cabinet has introduced a comprehensive programme for bringing about much-needed reforms and restructuring of the power

sector. The Accelerated Power Development & Reform Programme (APDRP) is being implemented from 2000-01. The programme is intended to bring improvements in the sub-transmission and distribution system. For the years 2000-01 to 2003-03, the Central government has sanctioned Rs. 1311.50 crores under APDRP. The programme comprises 25% grant and 25% loan from the Central government to Karnataka, and the remaining 50% is a loan from the Rural Electricity Corporation (REC)/Power Finance Corporation to KPTCL. This project is in respect of three circles of KPTCL (Mysore, Belgaum and Bijapur). The works in Bijapur are completed and the consumers are enjoying quality supply of power. Action is being taken by KPTCL and four ESCOMs to include balance major towns and cities of the State in this programme during the current year. The State has drawn Rs.202.42 crores sofar and the counter-part funding by Rural Electrification Corporation (REC) has been to an extent of Rs. 118.98 crores.

Though the basic objective was to provide affordable power for all classes of customers through a financially viable power sector, it has so far failed to woo foreign direct investment and private investment in a big way. The basic reason for poor private investment inflow into the sector is that of uncertainty over minimum returns on investment due to a complex pricing policy and distribution system. It is also felt that power sector reforms should start with privatisation of transmission and distribution sector.

As a follow –up to the policy on hydropower of the Government of India in 1998, and to exploit the hydropower potential available in the country, various steps have been taken to provide incentives to hydropower projects. Viz.: tariff for hydro-projects has been rationalised, procedures for transfer of techno-economic clearance have been simplified, the ceiling limits for techno-economic clearance have been simplified, the ceiling limits for techno-economic clearance by Central Electricity Authority for hydro-power project on MOU route has been enhanced and notified, a mechanism to cover geological risks has been evolved and small hydro projects up to 25 MWs capacity have been transferred to the Ministry of Non-conventional Energy Sources.

As on 31.12.2003, KPTCL owes CPUs Rs. 436.21 crores towards principal and Rs. 105.35 crores towards interest/surcharge. Under the one time settlement scheme of the Govt. of India 60% interest/surcharge was waived. State Government will have to issue bonds to securitise the principal amount and the balance 40% interest amount. The bonds will be served by State Government over 15-year period. A tripartite agreement involving the State Government, for one time settlement of CPUs dues was signed with Central Government. Power bonds have been issued on 1.9.2003.

Energy generation in 2003-04 at 17675 MUs in the public sector is expected to show a decline of 2.4 per cent over the 2002-03 level of 18105 MUs. Hydel generation in 2003-04 at 6960 MUs is expected to show a decline of 2.3 per cent over the 2002-03 level of 7128 MUs. Thermal generation in 2003-04 at 10715 MUs is expected to show a decrease of 2.4 per cent over the level of 10977 MUs in 2002-03. The generation from the private sector is expected to be 1000 MUs in 2003-04. Generation of power is estimated at 28675 MUs including 10000 MUs imports from Central Generating Stations and other states in 2003-04.

The water level in Linganamakki stood at 546.73 metres on 1st November 2003, which was higher, than the level of 546.56 metres on 1st November 2002. The water level in Supa was 584.15 metres on 01.11.2003 compared to 535.31 metres on 31.10.2002. The maximum and minimum water levels at Linganamakki and Supa reservoirs are summarised in Table 4.4. The maximum and minimum water levels recorded in Supa reservoir during the current year are lower than last year's level.

Table 4.4
Water levels: Linganamakki and Supa

Metres

Year	Linganamakki		Supa	
	Maximum	Minimum	Maximum	Minimum
2001-02	547.09 (30.08.2001)	531.77 (06.06.2001)	540.62 (01.09.2001)	519.55 (22.06.2001)
2002-03 (Up to N0v. 02)	545.53 (03.11.2002)	528.27 (14.06.2002)	538.10 (11.09.2002)	509.44 (14.06.2002)
2003-04 (Up to Oct.2003)	547.10 (08.10.2003)	525.89 (15.06.2003)	537.29 (14.09.2003)	506.80 (17.03.2003)

Source: Karnataka Power Corporation

The plant load factors (capacity utilisation) of selected hydel and thermal stations are presented in Table 4.5. The unit cost of power for selected major stations is also presented in the table. The plant load factor (PLF) has decreased considerably in the first six months of 2003-04 in all hydel stations except sharavathy and has decreased in respect of all thermal stations except RTPS unit 4 and 6. Average cost of generated power (paise/unit) by Thermal Plants has been increasing mainly due to increase in fuel cost and more reliance on thermal power.

Table 4.5
Plant load factor and unit cost of power selected power stations: 2001- 02 to 2003-04

Power station	Plant Load Factor (percentage)			Unit cost*(2002-03)
	2001-02	2002-03	2003-04(upto Nov.2003)	Paise/kwh
1. Sharavathy	46.49	32.53	35.46	12.60
2.Nagjhari	32.92	24.13	18.49	35.60
3.Supa	45.39	29.39	19.74	35.60
4.Varahi	44.63	41.97	39.19	56.00
5.RTPS Unit-1	86.03	90.03	77.92	142.61
6.RTPS Unit-2	87.62	90.04	63.50	142.61
7.RTPS Unit-3	87.14	95.34	91.74	164.75
8.RTPS Unit-4	91.77	86.29	92.75	264.08
9.RTPS Unit-5	58.51	93.02	84.91	225.74
10.RTPS Unit-6	75.67	87.62	96.63	225.74
11. RTPS Unit-7**	-	-	85.86	-

*Before accounting for T&D losses. For RTPS besides unit cost, fuel escalation Charges are to be paid. **Started commercial from 13th April 2003.
Source: Karnataka Power Corporation

Imports are likely to be 10000 MUs in 2003-04. This is made up of imports of 7500 MUs from Central projects and 2500 MUs from other neighbouring states. Imports were 9043 MUs in 2002-03.

Table 4.6
Progress in power sector 2001-02 to 2003-04

	Units	2001-02	2002-03	2003-04 (anticipated)
1.Installed capacity (cumulative)				
Public sector				
a) Hydel				
KPTCL plants	MWs	220.60	220.60	220.60
KPC plants	MWs	2800.99	2875.95	2890.95
b) Wind energy	MWs	2.03	4.56	4.56
c) Thermal (KPC)	MWs	1260.00	1470.00	1470.00
d) Diesel plants	MWs	127.92	127.92	127.92
Total		4411.54	4699.03	4714.03
Private sector				
a) Hydel	MWs	116.25	125.93	168.43
b) Wind	MWs	61.65	119.72	210.44
c) Co-generation & Biomass	MWs	158.30	188.80	231.80
Total		336.20	434.45	610.67
Total installed capacity		4747.74	5133.48	5324.70
2. Electricity generation				
a) Hydel				
KPC generation	MUs	9268	6846	6605
KPTCL generation	MUs	260	282	355
b) Thermal (KPC)	MUs	8954	10291	10330
c) Diesel (KPTCL)	MUs	732	685	385
d) Private generation	MUs	840	910	1000
Total 2		20054	19015	18675
3. Electricity imported from				
a) Central projects	MUs	6318	6949	7500
b) Other States	MUs	1291	2094	2500
Total 3		7609	9043	10000
4. Pumpsets electrified (Cumulative)	Lakhs	13.16	14.02	14.16
5. Hamlets electrified	Nos.	496	393	200

Source: Karnataka Power Corporation and
Karnataka Power Transmission Corporation Limited

Addition to the installed capacity of power during the current year is expected to be 15 MWs in the public sector and 176.22 MWs in the private sector. The first unit of 15 MWs of Almatti dam powerhouse is expected to be commissioned shortly. Installed capacity in the public sector is likely to be 4714.03 MWs by the end of 2003-04, 3111.55 MWs of hydel power, 1597.92 MWs of thermal and diesel power and 4.56 MWs of wind power. Installed capacity in the private sector will be 610.67 MWs by the end of 2003-04. The State has still a long way to go to fully harness the ultimate hydel potential of 7750 MWs. Progress in Power sector from 2001-02 to 2003-04 is given in Table 4.6.

The tempo of construction of major transmission lines and substations and system improvement works has been intensified. The

assessment of the percentage of transmission and distribution losses has been carried more realistically as required by the Karnataka Electricity Regulatory Commission. It is estimated to be at 30.62 per cent in 2003-04 as compared to 32.00 per cent in 2002-03. KERC has observed that it has become difficult to establish the quantity of T & D losses, since less than 40% of the energy distributed in the State is metered. The KPTCL has been estimating the T & D losses based on the estimated consumption of un-metered consumers. Since, both unmetered consumption and losses are estimated based on one another, reliability of these figures is subject to reconcilation. A more scientific method of estimation of T & D losses needs to be followed.

1.Power generation

a. Ongoing projects

Revised expenditure on power generation was Rs. 483.00 crores in 2002-03. It is anticipated to be Rs. 614.00 crores in 2003-04. Expenditure incurred in the first eight months of the current year was Rs.95.80 crores. Expenditure on the Almatti Dam Power House was Rs. 63.54 crores.

KPCL took up the Seventh unit of 210 MWs capacity of Raichur Thermal Power Station for implementation in October 2000 by utilising the existing infrastructure. The estimated cost of the project was Rs. 613 crores. The unit generates 1500 MUs per annum. All the works of the unit were completed ahead of the schedule. The unit was successfully synchronised on 10.12.2002 and commercial operation was commenced on 13.04.2003.

b. New projects

KPCL is executing the 290 MWs Almatti Dam Power House at a cost of Rs.674.38 crores. All clearances required for executing the project have been obtained. Agreement singed with BHEL for supply of generating equipments and civil works of the project have commenced. Penstock works are in progress. Contracts have been awarded for all the major works and are progressing ahead of schedule. An outlay of Rs. 213 crores has been provided for the project in 2003-04 and the expenditure incurred up to the end of November 2003 was Rs.63.54 crores. Efforts are being made to commission the first unit of 15 MWs capacity shortly. Subsequent units will be commissioned in phased manner by June 2005.

The estimated cost of 500 MWs Bellary Thermal Power Station is Rs.2100 crores. All clearances have been obtained. 1700 acres of land required for the project has been acquired. The project is likely to commence shortly. Being a green field project the normal gestation period as per CEA norms is around 48 months. However, KPCL is making efforts to implement it on a fast track basis in 39 months. Pre-implementation work like site grading, construction of compound wall around the plant and electricity works are completed and water supply scheme for construction purposes are nearing completion. Agreement for coal supply was signed in September 2002 with Eastern Mineral and Trading Agency for supply of 2 million tonnes of washed coal from Western Coal Fields Limited (WCL). A letter of award of EPC-cum-Financing contract has been issued to BHEL in November 2003. An outlay of Rs.310.00 crores has been provided for the project in 2003-04 and the expenditure incurred up to the end of November 2003 was Rs.6.38 crores.

A 1400 MWs gas based combined cycle plant is being executed at Bidadi near Bangalore. Due to environmental constraints and since water availability is a constraint, gas based power plant is the only viable source for Bangalore. Treated sewage water is proposed to be used. As the cost of liquid fuels like naphtha and diesel is high and also volatile, project based on bridge fuels like these are not feasible and State Government has consciously decided to discourage such projects as a matter of policy. Bids for gas supply have been called and further work is under progress. All Infrastructures like land, water supply is in place. Detailed Project Reports has been submitted to CEA. Revised draft project report taking into consideration probable fuel prices based on expression of interest is being prepared. Bid documents for Engineering Procurement Construction (EPC) and power purchase Agreement are formulated. The estimated cost of the project is Rs. 4100.00 crores. The gestation period is about 36 months. An outlay of Rs.15 crores has been provided for the project in

2003-04 and the expenditure incurred up to the end of November 2003 was Rs.0.69 crores.

KPCL has taken up the eighth Unit of 210 MWs capacity plant for implementation by utilising infrastructure facilities at RTPS at a cost of Rs. 674 crores. KPCL is one of the first Power Utility in the Country to go in for washed coal, which has an ash content of about 30%. With this ash content the quantity of coal requirement will come down. The quantity of raw coal required for seven units is around 72 lakh metric tonnes. As KPCL is establishing washaries at pithead on build, own and operate basis, the total quantity of washed coal required for seven units will be around 62 lakh metric tonnes. Therefore the total quantity of coal required for eight units will be around 72 lakh metric tonnes. Further, recycling scheme to utilise ash pond water and also plant effluent has been taken up with a view to conserve water. This scheme is expected to be completed in two years period. This may result in no extra water requirement for eighth unit. With these developments, setting up of the eighth unit at RTPS is feasible. Environment impact assessment studies for the eighth unit is under way. All clearances have been obtained. An outlay of Rs.40 crores has been provided for the project in 2003-04 and the expenditure incurred up to end of November 2003 was Rs.0.75 crore.

C. Power sector reforms and Private participation in power:

(i) Unbundling of distribution function

'Distribution' function has been unbundled from KPTCL. Four 'independent government owned' electricity supply companies (ESCOMS) companies were formed on regional basis with their headquarters located at Bangalore, Mangalore, Hubli, and Gulbarga. These are:

a) Bangalore Electricity Supply Company (BESCOM)

b) Mangalore Electricity Supply Company (MESCOM)

c) Hubli Electricity Supply Company (HESCOM)

d) Gulbarga Electricity Supply Company (GESCOM)

All the four distribution companies were assigned distribution and retail supply license of KPTCL after obtaining approval from KERC. They are fully operational with effect from 1-6-2002 and started functioning independently during 2003-04. All these companies are taking several reform measures to improve the quality of supply to consumers, establish proper system of energy accounting, metering and recovery.

Government of Karnataka has decided to invite private sector participation in distribution of electricity in the State. Government intends to attempt privatisation of all companies simultaneously and complete the process in a period of about two years.

(ii) Medium Term Fiscal Plan of Karnataka and Financial Restructuring Plan of the Power Sector:

Government of Karnataka recognized that achieving the financial turnaround is the first and foremost milestone to be achieved in the power sector. Accordingly, a ten-year financial restructuring plan (FRP) was announced; with a commitment to extend the financial support to the power sector up to Rs.12141 crores over a ten-year period. Power is the major component in the revised Medium Term Fiscal Plan (MTFP) of the State (2003-04 to 2006-07) and the sectoral FRP is consistent with MTFP.

Assumptions made in MTFP for the Power Sector:

(i) Power subsidy is to be based on T&D losses coming down from the existing level of 30.70% in 2002-03 to 25% in 2005-06.

(ii) Growth in consumption per annum is assumed at 7.62% for domestic category, 3% for agriculture, 8.22% for commercial, 6.25% for LT industrial, 5.29% for HT, and about 5% on the average for all categories.

Budget allocations are made and financial support extended to power sector in accordance with MTFP. During the last three years Rs. 5885 crores of subsidy has been released to poser sector. For the next three years, Government is to provide Rs. 4037 crores. For the year 2003-04 total subsidy

of Rs. 2065 crores has been earmarked to be released to KPTCL / ESCOMS. With the intention of arranging reliable and quality power supply to IP set installation, a new scheme known as "Own your Transformer Scheme", has been introduced. The scheme will be effective in avoiding unauthorised connection and theft of energy. A scheme "Gram Jyothi" to provide 24 hours of power supply to domestic and single-phase consumers in rural areas has been taken up as pilot project, which will be spread throughout the state. Micro controllers will be installed on rural feeders at the station panels to regulate power supply to IP set consumers at predetermined duration.

(iii) Second Balance Sheet Restructuring Plan (BRP-II):

Government approved II BRP adjustments and opening balance sheets of four distribution companies and KPTCL as on 31.3.2002, to give them clean balance sheet with a view to enhance their creditworthiness. Salient features of approved BRP II adjustments are as follows.

(a) To write off KPTCL's receivables up to Rs. 866 crores.
(b) All the Electricity Companies will continue to pursue and enforce recovery of arrears outstanding against the Consumer Accounts.
(c) Tripartite adjustment of Rs. 878 crores between KPCL, Government of Karnataka and KPTCL to clear of KPCL long term debt to Government of Karnataka and Government of Karnataka's subsidy dues to KPTCL and KPTCL's power purchase dues to KPCL.
(d) Total Subsidy to power sector for 10-year period to be restricted to Rs. 12140 crores
(e) Government to takeover and service long-term debt of KPTCL – up to Rs. 1050 crores.

(iv) Technical assistance from World Bank

World Bank extended support through Government of India to undertake Karnataka Power Sector Reform and Restructuring programme under 'the Technical Assistance (TA) Loan for economic reforms', for funding consultancy services.

Government of Karnataka announced implementation of three year metering programme to complete metering all unmetered consumers and to establish full scale of energy audit. Accordingly, a policy direction was issued to charge the IP set consumers as per actual energy consumed or at HP rates whichever is lower. This measure is intended to increase the acceptability and accelerate universal metering programme. All the Electricity Supply Companies are taking steps to implement this programme.

2. Transmission and distribution

a. Rural electrification programme

It is programmed to energise 14000 IPsets in 2003-04 besides electrification of 826 Harijan basthies and 670 hamlets. As at the end of November 2003, 9099 pumpsets, 147 Harijan basthies and 151 hamlets have been energised. In 2002-03, 86000 Pumpsets and 393 hamlets were electrified. During 2002-03, 11.44 lakhs installations were metered. The target for 2003-04 is 19.15 lakhs. The progress achieved up to the end of November 2003 is 3.58 lakhs.

The State Government approved one time regularisation of unauthorised IP set connections during March-April 2002. About nine lakh-unauthorised connections were regularised. These include mainly 7.5-lakh domestic installations. Karnataka has implemented anti-theft law with effect from 10th April 2002.

b. Pattern of power consumption and tariff rates

The irrigation sector consumes the maximum power at 42.36 per cent, followed by domestic lighting and AEH at 21.02 per cent. Increase in the consumption of the rural sector has increased the load on the transmission and distribution system, making it difficult to reduce transmission and distribution losses much faster. The pattern of power consumption by various categories of consumers from 2000-01 to 2002-03 is indicated in Table 4.7. The highest tariff is charged for others category followed by commercial lighting and HT industries. Consumption of power by industries decreased to 15.95 per cent in 2002-03 from 20.93 per cent in 2001-02. Consumption of power by I.P.sets increased to 42.36 per cent in 2002-03 from 40.04 per cent in 2001-02.

Table 4.7
Category wise consumption of power and Average tariff rates 2000-01 to 2002-03

Category of Consumer	Consumption (mus) 2000-01	2002-02	2002-03	Average rate Paise/kwhs) 2003-04
1. Industries	3355	3518	3901	416.69
	(20.77)	(19.69)	(20.93)	
1. Industries	3518	3901	3173	456
	(19.69)	(20.93)	(15.95)	
2. I.P.Sets	7354	7462	8423	68
	(41.16)	(40.04)	(42.36)	
3. Domestic lighting And AEH	3910	4072	4182	299
	(21.88)	(21.85)	(21.02)	
4. LT industries and Water works	1690	1771	2541	441
	(9.46)	(9.50)	(12.78)	
5. Commercial Lighting	760	811	915	628
	(4.25)	(4.35)	(4.60)	
6. Public Lighting	448	447	494	301
	(2.51)	(2.40)	(2.49)	
7. Others	187	175	116	731
	(1.05)	(0.93)	(0.80)	
Total	17867	18639	19888	250
	(100.00)	(100.00)	(100.00)	

NOTE: The average rate is worked out based on the revenue realised.

Figures in brackets indicate the percentage of consumption of the category to total consumption

Source: Karnataka Power Transmission Corporation Limited and ESCOMS.

Three Tariff orders have so far been passed by the Karnataka Electricity Regulatory Commission (KERC) with 17%, 16.2% and 2.03% increase across the board during the years 2000, 2002 and 2003 respectively.

c. Transmission lines and sub-stations

In the current year up to the end of November 2003, one 400 KV Kaiga-Sirsi (0.50 ckm) interconnection transmission line has been completed besides completion of five 220 KV lines viz., DC line from Ambevadi to Narendra (55.60 ckms), LILO tap line to 220 / 66 KV station at Chitradurga (10.00 ckms), DC line to 220 KV station at Harohalli (1.10 ckms), LILO line to Madhugiri (0.90 ckm) and DC line to 220 / 66 KV station at Honnalli (0.48ckm). Also nine 110 KV and fourteen 66 KV lines have been completed till November 2003. One 400/220 KV (630 MVA) station at Talaguppa and five 220/66 KV stations of Madhugiri (200 MVA), Harohalli (50 MVA), Tataguni (50 MVA), Chitradurga (212.50 MVA) and Honalli (200 MVA) have been commissioned.

In 2002-03, 4.31 lakhs new installations of various categories-domestic, commercial, AEH, LT, HT and Bhagyajyothi connections were serviced and in the current year 3.16 lakhs services connections are programmed to be serviced.

To achieve an efficient and reliable transmission and distribution system, strengthening the existing network by constructing new transmission lines and substations at load centres, extension and improvement to the distribution system, conservation of energy, reduction of systems losses and installation of capacitors at sub-stations and on rural feeders are being undertaken.

d. Conservation of energy

Consumers are being asked to switch to captive sets during peak load hours and peak load shedding has been imposed in rural areas for conservation of energy. Consumers are being advised to shift peak demand to off-peak load hours, resulting in voltage improvement. Industries are being restricted to lighten loads during peak hours from 6 p.m. to 10 p.m. consumers are being advised to shift holidays apart from Sundays & stagger working hours.

Systems improvement has been proposed by enhancing voltage levels in substations, increasing the capacities of power transformers, reconditioning, installing capacitors at substations and on feeders, shifting transformers to load centres, providing link lines and express feeders and educating people to procure appliances of standard make and quality, preferably those certified by the ISI.

Since there is a large gap between the demand and supply of electricity, KPTCL is not in a position to arrange power supply to power intensive units requiring bulk power supply. Power intensive units are permitted to have captive generation and tie up with private firms who will be putting up power plants in coming years.

People are being educated about the benefits of energy conservation. Slogans to conserve electricity are being propagated through the press and printed on bills. The energy conservation week is being observed every year with technical lectures and demonstrations of equipment, which conserve energy.

Oil

Sales of various petroleum products in Karnataka from 2001-02 to 2003-04 are presented in Table 4.8. The highest sales in 2002-03 were recorded in respect of high-speed diesel, followed by Motor Spirit and Kerosene. Sales of all petroleum products except Kerosene, and Furnace oil have increased in 2002-03.

Table 4.8
Sale of petroleum products in Karnataka
2001-02 to 2003-2004

(Tonnes)

Products	2001-02	2002-03	2003-04**
1. Liquefied petroleum gas	411213	461554	163577
2. Motor spirit	483199	503619	169016
3. Kerosene	525165	503191	137601
4. High speed diesel	2178310	2241602	831392
5. Light diesel oil	33971	45728	13328
6. Furnace oil	584160	477738	159192
7. Bitumen	26132	33232	24486

a) Indian oil corporation
b) Bharat Petroleum Corporation
c) Hindustan Petroleum Corporation
d) Indo-Burma Petroleum Corporation
** figures up to July 2003
Source: Deputy General Manager and State level Co-ordinator,
Indian Oil Corporation, Bangalore

Non-conventional sources of energy

There are three components in the Rural Energy Programme.

i) The Integrated Rural Energy Programme (IREP)

ii) The National Project for Bio-gas Development (NPBD)

iii) The National Project on Improved Chulhas (NPIC)

In 2002-03 under the NPIC, 2835 solar devices were distributed. The demand for fuel-wood has grown faster than supply. To encourage use of efficient wood-stoves, 9031 wood burning stoves were distributed in 2002-03 under the National Programme on Improved Chulhas (NPIC). In view of the discontinuation of central assistance from 2002-03, the progress of the scheme has suffered.

Progress under non-conventional sources of energy from 2001-02 to 2003-04 is presented in Table 4.9.

Table 4.9
Progress of non-conventional sources of energy in Karnataka :
2001-02 to 2003-04

(Nos.)

Particulars	2001-02	2002-03	2003-2004 (anticipated)
1. Improved wood burning stoves (smokeless chullahs)	65211	9031	24155
2. Bio-gas plants	24592	17169	27500
3. Energy devices	5776	2835	8180

Source: 1. Rural energy cell, RD & PR Department
2. Annual plans 2002-2003 and 2003-04

The Karnataka Renewable Energy Development Limited (KREDL) has been designated as the nodal agency to co-ordinate the setting up of power projects in the wind, small hydro and solar energy sectors. Under the National Wind Resource Monitoring Programme, 500 MWs of wind power generation potential has been identified. The Karnataka Power Corporation has identified several

sites with potential for small hydropower generation. Co-generation of energy in sugar mills, a potentially large source of power, is being actively encouraged. Electrification of four villages by Solar Devices as a demonstration project under which solar lighting system will be installed to every house. These houses will use solar lighting during peak hours to help KPTCL to ensure that the villagers get uninterrupted and quality power supply during prime hours.

Transport

1. Road transport

To make public transport in Karnataka more efficient and responsive to the needs of commuters, Government bifurcated the Karnataka State Road Transport Corporation into four Corporations. The Bangalore Metropolitan Transport Corporation for the city of Bangalore and 25 kms beyond the city limits was formed in August 1997. The North Western Karnataka Road Transport Corporation for the districts of Belgaum, Dharwad, Gadag, Haveri, Bijapur, Bagalkot and Uttara Kannada was formed in November 1997. The North East Karnataka Road Transport Corporation for the districts of Gulbarga, Bidar, Raichur, Bellary and Koppal was formed in October 2000.

The corporations have drawn up an action plan to operate 13623 schedules and purchase 2655 vehicles by the end of March 2004. This comprises 660 vehicles to be purchased by KSRTC, 863 vehicles by NWKRTC, 1055 (including 55 private) vehicles by BMTC and 177 vehicles by NEKRTC. Details of fleet strength and utilisation are presented in Table 4.10.

Table 4.10
KSRTC fleet strength and schedules operated 2002-2003 to 2003-04

Item	2 0 02- 03				2003-04 (up to September)			
	KSRTC	BMTC	NWKRTC	NEKRTC	KSRTC	BMTC	NWKRTC	NEKRTC
1. No. of Buses at the end of the year	4340	3036	3641	2031	4376	3135	3585	1951
2. Percentage of over-aged buses	7.0	11.89	19.4	19.3	5.5	8.57	26.5	17.8
3. Fleet utilisation (Percentage)	95.1	95.0	96.1	92.4	95.4	90.4	95.8	95.4

Source : Karnataka State Road Transport Corporation Bangalore

1. Motor vehicles

The Motor Vehicles Department is a major revenue-earning department. The revenue collected in 2002-03 was Rs. 670.00 crores. Revenue earnings in 2001-02 were Rs.605.00 crores. Revenue collected up to the end of November 2003 in the current year is Rs. 480.00 crores.

Details of motor vehicles under different categories from 2000-01 to 2003-04 are presented in Table 4.11. The highest number of vehicles is in the category of motorcycles followed by motorcars.

Table 4.11
Number of motor vehicles under different categories 2000-2001 to 2003-04

('000s)

Item	2000-01	2001-02	2002-03	2003-04*
1. Motorcycles	2650.85	2822.31	3245.65	3339.99
2. Motorcars	350.76	375.29	429.44	436.55
3. Jeeps	40.06	39.54	41.04	41.78
4. Auto rickshaws	152.81	158.55	174.15	177.34
5. Omnibuses	34.36	366.91	409.30	419.86
6. Motor cabs	19.24	189.84	239.33	241.72
7. KSRTC buses	22.76	22.78	25.15	25.68
8. Private buses	6.80	6.73	7.12	7.68
9. Goods carriages	130.34	130.64	148.03	150.86
10. Tractor	110.26	115.25	125.09	127.59
11. Trailers	110.28	110.04	126.70	128.75
12. Others	62.98	64.72	74.57	78.28
Total	3691.50	3907.55	4461.11	4580.66

Source: Motor Vehicles Department
* Up to July 2003

The Transport Department has implemented computerisation in five Regional Transport offices of Bangalore. The areas covered are vehicle registration, driving license, collection of fees/taxes, permit, fitness certificates and related areas. Computerisation is being implemented in Regional Transport Offices at Gulbarga, Mandya, Mysore, Mangalore and Dharwar and scheduled to be completed shortly. Using information technology, the department has introduced 'On-line registration for Learner's License'. The website of the department provides information on forms and procedures, on-line suggestion/grievances, traffic signals, citizen charters etc. Networking of Bangalore offices is under progress for facilitating central vehicle database. Action is initiated to computerise all the 40 Regional and Assistant Regional Transport Offices in the State.

1. Ports

Karnataka has formulated a new port policy with the following objectives: -

- Develop at least 3 minor ports at strategic locations, so that port facilities are made available to all districts of the State at the shortest distance.
- Provide efficient facilities and services to attract export oriented and port based industries.
- Take advantage of the strategic location of the Karnataka coast, half way between Gujarat and Kerala on the western coastline.
- Encourage maritime industries like shipbuilding, ship repairs and allied activities.

- Provide facilities for coastal shipping for passenger and cargo traffic.
- Provide facilities for power projects by providing exclusive port facilities for importing different kinds of power fuels for thermal power plants and providing port facilities for bargemounted power plants.
- Attract private sector investment for the development of minor and intermediate ports and Greenfield locations.
- Increase Karnataka's share in the export and import sector in national and international trade and commerce.
- Promote growth of fisheries integrated with port development.

The strategy adopted is to use private investment for the creation of port facilities, development of new sites and supporting infrastructure, maritime related industries, and coastal shipping and port facilities for power projects. The Karnataka Industrial Investment and Development Corporation has been appointed as nodal agency for implementation of this policy. A committee has been constituted to finalise the framework agreement with private parties.

Private participation is allowed for three ports namely Belekere, Tadri, and Old Mangalore. Detailed bids are awaited. For Tadri Port the selection process of the developer has been completed.

Government of India has decided to go in for joint ventures between major ports and foreign ports, between major and minor ports and major ports and Indian companies for improvement of port infrastructure. Under this joint venture a scheme has been formulated for construction of additional berths at Karwar port to meet the anticipated cargo growth and sent to New Mangalore Port Trust.

The cargo handled at various ports under the control of the State Government from 2001-02 to 2003-04 is presented in Table 4.12.

Table 4.12
Port wise traffic handled: 2001-02 to 2003-2004

(Thousand tonnes)

Port	2001-02	2002-03	2003-04 (Anticipated)
1. Karwar	556	545	550
2. Malpe	9	10	10
3. Mangalore (old)	182	120	122
4. Other Ports	1	1	1
Total	**748**	**676**	**683**

Source: (1) Planning department, Annual Plan 2003-04
(2) Director of Ports and Inland Water Transport

Infrastructure and telecommunications

The Bangalore International Airport Project (BIAP) is being developed at a cost of about Rs.1150 crores to position Bangalore as a passenger and cargo hub and preserve its pre-eminence as India's leader in Information Technology (IT), Biotechnology, Aero-space and the service industry. It would give a big boost to exports and tourism from the State and the Southern region as a whole.

This project has several firsts. It is the country's first green field airport to be developed as a public-private partnership, with the Govt. of Karnataka (KSIIDC) and Govt. of India (AAI) as the State Promoters and the Siemens Consortium as the private sector partners. Bangalore International Airport Limited (BIAL), the Joint Venture Company that has been formed in March 2002 to implement the project, is also the first of it's kind.

Bangalore International Airport Limited (BIAL) incorporated to implement the Airport has completed detailing of the Project. This includes development of the Master Plan – a Vision document for the phased implementation of the Airport over the next 30 years, in line with the expected traffic growth. Detailed specifications, architecture and

engineering designs for the initial phase have been frozen. A Business Plan based on economic criteria and Financial Model has been developed. ICICI Bank has been appointed as a financial arranger to tie up the debt requirements. Based on the Engineering Procurement Construction (EPC) bids received, the final capital cost of the project is being firmed up. The Airports Authority of India Act has been amended to provide for private airports. Various project agreements are in an advanced stage of finalisation, which includes the Concession Agreement between BIAL and the Govt. of India, State Support Agreement between BIAL and Govt. of Karnataka and Land Lease Agreement between BIAL and KSIIDC. The project is expected to achieve financial closure by February 2004, paving the way for construction to start thereafter.

Govt. of Karnataka (GoK) is committed to provide required peripheral infrastructure such as land, power and water required for the project. The National Highway Authority of India is expanding the road between the city and Devanahalli to six lanes.

K-RIDE was set up with the objective of developing and implementing rail infrastructure projects in Karnataka and leverage private sector participation in development of such projects, where appropriate. The four projects initially identified under the Memorandum of Understanding (MoU) for development through K-RIDE are: Hassan-Mangalore (gauge conversion), Solapur-Gadag (gauge conversion), Hospet-Guntakal (doubling), Hubli-Ankola (new line). Gauge conversion of the Hassan-Mangalore rail line was found to be commercially viable based on detailed project studies. The project has been taken up for implementation through a special purpose vehicle styled as the Hassan-Mangalore Rail Development Company (HMRDC) with equity participation by MoR, GoK and strategic investors. The shareholders' agreement for HMRDC, the special purpose vehicle set up for implementation of the Hassan-Mangalore gauge conversion project was signed on October 23, 2003 at Bangalore. The project document viz., the Concession Agreement, EPC Contract and Operation and Maintenance (O & M) Agreements are being finalized in consultation with Ministry of Railways (MoR), GoK has released Rs.7 crores in the current fiscal towards project development works out of the budgeted amount of 10.5 crores for the current year (2003-04), towards GoK's proposed equity contribution. HMRDC has had discussions with several banks, financial institutions and strategic investors to tie up the balance equity and required debt for project implementation. Financial closure is expected to be achieved in the near future.

GoK is also implementing the Solapur-Gadag Gauge conversion project on a 50:50 cost-sharing basis with MoR. The estimated total cost of the project is Rs.318.66 crores. GoK has deposited Rs.11 crores with South Western Railway (SWR) for project development works till date. Development of the Hubli-Ankola rail line was one of the projects identified under the MoU signed between MoR and GoK while setting up K-RIDE. Since the project may not be viable on a commercial format, MoR would need to take a view on implementation of the project based on considerations of financial and economic viability.

GoK is implementing these rail projects on a cost-sharing basis with MoR. They are Bangalore-Kengeri (doubling), Kengeri-Ramnagaram (doubling) and Kottur-Harihar (new line).

GoK is funding implementation of ROB/RUB projects in the State on a 50:50 cost-sharing basis with MoR 17 ROB/RUB projects are currently under various stages of implementation. GoK has released Rs.5 crores till date and has made a budgetary provision of Rs.11.65 crores for 2003-04 towards project development and implementation. 25 pipeline projects have been identified for implementation in 2004-05.

The performance of the telecommunications sector in Karnataka was satisfactory in 2002-03. 66 new telephone exchanges and 7 post offices were opened and 1.61 lakhs additional telephone lines were provided in 2002-03. The progress is presented in Table 4.13.

Table 4.13
Telecommunications: key indicators:
2000-01 to 2002-03

(cumulative)

	Unit	2000-01	2001-02	2002-03
1. Post offices	Nos.	9895	9901	9908
2. Telephone connections provided (direct exchange lines)	000s	2257	2592	2753
3. Telephone exchanges	Nos.	2498	2630	2696

Source: Directorate of Economics and Statistics