

**20 YEAR PERSPECTIVE PLAN
FOR TOURISM DEVELOPMENT
IN LAKSHADWEEP ISLANDS**

(FINAL REPORT)

Prepared for

**DEPARTMENT OF TOURISM
GOVERNMENT OF INDIA
NEW DELHI**

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EXECUTIVE SUMMARY

BACKGROUND

1. The central theme of the development process as envisaged in this **Perspective Plan** is to promote tourism potential as comprehensive as possible in the next span of 20 years. The basic premises under which the **Tourism Perspective Plan** is prepared and presented in this report involved:
 - To identify and develop tourism assets in the islands in an optimum manner such that these can be enjoyed by both domestic and international markets and also in a manner that brings substantial benefits to the economy.
 - To demarcate the development process in such way that is compatible to the sustainability of the fragile environmental conditions and the cultural heritage of the local residents.
 - To prepare the available tourism product / assets with utmost care and value addition so that the tourist's value - price concept is enhanced to induce increased spending. A satisfied customer through a variety of attractions and pleasant experiences is the key to success of tourism development.
 - To enhance the quality of support services so that the entire process of tour planning and its implementation is conducted in an utmost satisfying manner. Transport services, accommodation, food, entertainment, sight seeing, escort services, interaction with the public are different components of the tourism industry and these require meticulous planning and motivation to conduct in a pleasant and acceptable ambience.
 - To plan sharing of the economic benefits of the tourism development among all sections of the community.
 - To facilitate privatization, both domestic and international in the development process so that the intervention of the Government is reduced and required only in formulation of policies and also as a catalyst to the development.

THE ISLAND BACKGROUND

2. The Lakshadweep group of islands constitutes 10 inhabited and 26 uninhabited islands located far off from each other. The land area of each of these islands is extremely small and consequently bringing the density of population at a higher level. All land-based activities in the islands are restricted for want of adequate vacant land. Moreover, the real estate transactions are allowed only among the islanders and hence outsiders cannot own assets in the island. All developmental processes can take place only through contractual agreements of leasing for a period of years.

NEED FOR TOURISM PROMOTION

3. The economic activities of the islands are mainly restricted to primary sector, fisheries and coconut cultivation being the mainstay. Value added activities based on these two resources are also not very popular in the islands. The coconut growers are not able to get appropriate value for their produces and hence many a times the Government has to intervene in providing support prices. Tuna fish constitutes the main catch by the fishermen and fish landings also had shown erratic trend over the years.
4. In this context of uncertain scenario of economic activities by the islanders and the consequent heavy dependence on the Government support it is felt that the islands with their spectacular beauty of beaches, corals and lagoons, can be used for further promotion of tourism. Tourism has of late, evolved into a major revenue earner in the world over. While doing so, the natural assets of the islands (sea and its environs) are to be preserved and protected in such a manner that would bring about continuous economic advantages to the islands.

DEVELOPMENT OPPORTUNITIES

5. The most outstanding strength of the islands is their immensely attractive seascape and the marine wealth. (The blue water lagoon, corals, coral reefs). The unspoilt virgin beaches are a piece of attraction to all connoisseurs, especially international tourists.
6. These attractions and the possibilities of sea based aqua sports are not adequately publicized in the international markets. This limitation can be

converted into an advantage to promote the **unknown** among those who seek new experiences at new destinations.

7. The local residents are extremely helpful and friendly in their warm interactions, which is of extreme importance in tourism promotion and tourist arrivals. The crime record is absent in the islands, which is ample testimony to the peace loving nature of the people and guarantee to the security of the tourists.

DEVELOPMENT CONSTRAINTS

8. Transport bottlenecks between mainland and the island, difficulties encountered at embarkation and disembarkation points do not augur pleasant experiences to the tourists at all. Non availability of an international airport or even large airport cause considerable rethinking on the part of the international tourists in choice of destination, however attractive they may be. (Male Island in Maldives although the area is only 1.78 sq. kms. accommodates a large international airport where a large number of foreign flights are operated. This provided considerable headway in developing tourism resorts in uninhabited islands). Inadequacy of inter-island ferry service in a faster and convenient manner is yet another important constraint in transport infrastructure.
9. Although under a package tour, **accommodation** and **food** are provided by the tour operator, other visitors (who are also categorised as tourists if they spent more than 24 hours at a place) frequenting the islands do not have any accommodation (leave alone 'good or standard') or eating place of acceptable quality. This is true in the case of all islands. Government bungalows available in various islands are not adequate and many a times are occupied by Government officials on duty. The standards of eating establishments in terms of quality or variety are extremely poor and require a total transformation. The absence of quality accommodation and food restricts "**free tourism**" which is one of the critical areas of tourism development in the islands.
10. Apart from beaches and sea based activities the islands do not have any other **land based tourism attractions** like amusement parks, shopping arcades, entertainment plazas, fun cities, health resorts, trekking / skiing, adventure sports avenues, etc. Absence of such divergent attractions makes the tourist

arrival at a low key. One of the important side effects of the absence of such avenues is the low average length of stay of a tourist.

11. Very low **carrying capacity** of the islands and fragile nature of the marine wealth restrict the extent of development in terms of creation of infrastructure facilities or gathering of more number of people in places of attractions / activity like beach. Very limited physical area of the land which is already crowded and dwindling due to sea erosion, cannot be overlooked since these are going to be on an increasing scale in the years to come. Need for strict enforcement of the environment protection measures would automatically restrict the tempo of development and the tourism potential.
12. **Institutional constraints** are too many operating in the way of tourism growth.
 - The existing **CRZ Act** when strictly enforced does not provide adequate space for development in certain narrow strips of islands.
 - Restriction on entry of foreign visitors (International tourists are allowed only in selected islands) automatically brings down the number of high spending tourists.
 - Need for entry permit to all visitors and special permit for foreign tourists.
 - Enforcement of prohibition in all inhabited islands.
 - Lack of policy initiatives for private sector participation in critical sectors like transportation, accommodation, etc.

PRESENT TOURISM SCENARIO

13. Tourism activities in the islands are currently conducted in a controlled manner through a few specific tour packages sponsored by SPORTS (Society for Promotion of Nature Tourism and Sports). SPORTS was set up as a registered society under the Societies Act. Being controlled, the travel, stay and food are taken care of by the sponsor. These packages depend on the travel schedule of a few ships now plying between Kochi and the island. The tour packages include coverage of a few islands like Minicoy, Kalpeni, Kadmat, and Kavaratti where resort facilities are available.

14. One of the uninhabited islands, Bangaram is leased out to a private party to manage tourist arrivals. The island resort facilities partly available earlier were refurbished by the company. In another inhabited island Agatti, although SPORTS had established the resort facilities, these are managed by private parties.
15. Tourist arrivals in the island were showing an erratic trend over the years and during 2000 – 01 the total arrival was 3863 numbers including 871 (22.5%) international visitors. (International visitors are mainly at Bangaram island). During 2001-02 the total number of tourists visited the islands was 3798 including 539 international visitors. Overall the growth rate was only 3.92 percent between the end periods, (1988-89 to 2001-02) although considering the year to year variations the growth rate was about 12.50 percent. This is seemingly high due to the sudden fall in tourist arrivals in 1999 – 2000 and then the jump in 2000 – 01. Considering 1999 – 2000 as a normal year the implied growth would have been 7 to 8 percent per annum.
16. Although resort cottages are available in islands like Kavaratti, Minicoy, Kadmat, and Kalpeni the tour packages are largely organized as **day package** while the nights are spent in ships on board. Hence utilization of the resort beds capacity (about 106) at the above islands is extremely poor.

DEVELOPMENTAL PLANS BY DEPARTMENT OF PORTS & SHIPPING

17. Sea transport being the critical factor for improving the efficiency of promotional activities, the Department of Ports and Shipping has proposed a few schemes during the 10th Plan period taking into consideration the projected passenger and cargo traffic. (It is estimated that the functional life of all existing ships will be over by 2004). The programmes in which the importance of tourism is implied are given below:

Item	Description	Rs. Lakhs
Augmentation of ship to shore transport facilities	Special boat for search and rescue, procurement of 2 passenger boats, procurement of 1 tug	574.15
Augmentation of inter island passenger movement	Acquisition of 2 high speed vessels, procurement of 8 landing barges, acquisition of power tugs, construction of 6 dumb barges	8764.50
Procurement of passenger ships for island – mainland transport	Acquisition of 700 passenger ship, acquisition of two 250 passenger ships	13401.07
Development of harbour facilities	Modification of jetties, construction of break water jetties, construction of port guest house	1722.08
Provision for dedicated berths and terminal facilities at mainland and island	To facilitate operation of increased number of ships	1494.00
Construction of mini airstrips at 5 islands including night landing facilities	Kavaratti, Minicoy, Kadmat, Kiltan, Andrott	2202.50
Total		28158.30

(Including various other schemes the total 10th Plan outlay of Ports Department is Rs. 32564.64 lakhs).

18. The passenger traffic between the mainland and the island has been increasing at a level of 8 to 9 percent over the years and it is likely to increase at a faster pace in future years due to increase in population as well as higher standard of living and per capita income. Hence the proposed acquisition of the new ships alongwith the existing ones will considerably ease the present traffic problems. Moreover the tourists traffic will be taken away from the existing mainland traffic on the arrival of a dedicated ship. Even considering all these developments in the transport sector, acquisition of one 400 capacity passenger vessel or two more 250 capacity vessels may be required beyond 2010.

DEVELOPMENT PLANS BY TOURISM DEPARTMENT

19. The Department, as part of the 10th Five Year Plan programme has identified the following proposals.

		(Rs. Lakhs)
Infrastructure and human resources development	Training programme, health club facilities, water sports equipment curio shop, etc.	122.56
Tourism market promotion	Printing & publishing, tourism awareness campaign, participation in exhibitions / fairs	129.16
Tourism development plan	Opening of uninhabited islands and inhabited islands	61.00
Equity increase - SPORTS	LDCL participation	135.00
Acquisition of a new ship	New ship & speed boats	4320.89
Continuation of civil works	Health club, water sports	246.84
Total		5015.45

20. It is expected that once the transport bottlenecks are removed by introduction of an exclusive ship and speed boats, the tourism scenario in the island is likely to change for the better in future years. As part of the **Perspective Plan** growth strategy, we have recommended a number of proposals to promote tourism and improve the efficiency.

DEVELOPMENT STRATEGY

21. **Two distinct** streams of tourism promotion will be pursued in future years Viz. one by expansion and consolidation of **package tours** and **other attractions** by SPORTS (re-christened as Lakshadweep Tourism Development Corporation Ltd) and opening up of **uninhabited islands** for resorts promotion, essentially by private promoters both national and international.

22. In the first category some of the suggestions are:

Policy initiatives

- Spread of awareness among locals as well as visiting tourists on the ecological sustainability of the tourism promotion (Formation of '**Green Army**' – voluntary group of motivated people - concept in every island).
- Selective approach on CRZ laws.
- Explore possibilities of relaxation on entry permits rules. (Initially for domestic tourists). This needs to be done strictly within the carrying capacity of the islands.
- Selective relaxation on prohibition rules.
- Tourism policy declaration with importance of 'high priority' industry status.
- Policy on privatisation for support services as well as tourism projects.
- Close co-ordination among all key departments (Tourism, Port, PWD, Electricity, Environment and others) and heads of these departments will together form the apex **Tourism Promotion Board** to clear all projects.
- Limiting further building construction activity by including '**bed and breakfast**' concept in large islands, which are densely populated.

Tourism related projects and Government initiatives

- A full-fledged **Government Tourism Department** under a Government Secretary with independent charge.
- Full time Director for Department of Tourism, Information and Publicity.
- Reorganization of SPORTS into **Lakshadweep Tourism Development Corporation** with heavy dose of professionalism at all managerial levels.
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- Segregation of entire group of islands into 4 separate groups with **Kadmat** (Kadmat, Bitra, Kiltan, Chetlat, Ameni), **Kavaratti** (Kavaratti, Agatti, Suheli, Bangaram, Thinnakkara, Kalpitti, Parli), **Kalpeni** (Kalpeni, Andrott, Thilakkam, 1,2,3, Cheriyam, Pitti) and **Minicoy** (Minicoy and Viringili) as focal points. The SPORTS office at these centres will look after the entire gamut of developmental programmes in the respective islands.
- Upgrading the aqua sports centre into a ‘**centre of excellence**’ in Kadmat island with improved equipments, training standards and modern facilities. Recognition by international institutions in this field and bringing highly qualified instructors and dive masters are part of this exercise. Constant vigil on upgrading the standards and its propagation in aqua sports markets of Europe is an extreme necessity.
- Tourism development in **Minicoy Island** in terms of aqua sports facilities, quality accommodation and food facilities, health rejuvenation centre, houseboat luxury cruising, family entertainment centre are suggested as part of the Plan.
- Andrott Island, which has not been brought under the tourism packages needs to be promoted by the strength of its various attractions. Development of ‘Moolah Beach’, creation of a theme park at jetty, light and sound programme at Juma Mosque, development of a Botanical garden at the central portion, promoting Jubilee Convention hall as a ‘corporate retreat’ for Board meetings / seminars, etc are some of the suggestions.
- **Thilakkam, Pitti and Cheriyam Islands** lie closer to Kalpeni. Thilakkam, Pitti and Kalpeni can be connected by a ‘**walking hanging bridge**’. Thilakkam to be upgraded as a ‘sea bathing area’ with proper resting and fresh water bathing facilities.
- It is suggested that **Cheriyam Island**, which lies about 2½ kms away from **Kalpeni**, can be developed as an exclusive fun and entertainment island on the lines of ‘**Sentosa**’ island in Singapore. Kalpeni – Cheriyam is proposed to be connected by a narrow bridge. Once these tourism attractions are developed there would be need for a few more staying cottages at Kalpeni

- The historical importance of **Ameni** can be exploited by taking Kadmat tourists to this island as day tourists. Beach volleyball and other games can be organized here. Once the work on the proposed breakwater jetty is completed further development of Ameni Island into a resort complex can be explored.
 - Kavaratti Island, the headquarters requires development in terms of decent accommodation and eating facilities. Further, gainful utilization of existing SPORTS facilities at the beach is suggested. It is also suggested to organise weeklong cultural programmes of music, dance, drama, etc. during the tourist season to improve the average length of stay.
 - Agatti – Bangaram – Goa can be developed into a ‘Tourist Circuit’ to take advantage of the beach tourists coming to Goa. Although Goa provides totally ‘free tourism’ the focus at Agatti and Bangaram would be on a different experience of ‘back to nature’ concept.
23. In the second stream of development such as promotion of resort complexes in **uninhabited islands** may be fully entrusted to the private hotel chains and developers. Initially **three** islands like Thinnakkara, Parli, Suheli Valiyakara can be taken up on an experimental basis. Depending on the experience gained and success rate, this can be extended to a few more islands later. The development of uninhabited islands into resort complex can be modeled on par with Maldives experience in this respect. A further example of significant growth in tourism promotion was achieved in the case of Mauritius (1865 sq. kms. area and 1.2 million populations). The island has been concentrating on low impact, high spending tourism so as to maintain island’s up market profile as a luxury beach resort destination. Water sports are the important sea based activity. Wind surfing, sailing, snorkelling and water skiing are provided free to hotel guests while diving, para sailing, yachting are separately charged. As much as 72 percent of visitors are from Europe followed by 9 percent from Asian countries. Total tourism revenue earned during the year 2000 was Rs. 14234 million and the total no. of tourists arrived was 656450 numbers. Tourist inflow from India has increased from 12500 in 1999 to 22000 in 2001. It is also learnt that the Andamans and Nicobar Islands’ government has decided to lease out several islands to private hotel chains as part of tourism promotion. Taj, Oberois, Leela Penta, ITC, etc have started negotiations with the government for a fifty year period lease and other concessions.

24. **A complete list of recommendations in terms of projects and Government initiatives is given at the end of this Chapter.** It may be noted here that the cost estimates given in the Table are only indicative and have to be shared by a number of Government Departments. In certain cases like water supply, HRD, the additional expenses are required beyond the allotted funds under the Five Year Plan.
25. In order to take advantage of the increased level of activities and opportunities in the tourism sector in coming years, a qualified **human resources** base needs to be created in the island. In this context introduction of tourism curriculum at 10+2 level and College level is suggested. An Institute providing Diploma in Hotel Management and Catering is to be established either in Andrott or Minicoy. In order to provide employment opportunities to the **women folk**, training in tourism related **ancillary skills** (tour guides, tourist information service, ticket booking and logistics) may be provided through short-term courses. Apart from the above, **handicrafts training centres** giving preference to women candidates are also to be organized in important islands.
26. Apart from these training proposals for the younger generation, **on the job training** in specific skills and operational areas is also suggested for the existing tourism operation staff. Qualified hands should be deputed for short-term training, seminars, exhibitions / fairs, etc. so that these exposure would give valued experience for improving the quality standards. Keeping the quality standards updated in each operational area is one of the key inputs in tourism promotion.
27. Various **environmental issues** that are likely to be of significant importance in the development process are discussed separately. Waste accumulation, limited physical carrying capacity, indiscriminate removal of natural vegetation, ground water shortage and quality parameters, protection of the corals and lagoon are the important areas of concern in this respect. Although the development of any magnitude cannot be achieved without disturbing some of the natural environments and assets, what is important is to reduce the extent of such damages wherever possible. Discretionary approach instead of reckless adventure can only sustain the development process.

28. The **direct, indirect and induced** benefits of tourism development are brought out in the form of income, employment generation and improvement in quality of life of the local beneficiaries. In the tourism activities such benefits largely emerge out of hotel and restaurant sector. As of now, such activities acceptable to tourists / visitors are virtually absent in the islands and large-scale developments in this line are also **not** anticipated due to restrictions on land based constructions in a big way. Additional employment can only be generated through resorts development and the additional facilities that are likely to be created in different islands by SPORTS / Tourism Department. However, it is unlikely to be very high.
29. **Market development** to create an image of the island in the international tourism markets as well as in domestic markets is extremely essential in the future development programme. Promotional campaign about the aqua sports facilities and the resort facilities need to be initiated through large tour operators and hotel chains.
30. Setting up of additional liaison offices of SPORTS in places like Hyderabad, Jaipur, Ahmedabad and Lucknow is suggested to promote tour packages among domestic travellers.
31. An image development programme especially in large tourism markets in the world through a professional creative team is to be organized alongwith the developmental efforts. An effective **logo** and **slogan** that would kindle the interest can be brought out through newspaper media and tourism / travel journals.
32. The financial implications of various issues involved and the projects recommended for implementation in the short, medium and long term perspectives are give in a separate Chapter.

TOURISM GROWTH POTENTIAL

33. In the above we have suggested two distinct growth streams for tourism in the islands. The likely growth by these two streams is detailed below.
34. Between the period 1988 – 89 to 2001 – 02 the **domestic passenger** growth through promotion of tour packages by SPORTS had grown by 7 to 9 percent per annum (On end period basis the growth rate was of 3.55 percent per

annum). In future projections of the tour package growth, we have assumed three separate phases in the growth scenario:

2000 – 01 to 2006 – 07	Preparatory and initiation of various developmental processes including Government initiatives, etc. Growth rate expected : 8 percent
2007 – 08 to 2013 – 14	Implementation of various schemes and growth realization phase of actions taken earlier. Growth rate expected : 9 percent
2014 – 15 to 2020 – 21	Consolidation phase. Growth realization as well as expansion of tour packages to other islands depending on promotional programmes in respective islands. Growth rate expected : 10 percent

35. In the **resort sector** in uninhabited islands, it is proposed to build 300 beds capacity (100 beds per island) in **three** islands together and is expected to be ready by 2006 – 07. On 50 percent capacity utilization and an average length of stay at 6 days, it will require 5500 tourists per annum. Further addition of another **five** islands with 500 beds capacity will be completed by 2013 – 14 and on the same basis it will require about 15000 visitors. Between these periods, tourist growth will be only based on higher capacity utilization and expansion of number of beds. Beyond year 2014 - 15 perhaps a few more islands may be added which will depend on the growth pattern and the ecological experiences. Hence as a long-term strategy we are limiting the new resort development only to 8 uninhabited islands. Bed expansion at the already developed resorts can be taken up if necessary.

36. Considering both these streams the projected tourists arrivals are given below:

PROJECTED TOURIST ARRIVALS (2000 – 01 TO 2020 - 21)

Year	Tour package based	Resort based		Total
		Existing (Bangaram, Agatti)	New	
2000 – 01 (Base year)	2992	871	—	3863
2001 – 02	3231	914	—	4145
2002 – 03	3490	960	—	4450
2003 – 04	3769	1007	—	4776
2004 – 05	4070	1058	—	5128
2005 – 06	4396	1110	—	5506
2006 – 07	4748	1166	5500	11414
2007 – 08	5175	1224	6050	12449
2008 – 09	5641	1285	6655	13581
2009 – 10	6149	1349	7320	14818
2010 – 11	6702	1417	8052	16171
2011 – 12	7305	1490	14600	23395
2012 – 13	7963	1562	16066	25591
2013 – 14	8679	1640	17666	27985
2014 – 15	9547	1640	19432	30619
2015 – 16	10502	1640	19432	31574
2016 – 17	11552	1640	19432	32624
2017 – 18	12708	1640	19432	33780
2018 – 19	13978	1640	19432	35050
2019 – 20	15376	1640	19432	36448
2020 – 21	16913	1640	19432	37985

Note:

It may be noted here that while making the tourist projections by tour packages (SPORTS), the passenger ship carrying capacity is not factored into. It is expected that sufficient ship movement capacity will be made available according to the demand (The exclusive ship of 150 passenger capacity may be able to carry a load of 6000 passengers per annum at full capacity level).

VISION 2020 – LAKSHADWEEP TOURISM

37. Summarising the above, the **vision 2020 scenario** can be envisaged as follows:

Vision : “Transform Lakshadweep Islands as one of the most desired high quality tourist destinations in the region by providing quality infrastructure and friendly, peaceful atmosphere”.

SWOT ANALYSIS

Strength : ➤ The blue lagoon, encircling the invaluable wealth of colourful corals and the coral reef.
➤ Long and sandy beaches.
➤ The sun, sea, sand and the solitude.
➤ Above all – the hospitality and cheerful disposition of the local residents.

Weakness : ➤ Absence of an organized vision plan to capitalize on its own natural assets and tourism potential.
➤ Very low carrying capacity of the island and the fragility of the eco system.
➤ Very poor transport infrastructure making the accessibility difficult.
➤ Poor upkeep and maintenance of islands’ own natural resources

Opportunity : ➤ Tourism and related activities are expanding at a fast pace and have been recognized as one of the major sources of revenue the world over.
➤ Tourists like to experiment with different locations with adequate facility for new encounters and experiences.
➤ Absence of widespread knowledge about sea based aqua sports facilities in the tourist markets and this limitation can be converted into an opportunity to promote the unknown.

Threat : ➤ There are other island nations like Maldives, Singapore, Mauritius, etc. in the region which are already far developed in tourism. (Rather than competing with these places the efforts should be to match the standards provided there).

38. Thus, **the core strength** of the island lies in its marine wealth (lagoon, corals, coral reef and the beaches). By their very nature, it may be difficult to further strengthen these core assets and hence the focus should be to protect these from further damages while proceeding with the developmental plans utilising these resources. Keeping these premises of development in view, we have carefully chosen a **selective approach** of not recommending large-scale, land based projects. Most of the recommendations as part of the **Perspective Plan** fall within the ambit of improving the existing situations with appropriate policy inputs and corrective measures. Some of the land based projects are suggested in the Perspective Plan mainly to improve the involvement of the local residents through private participation in tourism activities so that the resultant economic benefits are enjoyed by them to improve their quality of life.

SHORT TERM AND LONG TERM STRATEGIES

39. In the **short term** there are a number of initiatives and policy directions to be taken by the Administration / Tourism Department. Apart from the ongoing schemes planned during the 10th Plan period, these policy related Government initiatives including institutional changes as suggested are to be focussed in the next few years say by 2005 – 06. Once these issues are discussed and decisions taken, further implementation of the developmental schemes and projects as proposed in the **Perspective Plan** would become easier. Privatisation policies and guidelines are one of the critical parameters that would hinge on the development process in future years.
40. Expansion of the tour packages to islands like Andrott and others and activities in islands like Minicoy, Kalpeni, Kadmat, Agatti, etc may be taken up as an ongoing programme alongwith the Government initiatives. However, the expansion possibilities of tour packages would depend on the tour logistics that could be arranged with an exclusive ship. It may be worth while to arrange 3 to 5 days short visits to specific islands in initial years rather than repeating the same experience in different islands. If this has to be done effectively, each island should have adequate tourism diversions so that the tourist can be kept engaged productively. In the absence of sufficient tourism attractions in the islands immediate expansion of resorts for staying tourists is not recommended in the short term. Specific schemes of new activities are suggested in important islands and their implementation process also should be commenced in the short term so that the benefits can be accrued in the medium term (2007 – 2014).

41. Due to the limitations on physical area of the land and the importance of biodiversity, there could be only limited promotional long-term strategies possible in the islands. We feel that by 2015, the expansion possibilities of the islands both inhabited and uninhabited for tourism promotion would be more or less stabilized keeping the tempo of various developments right from 2003 – 04 onwards. During the next 10 to 12 years a de-facto realization based on the ground realities and experience may be achieved what are possible (given the limitations) and more importantly what the local residents in the islands accept. **Hence, beyond this point the strategies may be directed to consolidating and improving upon the quality of existing resources and facilities so that new customers are attracted year after year. The Japanese concept of ‘KAIZEN’ (continuous quality improvement) needs to be practised by all those operating in the tourism related activities.** The basic needs of the tourists keep changing over time and the concern should be to satisfy these basic and vital needs. This is also true in the case of service requirements, which are essentially personal in nature and difficult to exactly quantify. The attempt in these cases should be to reduce the areas of irritations like waiting time, cleanliness, frequency of service, punctuality, etc.
42. Above all, creating ‘**harmony**’ with the human and natural environment by itself is a long term and continuous phenomenon. As WTO puts it “Maintaining the sustainability of tourism requires managing environmental and socio-economic impacts, establishing environmental indicators and preserving the quality of tourism products and tourism markets. There can be no sustainability without quality”. This is of prime importance as long term strategy in the tourism developmental plans of Lakshadweep Islands.
43. In substance, the emerging ‘**message**’ in the tourism promotional plan in the islands is to :
- Preserve natural assets in their traditional beauty and splendour to attract new visitors continuously,
 - Strive for constant value addition by regularly monitoring the quality of services and acceptability of natural attractions, and
 - Guard against negative impact of tourism on the society at large (Social disharmony, cultural tensions, undesirable exploitation)

44. The **Perspective Plan** report incorporating an analysis of the existing situation and our recommendations for tourism promotion in various islands is presented in different Chapters as given below:

Chapter I	: Introduction
Chapter II	: Demographic trends and economic activities
Chapter III	: The transportation sector
Chapter IV	: Other physical and social infrastructure
Chapter V	: Present tourism scenario in the islands
Chapter VI	: Human resources development
Chapter VII	: Tourism development strategy and promotional programmes
Chapter VIII	: Environmental issues
Chapter IX	: Economic benefits
Chapter X	: Market development strategy
Chapter XI	: Financial Implications
Chapter XII	: Project Briefs

SUMMARY OF RECOMMENDATIONS

Proposal	Department	Time Span	Approximate Investment (Rs. Lakhs) (Excl. land cost)
A. Policy related issues – General			
1. Creation of awareness among the locals about ecological importance of tourism promotion – Formation of Green Army	Tourism & Environment / NGO	Immediate & ongoing	50.00 / annum
2. Selective relaxation of permit system of entry and prohibition rules	Administration	2003 – 04	—
3. Tourism policy declaration	Administration / Tourism	2002 - 03	—
4. Policy on privatisation	Administration / Tourism	2002 - 03	—
5. CRZ laws – selective approach	Administration / Science & Technology	2002 – 03	—
6. Protection of beaches from encroachment	Administration / Dweep Panchayats / NGOs	Immediate & ongoing	20.00 / annum
7. Single window clearance system for tourism projects (Tourism Promotion Board)	Administration / Tourism	2003 – 04 & ongoing	—
8. Limiting development activity to carrying capacity	Administration / Tourism / Environment	Immediate & ongoing	20.00 / annum

9. Bed and breakfast system in major islands	Administration / Tourism	2003 - 04	—
B. Tourism Promotion Proposals			
1. Separate Tourism Department and Directorate	Administration	2003 – 04	—
2. Reorganization of SPORTS and creation of additional facilities (Building and Communication)	Administration / Tourism	2003 – 04	1000.00 + (Equity fund) 100.00
3. Segregation of islands under different groups with one island as base	Administration / Tourism	2003 – 04	10.00 (Initial cost)
4. Opening of entry point at Kozhikode / Beypore	Administration / Tourism	2003 – 04	10.00 (Initial cost)

5. Minicoy island			
➤ Chartered flights by helicopter	Administration / Private sector	2004 – 05	—
➤ High class hotel and restaurant	Private sector	2004 – 05	200.00
➤ Aqua sports diving centre	Administration / SPORTS	2003 – 04	100.00
➤ Meditation, yoga rejuvenation centre	Private sector	2004 – 05	50.00
➤ House boat luxury cruise journey	Private sector	2003 – 04	100.00
➤ Family entertainment centre	Private sector	2004 – 05	200.00
➤ Conversion of helipad into airstrip	Administration / Ports	2005 – 06	(Included in 10 th Plan)
➤ Construction of breakwater jetty	Administration / Ports	2005 – 06	30000.00

6. Kadmat Beach Resort			
➤ Centre of excellence for aqua sports – Provision for European cuisine	SPORTS / Private sector	2004 – 05	250.00
➤ High class hotel and restaurant	Private sector	2004 – 05	200.00
➤ Improving the bed capacity utilization at resort centre	SPORTS	2002 – 03	—
➤ Focussed promotion of honey moon cottages	SPORTS	2003 – 04	50.00
➤ Yoga & ayurvedic rejuvenation centre	Private sector	2004 – 05	50.00
➤ Recreational sailing boats to other islands	SPORTS / Private sector	2004 – 05	100.00

7. Andrott Island			
➤ Moolah beach development	Tourism / Private sector	2005 – 06	100.00
➤ Water sports activity	SPORTS / Private sector	2004 – 05	50.00
➤ Light & sound programme at Juma mosque	SPORTS / Tourism	2003 – 04	20.00
➤ Botanical garden	Horticulture / Tourism / Private sector	2005 – 06	50.00 (excluding land)
➤ Expansion of helipad into a airstrip	Administration / Airports Authority	2005 – 06	(Included in the 10 th Plan)
➤ Aquatic Museum	SPORTS / Tourism	2005 – 06	100.00
➤ Theme park at jetty area	Administration / Tourism	2004 – 05	50.00
➤ Convention hall based tourist promotion / corporate retreat	Tourism / SPORTS	2004 – 05	20.00
8. Agatti beach resort			
➤ Focussed promotional campaign on existing resorts	SPORTS / Private promoter	2002 – 03 & ongoing	10.00 / annum
➤ Tourist circuit between Agatti –Goa – Bangaram	SPORTS / Private promoter	2003 – 04 & ongoing	20.00 / annum
➤ Class hotel & restaurant	Private sector	2004 – 05	200.00

<p>9. Kalpeni Island</p> <ul style="list-style-type: none"> ➤ Bathing hut facilities and shelters at Thilakkam ➤ Walking suspension bridge between Kalpeni – Thilakkam – Pitti ➤ Cheriyam Island development 	<p>SPORTS</p> <p>Administration / Tourism / PWD</p> <p>Administration / Tourism / PWD / Private sector</p>	<p>2003 – 04</p> <p>2007 – 08</p> <p>2009 – 10</p>	<p>30.00</p> <p>300.00</p> <p>5000.00</p>
<p>10. Kavaratti Island</p> <ul style="list-style-type: none"> ➤ Quality residential and food facilities ➤ Improving the bed capacity utilization at resort complex ➤ Seafood specialty catering service ➤ Pitti (bird) island cruise ➤ Beautification / illumination of beach / jetty area ➤ Light & sound programme ➤ Organizing weeklong cultural extravaganza 	<p>Private sector</p> <p>SPORTS</p> <p>SPORTS</p> <p>SPORTS</p> <p>Tourism / SPORTS</p> <p>Tourism</p> <p>Tourism / SPORTS</p>	<p>2004 – 05</p> <p>2003 – 04 & ongoing</p> <p>2003 – 04</p> <p>2002 – 03</p> <p>2002 – 03 & ongoing</p> <p>2003 – 04</p> <p>2003 – 04</p>	<p>200.00</p> <p>—</p> <p>20.00 (Initial investment)</p> <p>—</p> <p>10.00 (Initial investment)</p> <p>25.00</p> <p>10.00</p>

<p>11. Ameni Island</p> <ul style="list-style-type: none"> ➤ Convention hall based cultural programmes ➤ Development of helipad area based activities ➤ Proposed breakwater jetty based developments (Childrens park) 	<p>Tourism / SPORTS</p> <p>Tourism / SPORTS</p> <p>Tourism / SPORTS</p>	<p>2003 – 04</p> <p>2003 – 04</p> <p>2007 – 08</p>	<p>10.00</p> <p>50.00</p> <p>50.00</p>
<p>12. Bitra Island</p> <ul style="list-style-type: none"> ➤ Transit visitors from Kadmat (Day shelter, refreshment facilities) including beach development 	<p>SPORTS / Tourism / Private sector</p>	<p>2004 – 05</p>	<p>50.00</p>
<p>13. Kiltan / Chetlat Island</p> <ul style="list-style-type: none"> ➤ Breakwater jetty and airstrip proposal 	<p>PWD / Airports Authority / Administration</p>	<p>2007 – 08</p>	<p>(Included in the 10th Plan)</p>
<p>14. Uninhabited islands</p> <ul style="list-style-type: none"> ➤ Construction of lagoon villas at Thinakkara, Suheli, Parli 	<p>Administration / Tourism / Private Sector</p>	<p>2003 – 08 (Further expansion beyond 2010)</p>	<p>Rs. 1500 – 1600 lakhs per island (excluding land)</p>

15. Transportation sector			
➤ Second dedicated ship for tourists	Administration / Tourism / Ports Dept.	2010 – 11	10000.00
➤ Privatisation of inter island transport	Administration / Ports Dept. / Private sector	2003 – 04	—
➤ Air taxi operation by helicopter between islands	Private sector	2004 – 05	—
➤ Introduction of sea planes	Private sector	2003 – 04	—
➤ Expansion of terminal facilities at Agatti	Administration / Airports Authority of India	2005 – 06	2000.00
➤ Construction of smaller airports at Andrott, Minicoy, Kadmat	Administration / Airports Authority	2006 – 07	(Included in the 10 th Plan)
➤ Air connection between Trivandrum – Minicoy and Kozhikode – Andrott	Administration / Airports Authority / Airlines	2004 – 05	—
➤ International airport in one uninhabited island	Administration / AAI / Private sector	2010 – 11	20000.00
➤ Widening of existing roads	Administration / PWD	2004 – 05 & ongoing	(Included in the 10 th Plan)
➤ Parking space at jetty (Important islands)	Administration / PWD	2004 – 05	20.00
➤ Operating a circular bus route in important islands (Kavaratti & Minicoy)	Administration / Port	2003 – 04	20.00

<p>16. Water supply & sanitation (In addition to 10th Plan proposals)</p> <ul style="list-style-type: none"> ➤ Introduction of specific methods for rain water harvesting in tourism islands ➤ Expansion of Ro desalination plants at Minicoy, Agatti, Kavaratti, Kadmat ➤ Introduction of eco toilets / bio toilets in tourism islands ➤ Developing NGOs for beach cleaning, waste collection, beautification, etc. 	<p>Administration / PWD</p> <p>Administration / PWD</p> <p>Administration / PWD / S & T</p> <p>Administration / PWD / Tourism</p>	<p>2004 – 05 & ongoing</p> <p>2004 - 05 & ongoing</p> <p>2003 – 04 & ongoing</p> <p>2003 – 04 & ongoing</p>	<p>50.00 / annum</p> <p>100.00 / annum</p> <p>50.00 / annum</p> <p>20.00 / annum</p>
<p>17. Human resources development</p> <ul style="list-style-type: none"> ➤ Introduction of tourism related vocational courses at 10 +2, College level ➤ Hotel management & catering course ➤ Tourism related ancillary skills (preference for women) ➤ Handicrafts training centres for women ➤ Water sports training at proposed swimming pool at Andrott ➤ Training for tourism staff 	<p>Education / Tourism</p> <p>Administration / Education</p> <p>Education / Industries</p> <p>Education / Industries</p> <p>Education</p> <p>Tourism / SPORTS</p>	<p>2004 – 05 & ongoing</p> <p>2004 – 05 & ongoing</p> <p>2004 – 05 & ongoing</p> <p>2004 – 05</p> <p>2004 – 05 & ongoing</p> <p>2003 – 04 & ongoing</p>	<p>50.00 (Initial cost)</p> <p>100.00 (Initial cost)</p> <p>50.00 (Initial cost)</p> <p>30.00</p> <p>10.00 (Initial cost)</p> <p>20.00 / annum</p>

18. Environmental impact analysis	S & T / Tourism	2004 – 05 & ongoing	50.00 / annum
19. Market development & image building	Tourism / SPORTS	2003 – 04 & ongoing	70.00 / annum

CHAPTER I

INTRODUCTION

LAKSHADWEEP – HISTORY AND CULTURAL BACKGROUND

- 1.1 Lakshadweep, known as the coral paradise of Arabian sea, constitutes a group of islands lying scattered, at a distance of 220 to 460 kms. away from the Kerala coast. These tiny islands and islets, 36 in number have a total land area of 32 sq. kms. (3200 hectares) of which only 26 sq. kms. (2600 hectares) are usable. Of these 36 islands, only 10 are inhabited Viz. Agatti, Amini, Andrott, Bitra, Chetlat, Kadmat, Kalpeni, Kavaratti, Kiltan and Minicoy, 21 uninhabited and 5 are submerged banks. The distance between inhabited islands varies between 10 to 200 kms. from each other.
- 1.2 Although the land area of these coral islands is very small, they enjoy a vast lagoon area of 4200 sq. kms, territorial waters of 20,000 sq. kms. and as much as 4.0 lakh sq. kms. of Exclusive Economic Zone (Marine Wealth). Every island has a lagoon on the western side and storm beach on the eastern side (This pattern is different only for Andrott island). The corals and coral reefs are of great importance since the very formation of these islands is the result of their activity.
- 1.3 The early settlers in these islands were Hindus and Buddhists who were later converted to Islam by around 7th Century. Lakshadweep remains as the only Union Territory of India whose local residents are entirely Muslims. Among the Muslims, there are three castes prevailing Viz. Koya, Malumi, and Melacheri. Among these 'Koyas' are landlords, 'Malumis' the fishermen / sailors and 'Melacheris', the serfs (labour force). In the case of Minicoy islands the classification is made into four groups viz. Raveries, Thakkuras, Malumis and Malikfans. Here also Malikfans are landlords and all other castes constitute the labour force.
- 1.4 Lakshadweep has a tropical climate with summer temperature ranging from 35° C to 22° C and winter temperature at 32° C to 20° C. During the south west monsoon (May 15th to October 15th) the sea conditions are very rough and consequently all sea based activities like fishing, ship travel, etc. are restricted.

- 1.5 The traditions, lifestyle and language of the people of these islands (except Minicoy) have close resemblance with that of Kerala. Minicoy has close affinity with the neighbouring islands of Maldives. The language of Minicoy is **Divehi** while in all other islands **Malayalam** is the spoken language.
- 1.6 Due largely to the social backwardness, remoteness from the mainland, low levels of resources and development potential, the population of these islands is classified as '**Scheduled Tribe**'. There is no Scheduled Caste category.
- 1.7 Women enjoy special status in the society due to the matriarchal system of inheritance followed in earlier years. This practice is gradually changing of late. However, the predominance of womenfolk in all walks of life is still accepted and continued in Minicoy.

ADMINISTRATIVE SETUP

- 1.8 During the times of British rule, these islands were administered from Mangalore. After Independence, the administrative headquarters was shifted to Calicut in Kerala. The Union Territory was formed in 1956 and it was named Lakshadweep in 1973. In March 1964, the headquarters was shifted from Calicut to Kavaratti, which is being continued now. The administrative capital **Kavaratti**, is the most developed of all islands. The **Administrator** is the functional head of the Union Territory.
- 1.9 All islands come under **single** district, **four** Tehsils and **five** Community Development Blocks. The Collector cum Development Commissioner is in charge of the district administration. According to the new Panchayat systems, each island has a **Dweep Panchayat** with elected members (79 numbers).
- 1.10 At the Union Territory level there is a **District Panchayat** having members elected (32 numbers) from each Dweep Panchayat. The chairperson of the Dweep Panchayat automatically becomes a member of the District Panchayat. There are no legislative assembly but covers only **one Lok Sabha seat**.
- 1.11 The High Court of Kerala continues to exercise judicial supervision over the law machinery in the island. A **district and sessions court** of Lakshadweep functions at Kavaratti.

PERMIT SYSTEM

- 1.12 All visitors to Lakshadweep for tourism as well as any other official duties require ‘**Entry Permits**’ from Lakshadweep Administration. In the mainland, the permit is issued by the Secretary to Administrator’s office, located at Kochi. Visitors who take employment in the island are initially issued a permit for 5 months, renewable at 5 months interval.

SOCIO ECONOMIC PROFILE

- 1.13 As per provisional Census figures of 2001, the population of the islands is placed at 60595, as against 51707 in 1991. Average yearly growth rate reflected in the above is 1.60 percent as against 1.95 at all India level.
- 1.14 The average literacy rate as per 2001 Census was recorded at 87.52 percent with Minicoy Island recording as high as 93.01 percent. (All India literacy rate 65.38%).
- 1.15 The sex ratio (No. of females per 1000 males) in the island is registered at 947 as against 933 at all India level.
- 1.16 Due to small geographical area of the islands, the density of population is found to be very high at 1894 per sq. kms. (All India level 324 per sq. km.). If only effective area is taken into consideration (28.1 sq. kms.) the density will be still higher at 2156 per sq. kms. Amini, Bitra, Agatti and Kavaratti have individually higher density ratios.

ECONOMIC ACTIVITIES

- 1.17 The economic activities of the islands are essentially influenced by their special geographical features. The activities are primarily **agrarian**, with coconut as the main crop. It is being cultivated in every conceivable space such that the number of trees per acre far exceeds the normal practice. The coconut production in the islands increased from 270 lakh numbers in 1995 – 96 to 300 lakh numbers in 2000 – 01 (valued at Rs. 10 – 12 crores) showing a growth rate of about 2.12 percent per annum. The yield per hectare at 12718 in the island is relatively high as compared to about 6000 numbers in Kerala and 7800 numbers for all India. The harvested coconuts are converted into copra and sent to the mainland for marketing. When the market prices fall intervention of the Administration through primary co-

operative societies and Lakshadweep Co-operative Marketing Federation is practised to provide reasonable prices to the growers.

- 1.18 Except for cultivation of banana, though on a limited scale, the islands do not have any worthwhile inter cropping facilities.
- 1.19 Surrounded by a large economic zone, fishing is a major activity in the island. Modern mechanised fishing boats (25' x 30') have already replaced the earlier wooden crafts and traditional implements. There are over 500 mechanised boats now employed in fishing and the fish landing during 2000 – 01 was more than 10,000 tonnes, roughly valued at about Rs. 30 crores. As much as 80 percent of the landings are of Tuna variety, balance being seer, shark, etc. Considering the vast economic zone available, the potential of fish landings could be much higher provided supporting facilities and technological improvements are introduced. Apart from local consumption, Tuna landings are dried and sold as 'Maas' to places like Mangalore and Tuticorin.
- 1.20 The industrial base in the district is very poor although various potential studies had been conducted highlighting the need for setting up resource based industries (coconut, fisheries).
- 1.21 The findings of the report on the **Fourth Economic Census** conducted in 1998 for the islands are summarised below:
 - ◆ There are 4542 enterprises (an undertaking engaged in production and or distribution of goods and services) in the islands engaged in different economic activities other than crop production and plantation, employing 15794 persons.
 - ◆ Of the above, 300 enterprises (6.61 percent) were engaged in agricultural activities (Livestock production, agricultural services, hunting, trapping, forestry, fishing) and the balance 93.39 percent in non agricultural activities (Mining and quarrying, manufacturing, electricity, construction, wholesale trade, restaurants and hotel, transport, storage, communication, etc.)
 - ◆ Only 10 percent of the workers are engaged in agricultural activities while the non-agricultural activities accounted for the balance 90 percent.

- ◆ As much as 37.42 percent of the employment in non agricultural activities is engaged in ‘**Own Account Enterprises**’ (OAE) the balance being employed as ‘**workers**’
- ◆ Manufacturing, community / social and personal services and retail trade accounted for 86.02 percent of the total non agricultural enterprises.
- ◆ Although ‘manufacturing’ enterprises top in number of non agricultural enterprises, the employment in this sector accounted only for 38.82 percent as compared to 43.82 percent in community / social and personal services.
- ◆ Other characteristics of enterprises are:
 - a) 15.54 percent was in private ownership
 - b) 46.96 percent operated without any fixed premises
 - c) 36.20 percent was working without power or any other fuel
- ◆ In the group of ‘Own Account Enterprises’ (non agricultural) Amini, Kavaratti and Agatti islands have maximum numbers followed by Kadmat and Andrott.
- ◆ Although Minicoy is a relatively developed island, its share in non agricultural – Own Account Enterprises is not very high.
- ◆ In the case of Own Account Enterprises and other establishments together taken, Kavaratti ranks top position followed by Amini and Agatti.

1.22 The **administrative functions** of these islands are governed by various Acts of Parliament, such as:

a) Coastal Regulation Zone (CRZ) Act, 1991

All the islands fall under the categories of CRZ I and IV, wherein ‘**No Development Zone**’ falls between 20 to 50 meters from high tide lines. (Ministry of Environment and Forests).

b) The Laccadive, Minicoy and Amindivi Islands – Restriction on Entry and Residence Rules – 1967

Effective from 1.10.1967, no person who is not a native of these islands, is allowed to enter or reside in the islands except under and in accordance with a permit issued by the competent authority.

Foreign nationals are allowed only if they possess a valid passport and permit and the visit is allowed only as a tourist.

(The above permit system was introduced from the security point of view as well as for maintaining the carrying capacity of the island).

c) Lakshadweep Prohibition Regulation Act – 1979

Applicable to the whole of Lakshadweep islands and is enforced strictly. Prohibition rules were later amended such that holders of ‘permits’ shall be granted possession and consumption of liquor. Permits are issued on: a) health grounds b) temporary resident’s permit c) special permit for privileged persons, and d) permits for visitors. The Collector cum Development Commissioner is appointed as licensing authority for issue of permits.

d) The Laccadive, Minicoy and Amindivi Islands – Land Revenue and Tenancy Regulation Act, 1965

No member of the scheduled tribes except with prior permission of Administration transfer by way of sale, mortgage, lease, exchange or gift, any land to anyone other than any such member. (This means that non islanders are prohibited from creation of permanent assets in the islands).

Apart from the above, due to the low carrying capacity of the islands (Density of population is extremely high in all the islands) and the limited resources (drinking water, geographical area) all developmental activities need to strictly abide by the environmental parameters.

TOURISM ATTRACTIONS

- 1.23 Lakshadweep, gifted with the coral islands provides beautiful and enchanting lagoon with crystal clear water and abundant sea life. The island looks like emeralds in the vast expanse of the sea, and nature's beauty is preserved at its best. However, due to fragile nature of these islands and limited carrying capacity (high population density) the tourism activities are promoted in a controlled manner. It has been said that islands owe their existence to the **living** corals, though a small percentage, and any imbalances in the equilibrium between the corals and environment would threaten the very existence of the islands themselves.
- 1.24 **Society for Promotion of Nature Tourism and Sports (SPORTS)**, an organization registered under the Societies Act, is now promoting **package tours** to various islands. These packages are arranged based on the travel schedule of ships plying between Kochi and other islands. Packages operate only during the fair weather conditions (i.e. October to May 15).
- 1.25 Tourism attractions in the islands revolve around **sun-sea-sand-sports and solitude**. **'Back to nature'** concept is promoted in some of the uninhabited islands, which are now open to foreign tourists.
- 1.26 Domestic tourism is promoted only in selected islands like Minicoy, Kalpeni, Kavaratti, Agatti and Kadmat. Kadmat is promoted as a **aqua sports centre** where diving package is arranged for adventure sports lovers. To a limited extent, these facilities are open for foreign tourists also.
- 1.27 The tourist arrivals in the island between the period 1988 – 89 to 2001 – 02 had shown a moderate growth rate of 3.92 percent. The total number of tourist arrivals during 2001 – 02 was 3798 numbers of which roughly about 15 percent constituted international tourists (Relates to arrivals at Bangaram). During 2000-01 international visitors constituted about 23 percent.
- 1.28 Although the utilization of optimum tourism potential of the coral islands is essential for the future economic growth and creation of employment opportunities, the limiting factors are the highly fragile nature of the islands and their environment, low physical carrying capacity and the existing problems in accessibility. Lack of supporting infrastructure facilities like good roads, communications, accommodation, hotels, shopping /

entertainment plazas are some of the other limitations that restrict tourism development in a big way.

- 1.29 Probably the greatest challenge that smaller islands like Lakshadweep faces today is the question of **exploiting and managing their natural resources in a sustainable manner** without compromising on the ecological environment.

TOURISM PLANNING OBJECTIVES

- 1.30 The corals and enveloping lagoons are the mainstay of tourism attractions in the islands. The entire economic activities of the islands revolve around the sea and its constituents like beach and sand. Since the land based tourism development is extremely limited, the future tourism promotion in the islands needs to be positioned based on a careful planning of the sea and the water resources. As the population grows, expansion of economic activities other than fisheries and agriculture into service sectors becomes imperative. Lakshadweep with its unique advantages of lagoon and the corals has significant potential in the development of tourism. The locational disadvantages of the islands do not permit expansion of secondary sector in a big way. Thus all future development plans should seriously consider:

- The fragile nature of the eco systems and the marine wealth,
- Optimum benefits to the local inhabitants, and
- The sustainability of the limited natural resources without serious erosions.

- 1.31 Thus, tourism planning in Lakshadweep island revolves around micro objectives, within the broad parameters mentioned, as above:

- Promote domestic as well as foreign tourism in the islands to the extent possible, among those who understand and appreciate the fragile conditions and the need for preservation.
- Involve islanders in tourism promotion so that the benefits in terms of employment generation, income accrual, etc. are enjoyed by them.

- Create facilities to generate skills and human resources required for the tourism promotional activities.
- Promote and preserve the natural resources and the unique marine wealth of these islands.
- Preserve the cultural heritage and traditional lifestyle of the islanders.
- Develop tourism and required infrastructure activities strictly in accordance with the local conditions, social / environmental, physical carrying capacity, etc.

1.32 As of now, due to the limited avenues of accessibility, poor resource base for infrastructural development, etc. the tourism is operated in the islands in a controlled manner. This does not bring any direct benefit to the general public or service providers like hoteliers, tour operators, transport agencies, shop owners, etc. To a very limited extent, indirect benefits by way of supplying food materials are enjoyed by the locals.

1.33 Due to various constraints operating in these islands, tourism development in future years cannot be **unplanned**, just in terms of increasing the numbers alone. The thrust needs to be on **high value, low volume** development wherever possible although it is highly ambitious, considering the very poor development potential (in terms of diversity of attractions for a tourist) of the islands. The poor resources base of the islands as well as the islanders also highlight the need for **private sector participation** in a big way in future tourism planning. Government intervention is required only in formulating the appropriate policy framework, its implementation and also perhaps in areas where social benefits are of prime importance than commercial benefits.

DEVELOPMENT STRATEGY AS PART OF PERSPECTIVE PLAN

1.34 In our prescriptions for tourism development as part of the **Perspective Plan** we have recommended two distinct streams as given below. While these can be pursued as medium term strategy (upto 2015) in the long term it may be necessary to give more weightage to quality related sustainability.

- ❖ The tourism development of the inhabited islands can be continued mainly through promotion of tourism packages as conducted by SPORTS / LTDC. Once a dedicated ship and other speed vessels are available for tourism purpose, the tour packages will have to be

redesigned to include new islands or group of islands. As the developments in each of the island take place as proposed in the **Plan** it may be necessary to design new packages to suit the requirements and the new tourism products created.

- ❖ Promotion of tourism in uninhabited islands is proposed through outright leasing arrangement to private investors. These islands would be exclusively developed by private promoters and the Lakshadweep economy would benefit by lease rent and other payments fixed. The employment generated in these resorts will be largely reserved for local residents except for special skills that are required.

STUDY METHODOLOGY AND APPROACH

1.35 The **20 Year Perspective Plan** for Tourism in the Lakshadweep islands is prepared based on:

- ◆ Survey and discussions with various government, semi government, non government and financial institutions.
- ◆ Interaction with a cross section of the islanders including popular leaders and opinion makers.
- ◆ Field visits to various islands to understand the specific tourist attractions and their feasibility of development.
- ◆ Discussions with present tour operators, proposed investors, tourists both domestic and foreign.
- ◆ Available information on published sources like internet, print media, reports, etc.

1.36 Based on the information collected from these sources and the in-house expertise and information available within TECS, the **Draft Report on Perspective Plan** was prepared and submitted to the **Tourism Department, Government of India**. Subsequently, at the request of the Tourism Department, Lakshadweep Administration a presentation was made at the Secretariat, Kavaratti. Various Departments participated in the presentation and the observations and comments made during discussions were suitably incorporated while finalising the report. The **Final Report** on the perspective plan is now submitted to the **Department of Tourism, Government of India**.

CHAPTER II

DEMOGRAPHIC TRENDS AND ECONOMIC ACTIVITIES

2.1 Lakshadweep islands consisting of 10 inhabited islands (11 including Bangaram) is a single district Union Territory. Apart from the above, there are 16 uninhabited islands in the Union Territory. The list is given in **Exhibit 1.1**. These islands are grouped under 4 major Sub-divisions Viz. Kavaratti, Amini, Minicoy and Andrott and 5 minor subdivisions. There are 9 Community Development Blocks in the Union Territory. Each inhabited island alongwith its satellite islands / islets is considered as a CD Block except Bitra and Bangaram which are considered part of Chetlat and Agatti CD Blocks respectively. Some of the highlights of the Census 2001 are given below:

- ◆ Total population in the Union Territory is **60595** consisting of 31118 (51.35 percent) males and 29477 (48.65 percent) females.
- ◆ The **percentage increase** between 1991 and 2001 was 17.19, as compared to 21.34 percent at all India level. The percentage increase of 17.19 was significantly less as compared to the increase in previous decade (1981 – 91) of 28.47 percent in the island.
- ◆ The Union Territory has a **sex ratio** (No. of females per 1000 males) of 947 as against 933 for all India. The highest sex ratio in the country is registered in Kerala at 1058 and lowest being Delhi at 821.
- ◆ The **density of population** (No. of persons per sq. kms.) in the Union Territory as per 2001 Census was 1894 which was 1616 during 1991. (The above relates to a total geographical area of the island at 32 sq. kms. while the actual usable area is only 26 sq. kms.). The density of population in India is 324. Among various states and Union Territories Lakshadweep stands 4th position in population density while the first and second being occupied by Delhi (9294) and Chandigarh (7903) respectively.
- ◆ The density has increased in all CD blocks, the highest being registered at Amini (2834 persons) and the lowest at 1548 persons in Kalpeni.

- ◆ **Literacy rate** (number of literates per 100 population of age 7 and above) in the island is registered at 87.52 percent (93.15 percent for males and 81.56 for females) as against 81.78 percent during 1991. The present literacy rates in the island are far higher than the all India average of 65.38 percent (75.85 percent for males and 54.11 percent for females). Next to Kerala (90.92 percent) and Mizoram (88.49 percent) Lakshadweep occupies the third position in total literacy.
- ◆ Among various blocks, **Minicoy Island** is the most literate at 93.01 percent, and the least being Kiltan at 83.68 percent.
- ◆ In the field of female literacy the island had achieved considerable progress over the years.

2.2 The CD block / island wise population details are given in **Exhibit 1.2**.

POPULATION PROJECTIONS

2.3 Since the land area in each of these islands is extremely limited which itself is diminishing over the years due to heavy soil erosion, it is necessary to postulate the likely future scenario of population growth in each island. The physical carrying capacity in terms of natural resources like water and other infrastructure facilities of the islands can be determined only by the likely growth levels of population. These levels would also reflect on the likely number of tourists that can be accommodated. In the following paragraphs we have made an attempt to project the levels of population in the island. The Table below provides the existing population in different islands, past growth rate and the likely growth rate assumed for future projections.

Islands / CD Blocks	Population 2000 – 01	Decennial Growth (%)		Assumed Decennial Growth (%)	
		1981-91	1991-01	2000-01 to 2010-11	2011-12 to 2021-22
Agatti + Bangaram	7072	37.92	23.40	21.00	20.00
Amini	7340	20.12	13.85	12.00	10.00
Andrott	10720	33.91	17.52	16.00	14.00
Chetlat + Bitra	2553	38.21	12.17	10.00	10.00
Kadmat	5319	27.97	33.48	30.00	28.00
Kalpeni	4319	15.27	5.75	5.00	5.00
Kavaratti	10113	31.39	16.55	15.00	14.00
Kiltan	3664	29.05	19.54	18.00	17.00
Minicoy	9495	24.96	14.12	14.00	13.00
Lakshadweep	60595	28.47	17.19	15.90	14.93

Note:

The underlying principle assumed in these projections is that while accepting reduction in decennial growth (as exhibited in previous decades) we feel that the future growth in population at the aggregate level will be around 1.4 to 1.5 percent per annum as against 1.60 during 1991 – 2001. Due to pressure on the islands the growth rates will have to be brought down compulsorily.

PROJECTED LEVELS OF POPULATION

Islands / CD Blocks	2000-01	2010-11	2020-21
1. Agatti + Bangaram	7072	8557	10268
2. Amini	7340	8221	9043
3. Andrott	10720	12435	14176
4. Chetlat + Bitra	2553	2808	3089
5. Kadmat	5319	6915	8852
6. Kalpeni	4319	4535	4762
7. Kavaratti	10113	11630	13258
8. Kiltan	3664	4323	5058
9. Minicoy	9495	10824	12231
10. Lakshadweep Total	60595	70248	80737
11. Population Density	1894	2195	2523

2.4 The projected levels of population as well as the density will have serious implications on the carrying capacities of each of these islands and more importantly on the beaches. The above levels will also reflect on the

requirement of physical and social infrastructure facilities like roads, electricity, communication, water, health services, transport, etc.

THE ECONOMY

- 2.5 On becoming a Union Territory in 1956 the Lakshadweep islands started receiving Plan allocations from the Centre and these funds constitute the mainstay of all developments in the island. The internal revenue generation by way of taxes and duties is virtually absent in the island. The Five Year Plans outlay and expenditure for different years are given in the following:

		(Rs. Lakhs)	
Plan Periods		Outlay	Expenditure
First Plan	(1951-52 to 1955-56)	—	—
Second Plan	(1956-57 to 1960-61)	73.85	40.28
Third Plan	(1961-62 to 1965-66)	98.38	108.51
Annual Plans	(1966-67 to 1968-69)	156.14	116.17
Fourth Plan	(1969-70 to 1973-74)	200.00	189.72
Fifth Plan	(1974-75 to 1978-79) (Terminated 1977-78)	622.73	380.05
Midterm Plan	—	543.64	307.50
Sixth Plan	(1980-81 to 1984-85)	2035.00	2814.11
Seventh Plan	(1985-86 to 1989-90)	4390.00	6753.98
Two Annual Plans	(1990-91 to 1991-92)	—	—
Eighth Plan	(1992-93 to 1996-97)	12000.00	14043.03
Ninth Plan	(1997-98 to 2001-02)	34552.85	33997.69
Tenth Plan (Draft)	(2002-03 to 2006-07)	86449.00	—

- 2.6 It could be seen that over the Plan periods the approved outlays had grown multifold at a rate of about 16.6 percent per annum where as the population in the islands had grown by about 2.32 percent per annum. The quantum jump in the outlay (150 percent) of **Tenth Plan** is in view of the proposed developmental expenditure in sectors like **transportation, tourism and fisheries**. During the current Plan period **tourism** development alone attracts an outlay of Rs.50.15 crores. (Total Draft **Tenth Plan** allocation for the Union Territory is Rs. 864.50 crores).

2.7 Sector wise outlay of Draft Tenth Five Year Plan (Proposed) is given below:

(Rs. Lakhs)

Sector	Proposed outlay	% Share
1. Agriculture & Allied Activities	17390.27	20.12
2. Rural Development	1107.05	1.28
3. Irrigation & Flood Control	3430.00	3.97
4. Energy	2448.54	2.83
5. Industry & Minerals	1001.45	1.16
6. Transport	33858.64	39.17
7. Science & Technology	1400.49	1.62
8. General Economic Services (Tourism = Rs. 5015.45 lakhs)	10903.82	12.61
9. Social Services	10453.34	12.09
10. General Services	4456.26	5.15
11. Grand Total	86449.86	100.00

Source: Draft Tenth Five Year Plan

2.8 The **Plan** and **Non Plan** expenditure of the Union Territory over the years is given below:

(Rs. Lakhs)

Year	Plan	Non Plan	Total Budget
1996-97	4000	10100	14100
1997-98	4300	10200	14500
1998-99	4900	11500	16400
1999-00	5300	15700	21000
2000-01	9800	17000	26800
2001-02	10400	18000	28400
2002-03 (Proposed)	9000	18900	27900

2.9 Although '**the Plan allocation**' is only the visible part of development expenditure, the Non Plan part of the total expenditure is much larger to the extent of even 70 percent. The Non Plan related expenditure is more pronounced in the case of sectors like health, education, social services,

water supply, etc. These expenditures contribute largely to the social and distributive justice.

2.10 Unfortunately, there has been no attempt made to scientifically estimate the State (UT) Domestic Product. Rough estimates based on current value of the sectoral contributions place the Domestic Product of the UT at Rs. 150.00 crores (2001 – 02). No doubt, contribution of the **Secondary** (manufacturing) and **Tertiary** (services) sectors is not significant.

2.11 In short, the economic scenario of the island is summarised as below:

- The UT depends on the Central Government and other external sources for the entire capital inflow (The redeeming feature is that in Lakshadweep Islands there are no abject poverty or indecent affluence).
- The UT depends on the mainland for all commodities and services (Foodgrains, vegetables, dairy products, etc.)
- The UT has very poor per capita income generation from internal resources (fisheries and agriculture).
- The UT has only limited internal resources for establishing revenue generating enterprises within the islands.
- The UT may have to depend heavily on services sector activities including tourism in future years since the primary and secondary sectors show low development potential.

EXHIBIT 2.1

LIST OF ISLANDS / ISLETS IN THE C.D. BLOCKS

Name of C.D. Block	Name of Islands / Islets	Nature of Habitation
1. Chetlat	1. Bitra	Inhabited
	2. Chetlat	Inhabited
2. Kiltan	3. Kiltan	Inhabited
3. Kadmat	4. Kadmat	Inhabited
4. Amini	5. Amini	Inhabited
5. Agatti	6. Thinnakara	Uninhabited
	7. Parali (i)	Uninhabited
	8. Parali (ii)	Uninhabited
	9. Parali (iii)	Uninhabited
	10. Bangaram	Inhabited
	11. Agatti	Inhabited
6. Kavaratti	12. Kalpitti	Uninhabited
	13. Pitti (Birds' Island)	Uninhabited
	14. Suheli (Valiyakara)	Uninhabited
	15. Suheli (Cheriyakara)	Uninhabited
	16. Kavaratti	Inhabited
7. Andrott	17. Andrott	Inhabited
8. Kalpeni	18. Cheriyam	Uninhabited
	19. Kodithala	Uninhabited
	20. Kalpeni	Inhabited
	21. Thilakkam (i)	Uninhabited
	22. Thilakkam (ii)	Uninhabited
	23. Thilakkam (iii)	Uninhabited
	24. Pitti (i)	Uninhabited
	25. Pitti (ii)	Uninhabited
9. Minicoy	26. Minicoy	Inhabited
	27. Viringili	Uninhabited

Source: Provisional Population, Census of India 2001

EXHIBIT 2.2

POPULATION DISTRIBUTION AND OTHER RELATED FACTORS

Sl. No.	Union Territory / CD Blocks	Population			Percentage decennial growth rate		Sex - ratio (Number of females per 1000 males)		Population density per sq. km.	
		Persons	Males	Females	1981-91	1991-01	1991	2001	1991	2001
1	LAKSHADWEEP	60595	31118	29477	28.47	17.19	943	947	1616	1894
2	Chetlat	2553	1341	1212	36.70	12.17	859	904	1996	2239
3	Kiltan	3664	1847	1817	29.05	19.54	985	984	1880	2248
4	Kadmat	5319	2685	2634	27.97	33.48	961	981	1277	1705
5	Amini	7340	3727	3613	20.12	13.85	969	969	2489	2834
6	Agatti	7072	3688	3384	39.41	23.40	870	870	1492	1842
7	Kavaratti	10113	5579	4534	31.39	16.55	829	829	2056	2396
8	Andrott	10720	5356	5364	33.91	17.52	999	999	1885	2215
9	Kalpeni	4319	2279	2040	15.27	5.75	932	932	1464	1548
10	Minicoy	9495	4616	4879	24.96	14.12	1049	1049	1895	2163

Source: Provisional Population, Census of India 2001

CHAPTER III

THE TRANSPORTATION SECTOR

BACKGROUND

- 3.1 Although the transport network covers a wide range of modes like rail, road, air and sea, in the Lakshadweep Islands the relevance is only for **sea transport**. To a very limited extent **air transport** also plays a minor role.
- 3.2 **Transport** is one of the critical components of tourism management in any territory and hence an efficient transport system is fundamental to the overall success of the hospitality industry. The concept of modern tourism was developed in the world over by employing an ever widening network of air transport wherever possible direct to the tourist destination. Direct access enabled the tourists, speedy, comfortable and affordable journey from their places of residence. In this context “**Chartering**” has assumed significance of late as one of the components of tourism promotion. Thus the transport system revolves around the basic principle that all the elements are co-ordinated in a such a way to provide smooth transit of the passengers and their belongings. The smooth performance standards of the entire journey reflect the appreciation of the leisure holidays.
- 3.3 The various aspects of the travel and transport facilities in the islands can be divided broadly into three segments, Viz.
 - a) **Long distance travel** – travel from the first entry point to the destination in one of the islands,
 - b) **Short distance travel** – between various islands in the group that a tourist is likely to visit, and
 - c) **Travel** within the island.
- 3.4 In the case of long distance travel from the mainland to the island, presently Kochi is the boarding point either by ship or flight. Kochi is now well connected by rail as well as flight, which are used by the domestic as well as international passengers to arrive at Kochi. The domestic passengers from

Maharashtra as well as northern parts largely arrive by train to Kochi. A small percentage of the visitors take flights to reach Kochi. Kochi has also been selected as the entry point for visitors since the required **'Permit'** for entry into islands is issued by the office of the UT Administration at Kochi.

SHIPPING SERVICE

- 3.5 As a means of mass transport of men and materials shipping service is the lifeline of the transport network both to and from the mainland. As mentioned earlier, except for coconut and fish all other food items like food grains, fruits and vegetables, cereals, provisions, etc. are to be transported from the mainland. Apart from these, cargo traffic of essential items and building materials (steel, cement, wood, stationery items) is also effected from mainland. Lack of health and proper education facilities in the islands make the travel requirements of the islanders to the mainland enormous. Thus, shipping and fast boat services have become the essential elements of the transportation network in the islands.
- 3.6 Most of the inhabited islands have port facilities including jetties of varying lengths and operational facilities. The lagoon and the coral reef present in all the islands (except Andrott) although provide a natural shelter from rough seas, however restrict navigational facilities of ships and large boats of drafts of more than two meters to the jetties.
- 3.7 Embarkation and disembarkation of passengers and cargo in this context is thus have to be carried out in open sea, two to three kilometers away and later brought to the jetties by small boats. This needs to be repeated at all the islands throughout the journey included in the tour package. Although for youngsters these trips may be enjoyable, especially for older generation and ladies these travels are quite hectic and troublesome.
- 3.8 A cross section of the tourists interacted with remarked that as a first time experience these cumbersome journeys may be acceptable, but not at all appreciated for repeat visits. These sources also felt that the whole thrill of reaching a holiday resort is taken away by the travel mode and the difficulties attached to it.

PRESENT TRANSPORT FACILITIES

3.9 At present, mainly three ships operate between the mainland and various islands. The particulars are given below:

Name of Vessel	Year Built	Passenger Capacity		Cargo Capacity (Tonnes)
		Cabin	Seats	
1. Bharat Seema	1973	40	348	160
2. Tipu Sultan	1982	134	524	—
3. Dweep Setu	1984	—	140	25

3.10 Although Bharat Seema and Tipu Sultan are only meant for mainland transportation, Dweep Setu is also used for this service due to travel demand from the islanders. All these ships are relatively old and extensive repair works have been carried out to make them seaworthy. Knowledgeable sources feel that further extension of their functional life is extremely limited. Dweep Setu mainly operates between Beypore and Lakshadweep Islands.

3.11 Apart from the above three, two other ships, Mv Minicoy and Mv Amindivi of 150 passenger capacity each, have been recently commissioned in the mainland to island transport network. Both these ships are relatively new and have comfortable seating arrangements and cruise with a speed of about 14 to 16 knots per hour.

ANALYSIS OF PASSENGER TRAFFIC

3.12 Based on the number of voyages, vessel capacity of various ships and actual passenger traffic for the past few years, the following data is arrived at.

Year	Total available capacity by all ships	Actual passenger traffic	% capacity utilization
1993-94	114936	73277	63.75
1994-95	110236	81114	73.58
1995-96	102540	84188	82.10
1996-97	103228	86610	83.90
1997-98	94908	92340	97.29
1998-99	99096	87811	88.61
1999-00	—	82165	82.91
2000-01	—	82087	82.83
2001-02		99606	100.60

(Source: Port office, Lakshadweep).

Note: Although vessel capacity for each ship is constant, for different years the number of voyages undertaken differs for different ships.

3.13 The number of voyages by a passenger ship is decided based on the dry docking, annual maintenance and monsoon season. On an average these three ships together were on dry docking and maintenance for about 250 days in a year. Based on the past data the following statistics is arrived at:

Ship	Average no. of voyages in a year	Average yearly passenger capacity
1. Bharat Seema	44	34661
2. Tipu Sultan	46	60536
3. Dweep Setu	32	8960
4. Mv Amindivi	50	15000
5. Mv Minicoy	50	15000
Total	222	134157

(Source: Port office, Lakshadweep).

FUTURE PASSENGER TRAFFIC

3.14 The passenger traffic from mainland to the island and vice versa in the past(1987-88 to 2001-02) had shown a growth rate of 8.0 percent per annum. Discussions with the Port Authorities reveal that although the existing large ships are old and may have to be scrapped before long, their carrying capacity is fully utilised from the island to the mainland and in the reverse direction. Mv Tipu Sultan, generally plies with much more than its rated passenger capacity. This reflects that alongwith the growth in population and the adaptation to better living conditions, socio-economic standards, etc. the travel requirements (travel propensity) also increase commensurately. Traffic may not be uniform throughout the year hitting the peak during October – November – December and lean during monsoon months (June – September). The following Table provides the relationship between population and passenger traffic.

Year estimated	Population	Passenger traffic	Per capita traffic
1987-88	47974	33934	0.70
1995-96	55978	84188	1.50
1998-99	58708	87811	1.50
2000-01	60595	82087	1.35
2001-02	61498	99606	1.62

3.15 The propensity to travel is essentially a function of the population and its growth. In this context in order to project the likely future passenger traffic we have used a linear regression analysis with population as the independent variable. (Logarithmic / exponential approach to the above gave over estimated figures and hence not presented). The linear regression model used is $Y = Ax + b$ where $Y =$ Actual growth in passenger traffic (Dependent variable), $x =$ Population growth (Independent variable) and A & b are constants. The projected figures are given below:

REGRESSION ANALYSIS OF POPULATION Vs. PASSENGER TRAFFIC

Projection Equation $y = A * x + B$	A	B	R²
	4.270608864	-162680.79	0.8642

Year	Population	Passenger Traffic
	(X)	(Y)
1987-88	47974	33934
1988-89	49193	41034
1989-90	50442	52363
1990-91	51707	56957
1991-92	52534	67646
1992-93	53375	64526
1993-94	54229	73277
1994-95	55096	81114
1995-96	55978	84188
1996-97	56874	86610
1997-98	57784	92430
1998-99	58708	87811
1999-00	59647	82165
2000-01	60595	82087
2001-02	61498	99606
(Projected)		
2002-03	62414	103865
2003-04	63344	107837
2004-05	64288	111868
2005-06	65246	115959
2006-07	66218	120110
2007-08	67205	124325
2008-09	68206	128600
2009-10	69222	132939
2010-11	70248	137321
2011-12	71231	141519
2012-13	72229	145781
2013-14	73240	150099
2014-15	74265	154476
2015-16	75305	158917
2016-17	76360	163423
2017-18	77428	167984
2018-19	78512	172613
2019-20	79611	177307
2020-21	80733	182098

Note: A log linear function fitted to the above resulted in large passenger traffic and hence not presented here.

3.16 It may be noted here that as of now, the tourist traffic which forms a part of the passenger traffic, constitutes roughly about 3.2 percent of the above. By 2020 – 21 the share of tourist traffic (promoted by tour packages only) is expected to reach about 9 to 10 percent of the projected passenger traffic.

INTER ISLAND TRANSPORT

3.17 As mentioned earlier the islands within Lakshadweep Group are lying widely dispersed and inter island transport logistics presently operating is not at all satisfactory. Mainly, there are two speed vessels operating between various islands exclusively for inter island transport. These vessels have 100-passenger capacity.

3.18 Apart from the above, the mainland connecting vessels (Tipu Sultan, Bharat Seema, Dweep Setu, Amindivi, Minicoy) also touch various islands like Minicoy, Kalpeni, Kadmat, etc. during their journey from the mainland.

3.19 Yet another mode of transport used mainly by the islanders to reach various islands is the smaller boats / launches which are mainly fishing vessels. The following statistics provides the past details.

INTER ISLAND TRANSPORT

Year	Mainland vessels	Speed vessels	Total
1993 – 94	55889	12488	68377
1994 – 95	67059	12735	79794
1995 – 96	62534	6176	68710
1996 – 97	60227	4618	64845
1997 – 98	52066	11552	63618
1998 – 99	45131	6479	51610
1999 – 00	—	—	34072
2000 – 01	—	—	43955
2001 - 02	—	—	42407

Note: Transport by other boats / crafts is not included here.

Source: Port office, Lakshadweep

3.20 Analysing the past data on passenger traffic between various islands and by different modes described as above, the following usage pattern emerges. (Average over the past few years).

Mode	Inter island transport % share
Mainland Vessels	76.50
Speed Vessels	11.90
Other Launches	11.60 (estimated)

3.21 It could be seen from the above that the mainland vessels especially the new ones (Mv Minicoy and Mv Amindivi) provide comfortable (air conditioned facility) journey and the islanders prefer these wherever available. Moreover the speed vessels although originally were giving 20 – 25 knots per hour, over the years have substantially reduced their speed (Currently 12 to 14 knots). The journey in these vessels is not preferred by the islanders due to poor ventilation and ambient temperature. No doubt, these are used during emergencies although these boats have the facility of embarkation and disembarkation at the jetties.

TRANSPORT INFRASTRUCTURE – TOURISTS

3.22 The tour packages are presently organized by SPORTS and the tourists are largely taken to the island by ships, Tipu Sultan and Bharat Seema. After the introduction of Mv Minicoy and Mv Amindivi, these are also being used for tourists transportation. The embarkation point is Kochi. The tour packages, mainly the ‘Coral Reef Package’ are arranged in such way that a few islands like Minicoy, Kalpeni are also covered before touching Kavaratti. The package is arranged in such a way that during the day the tourists enjoy the sun, sea and the beach while they stay on board during nights. This largely reduces the burden on the carrying capacity of the island. Yet another island covered during the package is Kadmat. A small percentage of the tourists avail staying package provided at Kadmat. Thus, the mainland to the island and between islands the tourists journey is by these large ships.

3.23 It may be noted here that these large ships also cater to the travel requirement of the islanders which by itself is very large. The arrangement is that a few seats are reserved for tourists in these ships and this practice has been in vogue for some time. Be that as it may, more often there are conflict of interests among the islanders and the tourists. The tourists are

given a preferential treatment in the journey (in terms of food and accommodation) and the islanders feel that they unnecessarily spend long duration in the ship to accommodate the tourists. The cultural disparity between the tourists and the islanders is yet another factor of discontentment.

3.24 Some of the salient features on inter island transport emerged during our survey were:

- ◆ The tourists as a group do not appreciate the journey by speed vessels which do not provide adequate facilities for ventilation and breeze. The four to five hours journey by these boats to reach an island is not comfortable. The only positive aspect about these vessels is that they can be brought to the Jetty.
- ◆ Large ships perform the inter island journey during night. As far as the tourists are concerned these journeys give them a feeling of long duration.
- ◆ Independent visitors other than tourists to various islands are held up sometimes for about a week for want of return journey. The speed vessels start and end their journey at Kavaratti during a particular day. The itinerary of the two speed vessels may be scheduled in such away that one of the vessels touch an island within a gap of two days.
- ◆ In conclusion, it could be summarised that with all the existing facilities, the inter island transport transcends an unpleasant feeling by any visitor including tourists to the island.

THE PROPOSED PLANS

3.25 The Administration as well as the Ports Department is well aware of the existing transportation problems in the islands. The tourists and the general public are two separate entities with specific demand on travel comforts, which often conflict. The passenger traffic is also slated to increase multifold in future years and the existing capacity of the ships falls insufficient. Moreover, the functional life of these ships is also not too long and will have to be condemned by 2004.

3.26 In the face of these difficult situation the following proposals were made by a Committee constituted for transportation and shipping requirements in the islands.

- a) **Three** high speed ferry vessels of 150 passenger capacity proposed during 2002 – 03, 2003 – 04 and 2007 – 08
- b) **Two** vessels of 250 passenger capacity proposed during 2003 – 04
- c) **One** vessel of 400 passenger capacity proposed during 2007 – 08
- d) **Eight** landing barges (2 each in 4 islands) of about 100 passenger deck capacity mainly to transport passengers from disembarkation point to the jetty

3.27 Of the above the following are included in the **10th Plan** proposals.

- Acquisition of **two** inter island high speed ferry vessels – 150 passenger capacity
- Procurement of **eight** landing steel barges
- Acquisition of **two** 250 passenger capacity ships
- Construction of **mini airstrips** in five islands

3.28 It may be noted here that the following decisions / actions had already been taken by the Administration to augment the capacity, apart from the above plan proposals.

- ❖ Construction and delivery of **one** 700 passenger cum 160 tonnes cargo capacity ship mainly for replacement of the existing ship (Considering 50 round voyages per annum this vessel would be able to carry 70,000 passengers at full capacity utilization). Probable delivery date : Early 2003.
- ❖ Acquisition of a dedicated cruise ship of 150 passenger capacity for transport of tourists exclusively.

- ❖ Placed order for 3 fibre glass ferry boats of 50 passenger capacity under the Central Programme of Prime Minister's Gram Sadak Yojana 2001 – 02 in the islands. Cost of each boat is placed at Rs. 1.50 crores and these will be used for inter island transportation. These would be available by middle 2003.

3.29 It is believed that with the commissioning of the above schemes, some of the present problems encountered in transportation will get solved atleast for the time being. Acquisition of the cruise ship exclusively for the purpose of the tourism promotion is a step in the right direction. An allocation of Rs. 50.00 crores has already been made in the 10th Plan period and it is expected that the tourist ship would be commissioned at the earliest. Apart from the convenience of organizing the tour packages to the optimum levels, it would also help in preserving the cultural identity of the tourists originating from different parts of the country.

3.30 With a dedicated ship on hand, the organizing agency will be able to run a maximum of 40 round tour packages in a year. At full capacity, it can handle 6000 tourists passengers in a year. It may be necessary to augment this facility by another ship by 2010. (Capacity sharing from other ships may be required depending upon the tourist traffic).

3.31 It may be emphasized here that the demand for transport services especially in inter island sector will continue to be on the increase and frequent revision and augmentation of the services may be necessary in future years. The proposed tourism development plans in future years would bring about more number of tourists. On relaxation of some of the regulations existing, tourists are also likely to arrive in the islands independently of the packages.

3.32 PROPOSALS AS PART OF THE PERSPECTIVE PLAN

- ◆ Allow **private party entry into operation of inter island transportation** (This has been practised in Maldives and inter island transport does not pose any problems). Encourage local entrepreneurs in this field with strict policy guidelines. Greater coverage, frequency, dependability and safety are some of the core factors that decide on the efficiency of transport logistics. The subsidy element presently existing may have to be reexamined once privatization takes place. Computerized reservation facility for return journey between islands may be introduced for the benefit of the passengers. The already

existing computerized booking counters in large islands can be linked to establish this facility.

- ◆ Encourage **air taxi** operation by helicopter between the islands. Most of the inhabited islands have helipad, which can be used for this purpose. Expansion in the tourist traffic of high spenders would call for such operations in future years.
- ◆ Explore possibilities of introduction of **sea planes** for inter island transport. (It is understood that a local investor has already shown interest in this area and had submitted a proposal. Based on strict evaluation of the proposal from ecological point of view, such facilities can be explored. Maldives and other developed countries have such practices on vogue.

THE ROAD AND ROAD TRANSPORT

- 3.33 With limited geographical area available in each island the road and the road transport do not play a significant role in the transport network. The total road length in all the islands together at the end of the Ninth Five Year Plan was about 140 kms. All the roads in the islands are cement concrete. The location of residential structures in the islands is scattered such that free land for road formation is extremely difficult to come by. The roads are narrow suitable for plying only small vehicles and two wheelers.
- 3.34 During the Tenth Five Year Plan period, construction of additional 43 kms. of road will be taken up. Since rural – urban divide in these islands is extremely negligible, all the existing roads have to pass through the residential localities. There are no national highways or state highways.
- 3.35 The Port Officer of Lakshadweep is designated as the ex officio Regional Transport Officer (RTO) of the island. Two wheelers like motorcycles, scooters, mopeds and cycles are the important modes of personal transport in all the islands. Apart from a few Government owned jeeps and cars, private cars are very few. Light commercial vehicles like three wheelers, pick up vans, delivery vans are available for transport of materials. Tractor trailers and power tillers are commonly used for transport of goods from the port to other consumption centres. Auto rickshaws are available in a few islands. Heavy vehicles like buses and trucks are not allowed in the islands due to the limited road conditions now prevailing.

- 3.36 Although there is vehicle registration fee, the yearly road tax is not levied in the islands. Tax revenue to the Administration is negligible from the transport sector. There are no petrol filling stations in the islands. The existing vehicles depend on a few private agencies who bring diesel / petrol from the mainland and distribute them at an extra cost.
- 3.37 As tourism promotion organization SPORTS operate a few mini vans and jeeps at locations like Kavaratti, Kadmat and Minicoy to take care of transport requirements of day tourists. Since tourist movement is controlled, independent hiring of vehicles does not prevail. Tourist taxis are not registered in the islands. Non availability of parking place, extreme pressure on the land and smaller distance to cover are the important reasons for this.

PROPOSALS AS PART OF THE PERSPECTIVE PLAN

- 3.38 It can very well be expected that with added thrust on tourism, the tourist traffic in future years will undergo drastic changes. This would necessitate additional development in the road and road transport sectors, although it is required only for the internal traffic.
- 3.39 Some of the proposals in this context are:
- ◆ Widening the existing roads in important islands by at least one meter on both sides,
 - ◆ Provide **parking space** at specific locations like jetties,
 - ◆ Register a few **tourist taxis** for internal movement (Local residents involvement)
 - ◆ Explore possibilities of operating one **circular bus route** in main islands. This will reduce the use of personal two wheelers to a considerable extent and consequent pollution levels. This can be entrusted to private promoters.

AIR COMMUNICATIONS

- 3.40 Mainland Kochi is connected by air to **Agatti airport** at Lakshadweep. The airport is maintained by Airports Authority of India as a civil enclave with limited terminal facilities to operate civil flights during fair weather conditions.

- 3.41 The existing runway at this airport has 1200 meters length and 30 meters width with 20 meters on either side for free runway. The terminal facilities include a small building to accommodate departure and arrival lounges. There is also a VIP visitors room and the entire establishment facilities available at this airport is relatively limited and small.
- 3.42 The air traffic control system is maintained by the Port Authorities while the Airports Authority of India is responsible for Distance Measuring Equipment as well as VOR.
- 3.43 The airport presently operates only domestic flights operated by Indian Airlines and hence no immigration facilities are available at the airport. Indian Airlines operates the flights between Kochi and Agatti on all days except on Sunday. Three days in a week these flights also operate between Agatti – Goa sector (However these operations depend only on the availability of passengers).
- 3.44 The present operations of Indian Airlines are restricted only to Dornier aircraft with a capacity of 12 – 14 passengers. (The number of passengers gets reduced in case of excess luggage). Low passenger demand and restricted airport facilities are cited as reasons by the Indian Airlines authorities for not operating larger aircrafts. According to them, earlier Fokker Friendship aircrafts of carrying capacity of 52 passengers were operating at this airport and due to withdrawal of such aircrafts, smaller plane is used now. The Airport Authority feels that bigger aircrafts like ATR of 62 passengers can be operated with the existing facilities and a little improvement. Necessary actions in this direction may have to be initiated fast by the Administration.
- 3.45 All the inhabited islands presently have helipads, which are largely used during monsoon conditions and in emergencies. Most of the islands are cut off by sea during June – September period and hence helicopter service is availed, especially by government officials and in emergencies. The Administration has taken one SA-365 N Dauphin helicopter from Pawan Hans Helicopters Ltd, a Government of India Company (Turnover 2000 – 01: Rs. 174.50 crores) on lease and is being used regularly between Agatti and Kavaratti, even during fair weather conditions.

3.46 **THE EXISTING CONSTRAINTS – AIR TRANSPORT**

- ◆ The lagoon area covers all the three sides of the Agatti airport (Width is very narrow) and especially the sandy beaches on the east and west pose problems for runway expansion.
- ◆ The land area for further expansion to the south is absent due to gap between two islands (Agatti – Kalpitti).
- ◆ The land near the airport towards northern side, belongs to private parties and hence difficulties exist in acquiring.
- ◆ Non availability of instrument landing or night landing facilities (runway lights) at the Airport.
- ◆ Variability of weather conditions which decide upon the total loading capacity of the aircrafts (This would be clear only at the time of take off).

3.47 The Airports Authority of India has imported DVOR Equipment (Doppler Very High Frequency Omni Range) which provides latest and modern communication facilities from any aircraft even during bad weather conditions. The installation of this machine was unduly delayed due to difficulties in procuring sufficient land area on permanent basis (Leasing is preferred by the landowners).

FUTURE EXPANSION PLANS

3.48 According to Airports Authority of India and Indian Airlines authorities all future expansions of the airport would depend on the requirements of air space by the users. Continuous demand pull would definitely justify the introduction of larger capacity aircrafts to the extent possible with the available facilities.

3.49 One of the serious limitations mentioned by the air passengers is the high airfare charged between Kochi and Agatti (Rs. 4425/- one way). On top of the above the helicopter charges to other islands charged for a tourist is exorbitantly high. This no doubt acts as a deterrent for expansion of the air passenger capacity.

- 3.50 One of the proposals for expansion of the airport (runway and other facilities) is connecting Agatti island with Kalpitti, located at the southern portion. The gap between these two islands is about 0.5 kms.
- 3.51 It is learnt that Seabird Charters & Holidays Pvt. Ltd, a Kochi registered aviation company is planning to introduce Kochi – Lakshadweep air taxi service. It proposes to operate a 10 seater Cessna 208 Caravan amphibian aircraft. The aircraft will be equipped with floatation gear designed to take off and land from and on water surface. The aviation company has carefully studied the safety norms based on data provided by National Transportation Safety Board of the US (This organization has the highest number of water planes). The company has now approached Director General of Civil Aviation, New Delhi for necessary clearances.

PROPOSALS AS PART OF THE PERSPECTIVE PLAN

- 3.52 Various islands in the Lakshadweep Group are relatively small in geographical area and are densely populated. Based on the future expansion in the tourism related sectors it is felt appropriate to have smaller airports in various islands like Minicoy, Andrott, Kadmat and Kavaratti. This would also minimize the need for inter island transportation requirement, to a certain extent. Hence the proposals are:
- a) Augment apron and terminal facilities at the existing airport at Agatti so that it can expand operations and also provide terminal facilities for about 50 incoming and 50 outgoing passengers. Terminal also should have accommodation facilities for stranded passengers who could not avail helicopter services to the capital Kavaratti or other islands. The island Administration may take initiatives in vigorously pursuing with the Ministry of Civil Aviation / Airports Authority of India for speedy expansion of the Agatti Airport and for operating higher capacity aircrafts.
 - b) Construct **smaller airports** at Andrott, Minicoy, Kadmat and Kalpeni (The existing airport at Agatti can serve for Kavaratti, the headquarters). These smaller airports need to have runway and other terminal facilities to accommodate ATR aircrafts with a passenger capacity of 50 numbers.
 - c) The existing helipad area in the above islands can be suitably remodeled to construct the above airports.

- d) Trivandrum and Kozhikode airports may be connected to various islands. For eg. Trivandrum – Minicoy and Kozhikode – Andrott.
- e) In the long run say by 2015 depending on the expansion of tourist inflow and related activities it may be necessary that an **international airport** be built in one of the uninhabited islands. (Male island accommodates an international airport although its geographical area is only 1.78 sq. km.)

THE CARGO TRANSPORT

- 3.53 As mentioned in earlier paragraphs except for coconuts and fish, all other materials (food and non-food) are to be brought from the mainland especially places like Kochi, Mangalore, and Kozhikode. The time and the cost involved in this transportation make the general living conditions relatively dearer. Cost of civil construction in these islands is about three times the cost of comparable activities anywhere in the mainland.
- 3.54 The present mode of transport of cargo from mainland to various islands is as follows:
- a) Passenger cum cargo vessels,
 - b) Government owned vessels, and
 - c) Private motorised sailing vessels (Normally known as “Manju”).
- 3.55 In the first category, vessels like Bharat Seema and Tipu Sultan are primarily intended for passenger transport and hence cargo transport is generally being discouraged. It is being resorted to only in specific conditions during monsoon months. Moreover the cargo capacity is limited in these ships and normally are operated with full passenger load.
- 3.56 The category of Government owned vessels constitutes one oil barge (‘Suheli’) and four cargo vessels. (Ubaidulla, Thinnakkara, Laccadives, and Cheriya). The oil barge, Suheli with a capacity of 60 tonnes is primarily intended for crude oil storage facility to bunkering requirements of speed vessels plying between Kavaratti and other islands. The other cargo vessels, each having a capacity of 670 tonnes (Total: 2680 tonnes) can be used only during fair seasons (260 operating days) and can on an average perform 26 round voyages each, calling at four to five islands during each trip. Thus the total cargo carrying capacity with Government owned vessels (4 numbers) is 69680 tonnes (26 x 4 x 670) per annum. These vessels are of 1989 origin

and also considering 30 years of economic life, the balance functional life is estimated upto another 15 to 20 years.

CARGO TRAFFIC DETAILS

(Tonnes)

Year	Government Ships	Private Transport	Total
1987 – 88	8522	19586	28108
1988 – 89	9704	20212	29916
1989 – 90	10610	19861	30471
1990 – 91	12077	28381	40458
1991 – 92	11825	27017	38842
1992 – 93	12045	30900	42945
1993 – 94	16267	37355	53622
1994 – 95	16166	43859	60025
1995 – 96	19887	73175	93062
1996 – 97	21897	75310	97189
1997 – 98	22694	75643	98337
1998 – 99	25882	76498	102380
1999 – 00	—	—	182471
2000 – 01	33371	122249	155620
2001 – 02	—	—	197735

(Source: Port office, Lakshadweep)

3.57 An analysis of the past data on cargo traffic reveals that it has increased from 28,108 tonnes in 1987-88 to 155,620 tonnes in 2000 – 01 showing an average annual growth rate of 14.06 percent. Further analysis shows that the Government vessels mentioned as above could carry on an average 28 percent of the cargo and the balance being carried by private motorised large vessels. The share of cargo carried by Government vessels, in fact declined over the years. (i.e. from 30 to 28 percent) and correspondingly the share of private vessels increased.

3.58 Growth in consumption demand for materials is a function of the population as well as the per capita income. Since the per capita income details are not available, the cargo requirement for future years is related to the past population and the likely future growth. A linear regression model $Y = Ax + b$ is used to project the requirement of cargo traffic in future years.

Y = Actual growth in cargo traffic

X = Population details

A & B = Constants

REGRESSION ANALYSIS OF POPULATION Vs. CARGO TRAFFIC

Projection Equation $y = A * x + B$	A	B	R²
	12.37	-597648.85	0.8416

Year	Population (X)	Cargo Traffic (Y)
1987-88	47974	28108
1988-89	49193	29916
1989-90	50442	30471
1990-91	51707	40458
1991-92	52534	38842
1992-93	53375	42945
1993-94	54229	53662
1994-95	55096	60025
1995-96	55978	93062
1996-97	56874	97189
1997-98	57784	98337
1998-99	58708	102380
1999-00	59647	182471
2000-01	60595	155620
2001-02	61498	197735
(Projected)		
2002-03	62414	174628.621
2003-04	63344	186135.944
2004-05	64288	197816.495
2005-06	65246	209670.275
2006-07	66218	221697.284
2007-08	67205	233909.894
2008-09	68206	246295.733
2009-10	69222	258867.174
2010-11	70248	271562.349
2011-12	71231	283725.466
2012-13	72229	296074.184
2013-14	73240	308583.758
2014-15	74265	321266.56
2015-16	75305	334134.964
2016-17	76360	347188.97
2017-18	77428	360403.831
2018-19	78512	373816.668
2019-20	79611	387415.106
2020-21	80733	401298.135

Note: A log linear function fitted to the above resulted in large cargo traffic and hence not presented here.

CHAPTER IV

OTHER PHYSICAL AND SOCIAL INFRASTRUCTURE

BACKGROUND

- 4.1 Some of the physical infrastructure facilities discussed under this Chapter are power, water supply, telecommunications and sewage disposal. Social infrastructure like medical and education facilities are also discussed to provide the existing level of developments in the islands.

POWER

- 4.2 Needless to say that there is no thermal, hydro or nuclear power generating stations in the island. The entire supply is based on **diesel fired** combustion engines in all islands.
- 4.3 Minicoy was the first island to be electrified in 1962, which was extended to Kavaratti in 1964. Later in 1965 and 1966, Amini and Andrott got electrified respectively and by the end of Sixth Five Year Plan (1984 – 85) all inhabited islands and Bangaram got electrified. Although initially power was supplied only for 6 hours, since April 1983 supply was restored to 24 hours. In Bitra, the smallest island, 24 hours supply was given only from May 1988.
- 4.4 The status of installed power generating capacity, island wise is given below:

Island	Existing capacity (KW)	Proposed to be added (KW)	Proposed to be scrapped (KW)	Likely total
Minicoy	1800	400	—	2200
Kavaratti	1800	400	—	2200
Amini	1034	500	634	900
Andrott	1250	400	—	1650
Kalpeni	895	250	—	1145
Agatti	1140	250	240	1150
Kadmat	750	250	—	1000
Kiltan	510	200	310	400
Chetlat	430	200	230	400
Bitra	39	40	39	40
Bangaram	72	40	72	40
Total	9720	2930	1525	11125

Source: Department of Electricity

Note: At the end of 2000 – 01, all islands together have an installed generating capacity of **9922 kw.**

- 4.5 The power generation in the islands had increased from 15.409 million kwh. in 1995 – 96 to 19.819 million kwh. in 2000 – 01, showing an average annual growth rate of 5.2 percent, while the consumption during this period has been growing at about 10 percent per annum. Roughly about 65 percent of the consumption is in the domestic sector, 19 percent in the commercial sector, 7 percent in industrial applications and the balance 9 percent for streetlights.
- 4.6 Considering the population of the island at 61498 in 2001 – 02 and the energy consumption level at 21.516 million kwh., the **per capita annual consumption** works out to **350 kwh.**

TENTH PLAN PROPOSALS

- 4.7 It has been estimated that the peak demand and energy requirement in the islands would be 8.8 MW (as against the current level of 7.0 MW) and 36.7 million kwh. as against (21.5 million kwh.) by the end of Tenth Plan (2006 – 07).

- 4.8 Apart from the existing diesel generating capacity, all the islands have **non-conventional energy sources**, especially solar power stations. Bitra Island solely depends on solar sources. Other energy sources like biomass gasifiers, wind, etc. are also being explored to augment the existing capacity. Major islands like Kavaratti, Andrott, Minicoy, etc. have 100 KW solar power plants and others are in the process of expansion.

THE FUTURE SCENARIO

- 4.9 The requirement of electricity especially in the domestic sector has been growing at a fast pace and the trend is likely to continue in future years even at a much a faster rate. The various developmental plans proposed in tourism and related infrastructure sectors would call for additional requirement of generation capacity. At the current rate of consumption the energy requirement in the islands by 2010 – 11 and 2020 – 21 would be 24.62 and 28.25 million kwh respectively. **The following proposals are worked out during the 10th Plan period.**

- ◆ Augmentation of diesel generating capacity in each of the island. Total planned : 7700 KW (additional).
- ◆ Private sector participation in generation of electricity.
- ◆ Reduction of T & D losses to 8 percent as against 10.5 percent, now.
- ◆ Conversion of 11 KV HT lines to underground lines.
- ◆ Further expansion of non-conventional energy sources like biomass, wind energy.

- 4.10 In the case of proposed resort development in uninhabited islands, the infrastructure requirements including power will have to be met by the private sector promoter and hence will not be a burden on the general supply lines.

COMMUNICATIONS

- 4.11 This includes infrastructure facilities like public and private telephone, telephone exchanges, ISD / STD, telegraphs and post offices.

- 4.12 As far as **telephones** are concerned the basic services are provided by BSNL. Of the existing ten inhabited islands Minicoy, Kavaratti, Andrott, Kalpeni, Kiltan and Agatti are connected by satellite. The remaining islands are in the VHF mode. Bangaram Island is connected to Agatti exchange.
- 4.13 All islands are connected by STD facility and ISDN facility is now available only in Kavaratti. NICNET facilities are now available in all islands except Bitra. **Internet** facilities are now available in Kavaratti (24 connections). The island wise list of telephone exchanges, their capacity and the working connections are given below:

ELECTRONIC EXCHANGE FACILITY

Islands	Capacity (Number)	Working connections (Number)
Agatti	1000	796
Amini	1000	798
Andrott	1400	1365*
Bitra	184	40
Chetlat	368	350
Kadmat	1000	811
Kalpeni	1000	788
Kavaratti	2000	1643
Kiltan	1000	637
Minicoy	1400	1377*
Total	10352	8605

(* Expansion planned)

Source: BSNL, Lakshadweep

- 4.14 The Department is planning to take up **optical fibre** connections between the satellite stations and exchanges. In Agatti already 5 kms. of such cables have been completed. According to the Department there are no waiting period for telephone connections and Andrott and Minicoy exchanges are planned to be expanded in the near future.
- 4.15 All the islands have one **post office** each.

FUTURE SCENARIO

- 4.16 Discussions with officials in the Telecommunications Department revealed that expansion of communication facilities for various islands would not pose any problem in future years. Most of the existing exchanges have excess capacity and expansion is already planned for those, which have reached rated capacity.

WATER SUPPLY

- 4.17 Availability and management of potable water are of critical nature in the islands. Water supply and sanitation activities in the islands are managed by Public Works Department (PWD) and all the islands are now covered under restricted water supply through public taps. Only street supply is ensured and direct house connections are not given. The day to day operations and maintenance of water supply infrastructure is entrusted to respective Dweep Panchayats.
- 4.18 The only source of potable water in the islands is the ground water (sub soil water) which is being replenished during the south – west and north – east monsoon months. The sub soil water quality as well as quantity is not at all satisfactory in most of the islands. In Bitra, even this sub soil water is not available and hence potable water is provided through rainwater harvesting systems and RO desalination plant. Many islands are uninhabited only due to the non-availability of potable water.
- 4.19 According to an earlier study conducted the availability and requirement of water in different islands are estimated as given below:

(In Litres)

Islands	Water availability / day	Water requirement / day in 2001	Deficit / day in 2001
Amini	267000	293600	26600
Andrott	1046000	428800	—
Agatti	181000	282880	101880
Chetlat	131000	102120	—
Kadmat	564000	212760	—
Kalpeni	279000	172760	—
Kavaratti	342000	404520	62520
Kiltan	298000	146560	—
Minicoy	268000	379800	111800
Bangaram	9000	(included in Agatti)	—
Total	3385000	2425801	304801

Source: PWD, Lakshadweep

Note:

1. Requirement of Bitra is included in Chetlat.
2. Government of India, Department of Drinking Water Supply has set the norm at **40 LPCPD** as “**Fully Covered**”. This norm is used for estimating the daily requirement.
3. Estimation of water availability per day takes into consideration the existing water table and replenishment by normal monsoon.

4.20 The above Table shows that the drinking water availability position is not comfortable in most of the islands. Among these, **Andrott** and **Kadmat** show better availability position.

4.21 The existing deficit as well as not so comfortable position in various islands suggests that serious consideration needs to be given for rainwater harvesting possibilities. Sea water desalination, although is yet another alternative, may not be cost effective for mass consumption requirements. It can only supplement the existing availability.

4.22 Since the islands are fully covered with coconut trees, only roof top rainwater harvesting system can be adopted effectively. Public buildings where roof area is larger are the ideal setting for these efforts. The water yield in a typical situation is illustrated by the formula:

Max yield of water / month

$$Y = \frac{\text{FAR} \times \text{m}^3}{1000}$$

R = Rainfall in mm. / month

A = Catchment area in sq. m.

F = Run off co-efficient factor for water tight roofs (= 0.8 to 0.9)

4.23 According to PWD statistics total plinth area of non-residential buildings of Administration and others in various islands is given in the following Table. Since the buildings are of single storey (at best, ground + 1) types the roof area could be more or less same as plinth area. However we have considered only 20 percent of the above area in the calculation of available roof area for water harvesting.

4.24 The following details provide the island's potential for water harvesting.

Islands	Total plinth area non-residential buildings (Administration) (Sq. m.)	Total plinth area non-residential buildings (Others) (Sq. m.)	Total plinth area (Sq. m.)	Roof area assumed for rainwater harvesting (20%) (Sq. m.)	Rain water potential estimated by the formula (Lakh litres / monsoon month)
Agatti	16337	1272	17609	3521	8.45
Kavaratti	40573	1953	42526	8505	20.41
Andrott	21543	211	21754	4350	10.44
Kalpeni	9212	660	9872	1974	4.74
Minicoy	25550	6142	31692	6338	15.21
Amini	16281	961	17242	3448	8.28
Kadmat	19618	110	19728	3945	9.47
Kiltan	9143	251	9394	1879	4.50
Chetlat	6277	694	6971	1394	3.35
Bitra	864	266	1130	226	0.54
Total	165398	12520	177918	35580	85.19

Note: Considering all four months of southwest monsoon the total potential would be 85.19 x 4 = 340.76 lakh litres. (Average rainfall: 300 mm per month)

4.25 The above is only indicative to illustrate the potential. It could be increased to the maximum extent based on the available roof area. It could also be seen that even with 20 percent exploitation level the entire requirement of water to the tune of 20 – 25 lakh litres per month can be extracted by rainwater harvesting alone.

FUTURE SCENARIO

4.26 Demand for water in future years is likely to increase based on the growth in population as well as expected improvement in economic and social conditions. Although excessive use and wastage can be curbed through appropriate pricing, water management in the island would be a subject of serious discussions in the years to come.

TENTH PLAN PROPOSALS

4.27 The Department has embarked upon extensive rainwater harvesting measures and setting up or augmentation of RO desalination plants in all islands. It is also proposed to set up a **Ground Water Authority** in the island to control and regulate the exploitation of ground water. Total financial outlay of Rs. 1421 lakhs has been earmarked for water supply related projects.

4.28 It is felt that implementation of the above projects would solve water supply related difficulties in the islands to a large extent. Alongwith these developmental measures it is also felt that a widespread campaign on judicious use of water and reduction in wastage can also be taken up immediately. The proposed **Ground Water Authority** in association with **Water Resources Development Management Centre, Calicut** can make a ‘resources survey / mapping’ of ground water in each island and prepare a sector wise listing of ground water exploitation and its use. In order to strengthen the efforts of the Department, as part of the tourism promotion, provision has been made in terms of a few proposals in the **Perspective Plan**. (These will be in addition to the 10th Plan proposals, to be taken up in specific islands of tourism development).

4.29 In the case of uninhabited island and resort development is concerned, the promoters will have to take the responsibility of water supply.

SEWAGE AND SOLID WASTE MANAGEMENT

- 4.30 Sewage and solid waste disposal is an equally critical area in the islands. There are no centralised sewage treatment plants now existing and traditional / conventional sewer systems are not viable considering the islands geographical and geological conditions. The outflow from septic tanks / soak pits pass through underground porous, sandy soil thus contaminating the water table. Moreover this also spills into the lagoon area causing weed growth and endangering coral and marine life. The study conducted by S.J. College of Engineering, Mysore suggested alternate system of septic tanks to solve the above problem. This is being taken up in selected pockets in the islands.
- 4.31 Yet another alternative could be the concept of **Eco Toilets** or **Bio Toilets**. These can be experimented in Kavaratti and Minicoy Islands. Laboratory tests conducted in these islands had already shown excessive nitrate concentration in ground water, originating from human waste and septic tanks. In almost all drinking water sources in these islands the quality was found to be of substandard.
- 4.32 The above situation suggests that the **sewage system** improvement is extremely critical in the islands.
- 4.33 Organized system of solid waste collection both biodegradable and non-biodegradable is non existent in the island. This results in accumulation of especially non-biodegradable items like plastics, glasses in various parts. Such materials also get spilled over to the lagoon area, which accelerates the mortality of corals. In the case of plastic items, awareness programme right from schools needs to be created. Recent reports suggest that efforts taken by the Government to discourage the use of plastic materials in the hilly town of Udhagamandalam (Ooty) in Tamil Nadu had yielded significant results. The UTL Administration has taken measures to provide garbage bins in residential localities so that the non-biodegradable items can be stored and collected. This will be sent to the mainland later. Although these efforts, no doubt, have yielded some results, it is important to continue the awareness programme among the locals about its sustainability. Regular monitoring through NGOs and related Government organizations is to be stepped up to achieve meaningful results in this campaign.

- 4.34 In the case of **biodegradable** waste, the ideal alternative is to convert them into compost / bio fertilizer. Here again an organized system of collection of these wastes from each locality is to be developed and monitored regularly.
- 4.35 As part of the 10th Plan proposals provision has already been made to provide sewage treatment units and management of biodegradable and non-biodegradable wastes. Total provision of Rs. 368 lakhs has been made for this purpose. If proposed targets are met it would effectively solve some of the existing problems in the islands in this respect.
- 4.36 Considering the small geographical area of each of the islands and the existing level of social awareness of the inhabitants, it is felt that the management of solid waste disposal can easily be achieved and gainfully utilised though proper monitoring of the system. The success of the Administration in this context remains in focussing it as **people's movement**. Encouraging NGOs to come forward and support the activities of the Administration would bring about meaningful results.

MEDICAL AND PUBLIC HEALTH

- 4.37 The preventive and curative health care facilities are provided in the islands through a few hospitals and community health centres established in various islands. The birth rate, death rate, infant mortality rate, maternal mortality rates have been substantially brought down in the islands through various programmes implemented by the Administration. The following statistics illustrate the situation.

Item	1967	2000
Birth rate (decennial)	41.04	21.38
Death rate	13.89	3.98
Infant mortality rate	102.67	25.70
Maternal mortality rate	8.04	Nil

4.38 The availability of hospitals and health centres are given below:

a) Hospitals	2 Kavaratti (50 beds), Minicoy (30 beds)
b) Community Health Centres	3 Amini, Andrott, Agatti, (30 beds each)
c) Primary Health Centres	4 Kalpeni, Kadmat, Kiltan, Chetlat, (10 beds each)
d) Ayurvedic Dispensary	2
e) Homeopathic Dispensary	1
f) Dental Clinic	1
g) First Aid Centre	1 (Bitra)

4.39 Although the existing two hospitals at Kavaratti and Minicoy are providing the immediate health care to the needy, free of cost, serious cases are always referred to the mainland for treatment. Non availability of specialist doctors and modern diagnostic facilities do pose problems of health care in the islands. According to the islanders, a major share of their travel needs and expenses is related to seeking medical aid at the mainland.

4.40 The need for attending to the immediate medical requirements of the local population as well as the visitors is of prime importance and will be on a increasing scale in future years. The existing two hospitals need to be equipped with modern facilities so that critical cases can be attended to without any loss of time. The working of the **primary health centres** needs to be streamlined and most importantly what is required is to improve the confidence of the local population by quality treatment and medical aid. Total outlay of Rs. 1783 lakhs has been earmarked for various developmental activities in this regard.

FINANCIAL SERVICES

4.41 Syndicate Bank is operating as the **Lead Bank** in all the islands and the bank operates one branch in each island (except Bitra).

- 4.42 The **District Credit Plan** of the bank approved for the year 2002 – 03 estimates a total credit to the tune of Rs. 383.59 lakhs of which about 61 percent is accounted for by the priority sector. Here again, agricultural operations including fisheries account for about 50 percent of the priority sector. Crop loan, plantation / horticultural operations and fisheries are the important activities in agriculture sector.
- 4.43 As on 31.12.2001 the **total deposits** level with the bank was of the order of **Rs 57.48 crores** as against an **advance** position of **Rs. 5.64 crores**. The Credit-Deposit Ratio works out to about 10 percent, which is extremely low. Discussions with the bank officials also revealed that since the economy being predominantly agro oriented, the advance position does not show any substantial increase over the years. In islands like Amini and Kadmat, the CD ratios are relatively higher at 20 and 25 percent.
- 4.44 The high deposit level in various islands (Maximum deposit in Minicoy = Rs. 20.68 crores) only indicates the unused potential that exists in various sectors. The bank managers feel that the locals of Lakshadweep do not have risk taking capacity of investing in productive enterprises. Although resources based opportunities are minimum in these islands, the scope for tertiary / service sector activities would exist in future years.
- 4.45 As of now foreign exchange facilities are not available in the islands. Even in the Agatti airport money exchange facilities do not exist. This requirement may have to be established in future years when the islands are opened up for international tourists.
- 4.46 Under the micro credit plan, the bank can organize training programmes for small groups of women to take up productive crafts related professions. Speciality products of the island from coconut and its by products can be developed through this Self Help Groups (SHG). Tourism Department can support these activities in providing sales counters at tourist locations.

CHAPTER V

PRESENT TOURISM SCENARIO IN THE ISLANDS

LOCATIONAL DETAILS

- 5.1 Located in the Arabian sea, west of Kerala coast, Lakshadweep consisting of 10 inhabited and 26 uninhabited islands are one of the largest coral reef islands in the country. (Other coral reefs are Gulf of Mannar, Andaman & Nicobar, Gulf of Kutch). Densely covered with coconut palms, each island floats serenely in sea whose waters range from turquoise to sapphire blue. These islands are believed to have been formed as the result of coral activity and these corals thrive only in clear water of temperature 23 to 33° C.
- 5.2 Most of the islands have on their **western side a lagoon** enclosed by a coral reef. The lagoon runs through the entire length of the island and differs in width and depth. The coral reef, like a boundary wall protects the lagoon from rough sea. As a result the water of the lagoon is calm and serene within the periphery beyond which the pale blue turns into deep blue due to the depth. Lakshadweep Islands have a total lagoon area of 4200 sq. kms., 20,000 sq. kms. of territorial waters and 4.0 lakh sq. kms. of economic zone. In this respect Lakshadweep is a large territory. The islands together have a shore length of 132 kms. of which about 44.430 kms. are protected from sea erosion. The following details provide a comparative analysis of the lagoon area with respect to the geographical dimensions.

Islands	Geographical area (sq. kms.)	Shore length (kms.)	Lagoon area (sq. kms.)
A. Atols			
Agatti	2.6	16.0	17.50
Andrott	4.9	18.5	–
Amini	2.6	13.4	1.50
Bangaram	0.8	–	46.25
Bitra	0.1	1.5	45.61
Chetlat	1.4	7.2	1.60
Kadmat	3.2	19.2	37.50
Kalpeni	2.6	13.1	25.60
Kavaratti	3.7	14.7	4.96
Kiltan	2.2	8.1	1.76
Minicoy	4.8	19.9	30.60
Suheli	0.8	–	78.96
Sub total	29.7	131.6	291.84
B. Reefs			
Belia Pani	–	–	57.46
Cheria Pani	–	–	172.59
Perumal Par	–	–	83.02
Sub total	–	–	313.07
C. Submerged Sand Banks	–	–	3595.09
D. Grand Total	–	–	4200.00

5.3 The marine wealth of these islands is quite vivid and varied. There are about 120 coral species distributed in 40 types. In the case of fish there are about 110 types of which ‘Tuna’ constitutes the major share.

TOURIST DEFINITION

5.4 According to World Tourism Organization (WTO) the expression ‘**tourist**’ connotes a visitor to a particular country who is a non resident of that country and visiting it for a single day or for not more than one consecutive year and for purposes of leisure, business and others (excluding immigration and employment). Thus, a ‘visitor’ in the present context incorporates all those coming and staying in the islands for purposes mentioned as above. Broadly the classifications of visitors to the islands could be under:

- Holiday / Leisure visitors,
- Visiting friends and relatives,
- Business / official / conference purposes.

5.5 In this context the term '**domestic visitors**' also connotes those who are normal residents of mainland and visiting islands for any of the above purposes. Distinguishing visitors by purpose of visit is important, since their demand in terms of facilities is different. In developed tourism markets it has been established that while official and business purpose tourist growth was steady and slow, the growth in the leisure travellers was exponential by the way the various attractions are projected and marketed.

ECO TOURISM CONCEPT

5.6 Visits to places, which are **closer to nature** to enjoy their innumerable attractions, land as well as sea in a manner that is environment friendly, i.e. not creating any disturbance or adverse impact on the existing environment can be particularly called '**eco tourism**'. Obviously, such visits to places involve purposes of studying, admiring, and enjoying the beauty and cultural heritage of the location. Thus, 'nature tourism' is distinguished from 'mass tourism' or 'resort tourism' by identifying lower impact on the environment. Perhaps **nature tourism** does not concentrate high on infrastructure development and creature comforts.

5.7 Some of the common forms of eco tourism are:

- Getting absorbed oneself enjoying the beauty of large forests, landscape or wild life,
- Enjoying the natural splendour of marine wealth and corals,
- Engaging oneself in trekking, skiing or adventure sports (both land and water based), and
- Playing and wanderings in the beaches and sand dunes.

ECO TOURISM RESOURCES

5.8 The eco systems that have become the target of eco tourism resources in the country are:

- ◆ The biosphere reserve
- ◆ Mangroves
- ◆ Coral reefs
- ◆ Deserts / sand dunes
- ◆ Mountains and forests
- ◆ Flora and fauna
- ◆ Seas, lakes, rivers, backwaters
- ◆ Caves, forts and heritage properties

5.9 The ‘**coral reefs**’ identified for eco tourism in the country are located in Gulf of Mannar, Andaman & Nicobar Islands, Lakshadweep Islands and Gulf of Kutch. **Lakshadweep Islands have enormous coral reefs wealth, which is also surrounded by calm and peaceful lagoons. These water bodies are ideal for leisure boating as well as adventure sports.**

ECO TOURISM PLANNING

5.10 Eco tourism planning involves a selective approach, effective control and efficient monitoring. While doing so the following principles are to be kept in mind.

- The type and magnitude of tourism development should be compatible with the environment and socio cultural characteristics of the local residents.
- Provision for involving the local community, which lead to overall economic development. (Involvement of local community ensures preservation and continuous monitoring of the eco system by themselves).
- Identifying possibilities of local conflicts between resource use for tourism and livelihood of local inhabitants. The effort is to **minimize** the conflicts and mismatches.

5.11 The tourism development potential and development prescriptions ensured by the Government of Lakshadweep Islands fall well within the above eco tourism background. Lakshadweep possesses one of the rarest **marine wealth / coral reefs** in the country. Thus, operationally each one of the players Viz. the Government both Central and UT, local authorities, the developers / operators, the visitors and the local residents have to be sensitive to the environment, local traditions, etc. It may be mentioned in this context that Maldivian Government has succeeded greatly in creating awareness among locals about environment protection and the economic importance of tourism. Educational programmes highlighting the fragile nature of the environment through media are taken up as a continuous programme.

TOURISM ATTRACTIONS IN THE ISLANDS

5.12 The tourism attractions in the islands are essentially restricted to their water bodies (lagoons) and the associated marine wealth (beaches and corals). Apart from the sea based opportunities the island's tourism attractions in diverse fields are virtually absent. The important components of the tourism industry, transport and accommodation although required for a variety of purposes are the least developed.

5.13 The islands **do not** have:

- Big entertainment plazas, shopping malls, fun kiosks, casinos, night clubs (Leisure tourism)
- Decent residential accommodation and eating places (All types of tourists)
- Archaeological / cultural heritage complexes (Cultural and heritage tourism)
- Botanical gardens / amusement parks / fun cities (Educational and leisure tourism)
- Temples / Churches / Mosques (Religious tourism)
- Wild life sanctuaries / lonely and tranquil forests (Wild life tourism)

- Health resorts (Ayurvedic, yoga practice)
- Scientific exploratory centres like planetarium, sky watching, etc. (Educational tourism)
- Outdoor games facilities for trekking, skiing, etc. (Adventure tourism)

5.14 In spite of all these negative attributes, perhaps one of the features that make Lakshadweep one of the ‘**must see**’ attractions in the tourist map is the warm, friendly and courteous behaviour of the local residents. The true essence of tourism emerges out of the excitement and the experience emerging in the interaction mode with the general public. Tourism being a hospitality industry the intangible attributes like a friendly smile, well-intentioned hospitality, a sense of security and assured honesty would influence substantially in bringing large groups. This had really happened in Caribbean and Polynesian countries.

PRESENT TOURISM MANAGEMENT

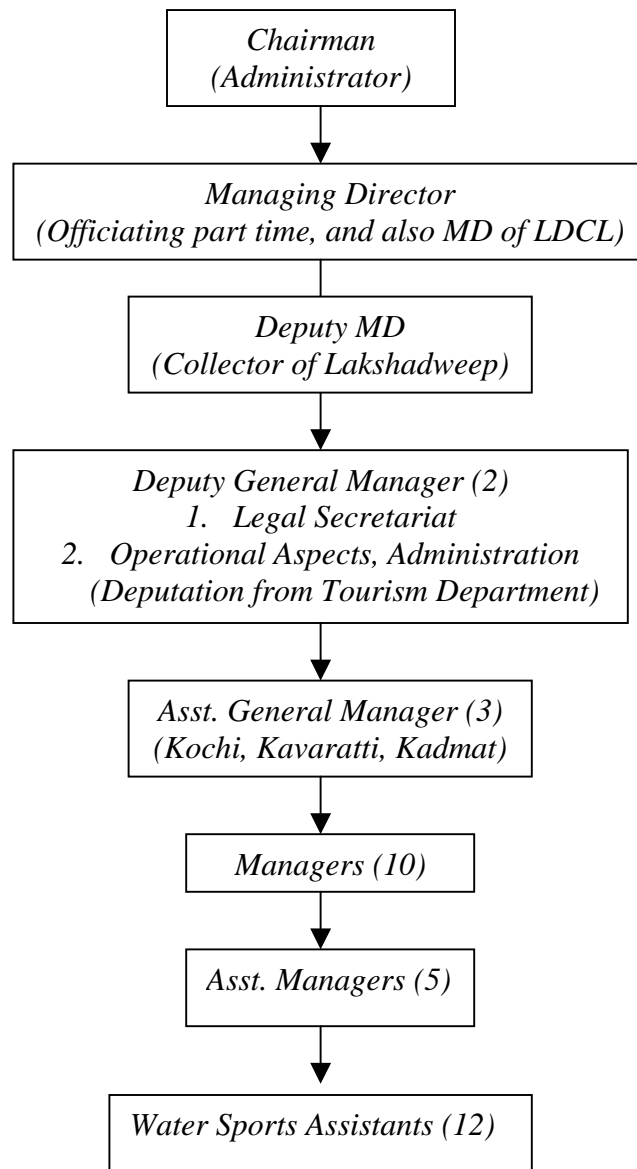
5.15 The activities related to tourism promotion and development in the islands are managed by an organization called **SPORTS (Society for Promotion of Nature Tourism and Sports)**. SPORTS was set up in 1982 as a society registered under the societies Act, 1860. The important objectives of the SPORTS are to promote tourism and other recreational activities thereby providing employment to the local educated youth in the islands in close co-operation with other departments like PWD, Port, Information and Publicity, etc. SPORTS is managed by a Chairman (Administrator of UTL) and a Board of Directors selected from various departments and prominent citizens.

5.16 Although there are 10 inhabited islands in the Lakshadweep group only five islands are opened for tourist promotion. These are Minicoy, Kalpeni, Kavaratti, Agatti and Kadmat. Bangaram, an uninhabited island is also developed for tourism promotion. Of the above six, except for Agatti and Bangaram, all other islands are promoted as tourist centres by SPORTS. Agatti and Bangaram islands were developed by UTL and later were leased out to private agencies, through SPORTS. Both these islands are opened for international tourists. Of late at Kadmat an aqua sports centre has also been opened for international tourism. In all other islands like Kavaratti, Minicoy, and Kalpeni only domestic tourists are allowed.

5.17 Difficulties in transportation, very poor level of development in accommodation and other infrastructure facilities (water supply, social infrastructure services) are the important reasons cited for not extending tourism promotion to other islands.

5.18 The present organisation structure of SPORTS is given below:

SPORTS: PRESENT ORGANIZATION STRUCTURE



Total Employment : 72 people (including other support staff)

SPORTS – SOURCES OF FUNDS

5.19 Income from tourist packages, lease rent, catering and water sports are the important sources of income to the Society. It also gets a Grant-in-aid to the tune of Rs. 2.5 lakhs per annum from the Tourism Department of the Administration.

5.20 The **income and expenditure** pattern for the past few years is given below:

(Rs. Lakhs)			
Year	Income	Expenditure	Gross Profit
1996-97	239.28	162.87	76.41
1997-98	279.76	106.80	172.96
1998-99	276.13	189.11	87.25
1999-00	127.04	143.40	- 16.36
2000-01	298.88	185.70	113.18
2001-02	334.89	239.50	95.39

Source: SPORTS, Lakshadweep

5.21 An analysis of the **income** reveals the following scenario:

- a) Package tour collections : 49 percent
- b) Lease rent, royalty, etc. : 23 ”
- c) Catering and related activities : 10 ”
- d) Water sports, scuba diving, etc. : 2 ”
- e) Miscellaneous income (interest from FD, income tax refund, rent, etc.) : 16 ”

5.22 Apart from tourist related services and operations, SPORTS provide catering services in the following areas:

- a) Catering service in ships (Amindivi, Minicoy)
- b) Hostel catering service (Jawaharlal Nehru Senior Secondary School, Kadmat and MGSSS, Andrott)
- c) Secretariat canteen

SPORTS – PACKAGE TOURS

5.23 The **holiday packages** or otherwise known as ‘inclusive holiday’ have generally three components Viz. return travel, comfortable accommodation and food and a range of activities at their destination for the vacationers.

5.24 SPORTS, functioning as the **tour operator and facilitator** in the islands conducts the following tour packages from Kochi.

◆ **Coral Reef Package**

Five days cruise covering islands of Kavaratti, Minicoy and Kalpeni by ship Mv Tipu Sultan. Essentially during day time the tourists are allowed to explore the specified islands and travel on board at night. This package has a capacity to take 100 tourist class and 36 first class passengers. The tour programme operates between October 1st to May 10th. Altogether it can operate 30 packages during the above period and can take a maximum of 4080 passengers during the season.

Glass bottom sailing in the lagoon, snorkeling, other water sports like kayaking, rafting and swimming are the main attractions of this tour.

◆ **Marine Wealth Awareness Programme (Kadmat)**

This is a six day package by ship involving 3 - 4 days staying at Kadmat Beach Resort. The Water Sports Institute is also located at Kadmat and hence diving package is also included for water sports lovers. This package is restricted to only 48 passengers and is being specialised for water sports lovers. Only a limited number of tours are organized under this package. Lagoon boating, snorkeling, scuba diving, wind surfing, para sailing, etc. are organized under this programme.

◆ **Paradise Island Huts – Kavaratti**

The six day package tour to Kavaratti, the administrative capital and relatively better developed island, is essentially a staying tour for three days. It has accommodation for 10 first class passengers by Mv Tipu Sultan / or other ships. Kavaratti Island also has apart from usual water sports activities, an aquarium and museum with several colourful species of marine wealth.

◆ **Swaying palm – Minicoy**

A six day package tour to Minicoy and the staying is arranged in exclusive air-conditioned cottages of 2 beds each. These cottages are built on the sea front and provide an excellent view of the sea and its lagoon. There are 10 such executive huts of total 20 beds.

SPORTS: SUMMARY

5.25 During the period 19.10.2001 to 15.05.2002, SPORTS operated 60 packages of various types. An analysis of the above is given below. (The fair weather season extended upto 15th May involving a total of 210 days).

Type of Packages	No.	Passengers	% Share	Amount received (Rs. Lakhs)	Amount per tour (Rs.)	Amount per passenger (Rs.)
Coral reef	26	2604	80	179.79	691,500	6904
Marine water awareness programme	19	398*	12	30.24	159,158	7598
Swaying palm (Minicoy)	9	183	6	9.72	108,000	5311
Taratashi Kavaratti	6	74	2	4.01	66,833	5419
	60	3259	100	223.76	—	—

(* Includes scuba diving package)

Source: SPORTS (Unaudited figures)

5.26 Coral Reef Package, which is designed for all age groups and also covering a number of islands, is the most popular one. Marine Wealth Awareness Programme designed for Kadmat Island is more or less targeted for a specified age group of youngsters. Water sports lovers take up this programme and their repeat visits depend on their experience during first visit and the extent of facilities provided.

5.27 As mentioned earlier, all these tourist packages are carried out based on the sailing schedule of the ships, which also cater to the travel needs of the islanders, which had been growing over the years. The purpose as well as the travel needs of both these groups (tourists and islanders) are intrinsically different and hence do not create a happy co existence. The conflicting situation emerges out of various factors, such as:

- a) As a package, a tourist visiting the island expects a smooth and peaceful stay on board the ship which cannot be provided due to the large number of islanders travelling with divergent cultural background and behavioural practices.
- b) There is an element of uncertainty involved with the vessels and their itinerary. Many a times the travel schedules are changed to suit the requirement of islanders. Travel packages of tourists are altered based on these and hence a cause of irritation.
- c) The vessel being too old requires frequent repairs and dry-docking. These unforeseen repair and maintenance schedules upset the entire tour programme.
- d) A tourist taking a ‘Coral Reef’ package programme needs to spend considerable amount of time in the ship and the expectations are that the common utility areas like dining hall, toilets, decks, passages, etc. to be neat and clean. In a ship like Tipu Sultan providing the travel needs for about 700 passengers with large luggages, such quality of service and cleanliness cannot be expected. The irritation in the mind of a discerning traveller starts at the very moment of stepping into the ship.
- e) Apart from the embarkation / disembarkation problems and other types of uncertainties and difficulties faced by a tourist, these sources also feel that the tariff charged for various trips is on the high side. Higher tariff automatically implies impeccable service standards and quality. (Recently in a seminar, World Tourism Organization (WTO) has defined **quality concept** in tourism as “the result of a process which implies the satisfaction of all the legitimate product and service needs, requirements and expectations of the customer at an **acceptable price**, in conformity with the underlying quality determinants, such as safety and security, hygiene, accessibility, transparency, authenticity, and the harmony of the tourism activity concerned with its human and natural environment. WTO has also gone ahead with the analysis of each term used in this definition which suggests concrete actions that can be evaluated from the perspective of **quality criteria**.”)

ACCOMMODATION FACILITIES

5.28 The tourist accommodation facilities now managed by SPORTS and other private parties under different islands are as given below:

Type / Island	Kavaratti	Kadmat	Kalpeni	Minicoy	Bangaram	Agatti	Total
a) Family hut	5	10	–	–	30	10	55
Beds	10	20	–	–	60	20	110
b) Honey moon hut	–	8	–	–	–	–	8
Beds	–	16	–	–	–	–	16
c) Executive hut	–	11	–	10	–	–	21
Beds	–	22	–	20	–	–	42
d) Prefab huts	–	1	–	–	–	–	1
Beds	–	2	–	–	–	–	2
e) Private hut	–	–	4	3	–	–	7
Beds	–	–	8	6	–	–	14
f) Scuba hut	–	1	–	–	–	–	1
Beds	–	2	–	–	–	–	2
Total Beds	10	62	8	26	60	20	186

Source: Department of Tourism, Lakshadweep

5.29 Of the above the two islands viz. Bangaram and Agatti are leased out to private parties for tourist promotion. Hence out of the 186 beds capacity only 106 (186 – 80) are in the control of SPORTS.

PRIVATE ACCOMODATION

5.30 Apart from transport, **comfortable stay** is an important component of the tourism promotion. No doubt, tourists brought by SPORTS, are given comfortable accommodation (wherever staying is involved). But one of the disquieting features of the islands is that there are **no private residential facilities** like hotels, lodges, paying guest accommodation, etc. in any of the islands. (Kavaratti has two establishments for lodging alone but with only limited rooms). All other islands are devoid of any class accommodation that provides comfortable and clean rooms. (All the islands have Government bungalows with a few rooms but in most cases are occupied by Government officials on duty).

EATING ESTABLISHMENTS

5.31 Tourists brought under SPORTS package are given food and other facilities during day visits, at their resort complexes. Apart from the above, the availability of quality restaurants is virtually absent in any of the islands. The quality in terms of food preparation, variety, cleanliness, etc. is not seen in the available eating places. Outsiders coming from the mainland on various work related visits to the islands enter these places only out of compulsion. In every respect of the operations such outfits need total change and improvement to cater to the requirements of outsiders.

ENTERTAINMENT PLAZAS, SHOPPING MALLS AND THE LIKE

5.32 These are virtually non existent in the islands. There are no cinema halls or modern recreation (indoor games) or entertainment facilities in the islands. Apart from beach related leisure activities, facilities for outdoor sight seeing, heritage / cultural centres, etc. do not exist here. Extreme pressure on available land and lack of organized efforts for tourism development are cited as reasons for this situation.

BEDS OCCUPANCY RATE

5.33 As mentioned earlier Coral Reef Package is the most popular (about 80 percent) among tourists which is largely a day tour and travel on board during nights. The other three packages (MWAP, SP, TTKVT) are basically residential packages and are enjoyed by the tourists only to a limited extent.

5.34 An evaluation of the occupancy capacity of the resorts at Kadmat through Marine Wealth Awareness Programme (MWAP) is done on the following basis.

Visitors to this resort during 2001 – 02	398 numbers
Average Length of Stay (ALS)	3 days in a package of 6 days
Total bed nights occupied	1194
Available bed space (number)	42 (Considering only Executive hut, and Family hut)
Average bed occupancy in tourist season of 210 days	$\frac{1194}{42 \times 210} = 13.54 \text{ percent}$

- 5.35 The bed occupancy level as above is abysmally low which only reflects the potential that is available to be developed even with the existing facilities. The same is true for other staying facilities at Kavaratti and Minicoy. A bed occupancy level of at least 50 percent at Kadmat would call for increasing the tourists to 1500 numbers for the whole season (210 days) and based on 3 days, average length of stay. Once a dedicated ship for tourists is made available the frequency of such visits can be increased. Moreover moving the average length of stay to a minimum of 7 days would improve the capacity utilization with lesser number of tourists.
- 5.36 It may also be noted here that economic bed occupancy is influenced by the purpose of visit of the clientele. A **staying accommodation** wholly catering to business or official purposes may normally have a low or equal person to room ratio and therefore provides **low bed occupancy** but **high room occupancy**. At 1.8 persons per room (International norm for holiday accommodation) 50 percent bed occupancy is equivalent to 56 percent room occupancy ($50 \times 2 / 1.8 = 56$ percent).

PRIVATE HOLIDAY RESORTS

- 5.37 As mentioned earlier, Agatti and Bangaram islands are leased out to private groups to manage the resorts. Agatti and Bangaram are (Agatti to Bangaram takes two hours by boat) located nearby and have the advantage of Agatti airport to bring the tourists.
- 5.38 Bangaram, an uninhabited island with a few cottages (earlier constructed by Hotel Corporation of India) and essential infrastructure facilities (light and water) was leased out to Casino Group at Kochi during the year 1988. The Casino Group manages a **spice village** in Thekkedi, **coconut lagoon** in Kumarakam. The operations are entrusted on a lease basis for a period of 5 years renewable at 5 years interval. Casino Group had spent about Rs. 1.0 crores initially in remodeling and doing the interiors of the resorts.
- 5.39 Presently there are 30 cottages (thatched roofs) with 60 beds and according to the resort manager the average occupancy level is about 60 percent, although during peak months of November – December – January, it reaches even 100 percent. These resorts are marketed with '**back – to – nature**' concept with total isolation and privacy to the tourists. Televisions, telephones, air-conditioners, refrigerators are not provided in the cottages to ensure complete isolation and detachment with the outside world. The resorts provide the ambience of a fishing village.

- 5.40 **Water sports activities** like scuba diving, snorkeling, kayaking, para sailing, glass bottom boats are provided under trained supervision and guidance. Normally the package constitutes 2 nights and 3 days, all arranged as per the flight schedule. Water sports are cited as one of the attractions to visitors to these islands and longer duration packages are also arranged on demand. The resorts have total staff strength of 40. (Including contract as well as permanent).
- 5.41 Foreigners are allowed at this island and for their sake, prohibition has been relaxed here (Being an uninhabited island, this relaxation does not affect the peaceful atmosphere and lifestyle of the island). Presently foreigners constitute the larger share of visitors to this resort.
- 5.42 There is also an **ayurveda centre** attached to this resort which is patronised by both domestic as well as foreign tourists.
- 5.43 During the year 2000 – 01, the lease rent paid to Tourism Department by Bangaram Resorts was Rs. 58.81 lakhs which increased from Rs. 50.61 lakhs in 1998 – 99. During the year 2000 – 01 the turnover of the Bangaram Resorts was estimated at Rs. 2.60 crores.
- 5.44 **Agatti Island Beach Resort** located close to the airport on the southern side, is managed by two partners, one from Lakshadweep and another from Mangalore. Unlike Bangaram, Agatti is an inhabited island with northern side thickly populated. Southern side where the airport as well as the resort complex is located is thinly populated. Moreover the southern side is narrow. The resorts having 10 cottages with 20 beds (4 cottages with AC), were built on leased land originally by Tourism Department and later leased out to these parties on 5 years lease period. The present lessees are adding 9 more cottages at the same location with 18 beds. This would be ready by the end of 2002.
- 5.45 Snorkelling near the coral reef, glass bottom boats in the lagoon, speed boating, deep sea fishing, lagoon fishing, journey to nearby islands (Thinnakkara, Parli and Bangaram), water skiing, kayaking are some of the attractions provided here.
- 5.46 December – January are the peak months with an occupancy rate of 60 to 70 percent and that during other months it is just about 50 percent. The resort employs 16 people for various activities.

- 5.47 The package provided by this group includes room charges, food and kayaking. All other water based activities are charged extra.
- 5.48 The resorts get mostly domestic tourists and foreigners are allowed since recently. Prohibition is in force in the resorts although drinking strictly within the rooms by the tourists is not objected.
- 5.49 Agatti Beach Resorts paid a lease rent of Rs. 8.41 lakhs during 2000 – 01 as against Rs. 14.53 lakhs paid in 1999 – 2000 (Estimated turnover in 2000 – 01 = Rs. 37.40 lakhs).

LAKSHADWEEP DEVELOPMENT CORPORATION LTD (LDCL)

- 5.50 Apart from SPORTS yet another organization, which provides indirect support to tourism promotion in the islands is Lakshadweep Development Corporation Ltd (LDCL).
- 5.51 LDCL was established as a Government of India Undertaking primarily to catalyse the growth potential of the island by optimum utilization of the resources. In this context the MOA of LDCL specifies the following:
- ◆ Transacting all businesses viz. catch, develop, buy, sell, process, convert all varieties of fish and other marine products.
 - ◆ Undertaking civil supplies operations of all agricultural commodities, industrial raw materials and finished industrial products.
 - ◆ Carrying out all operations of ships both passenger and cargo, and undertake other works related to ship transport.
- 5.52 Presently the Corporation manages **Tuna canning factory at Minicoy, desiccated coconut powder plants** at Kadmat and other islands. Other operations of LDCL are managing control towers in all islands and in the mainland (Calicut, Mangalore, Kochi) two passenger vessels and cargo barges of the Government and fresh fish export project. A few other projects are in the pipeline.
- 5.53 The Corporation is headed by a Managing Director (who is also Government Secretary) and a General Manager. There are about 190 staff members in LDC of which some of the managers are on deputation from other departments.

5.54 The financial performance of LDCL is not encouraging and has been making cash losses for the last 3 years.

TOURISM ARRIVAL IN LAKSHADWEEP

5.55 The foregoing discussions provide a detailed account of the tourism scenario and its operational aspects in the islands. As described earlier free tourism (tourists arrival according to their schedule and itinerary) is not allowed and practiced due to various reasons and hence the data on tourists arrival reflect those brought by SPORTS and two private resort managers. The statistics on tourist arrival in the past is given below:

TOURISTS ARRIVAL IN LAKSHADWEEP

Year	Domestic	International	Total	No. of tourist per day*
1988-89	2070	234	2304	11
1989-90	1400	1189	2589	12
1990-91	1884	2764	4648	22
1991-92	3841	1049	4890	23
1992-93	2287	1150	3437	16
1993-94	2965	408	3373	16
1994-95	3166	1059	4225	20
1995-96	3470	1210	4680	22
1996-97	3502	1359	4861	23
1997-98	2900	1223	4123	20
1998-99	1999	736	2735	13
1999-00	651	886	1537	7
2000-01	2992	871	3863	18
2001-02	3259	539	3798	18

(*Based on 210 days)

Source: Department of Tourism, Lakshadweep

5.56 Although there are significant yearly variations, the average growth on year to year basis in these arrivals is estimated at 12.5 percent per annum. However, this high growth rate was due to the significant level of increase in 2000 – 01 as compared to 1999 – 2000. Hence this growth of 12.5 percent appears unrealistic on a long term basis. Considering the year 1999 – 2000

as also normal, the implied growth rate would have been 8 to 9 percent. Purely considering the end periods alone the growth rate between 1988 – 89 and 2001 – 02 was only 3.92 percent. Moreover, the number of visitors per day during fair weather season has also come down over the years. Considering the arrival of visitors during the past 14 years, the average number of tourists per year visited the islands was 3647 numbers. (Average 17 per day during season).

- 5.57 While considering the **domestic arrivals** alone, it could be seen that the growth between end periods 1988 – 89 to 2001 – 02 was only 3.55 percent. The average number of domestic visitors per annum over the years was only 2599. This only indicates the under utilisation of the existing bed capacity at various resorts.

INTERNATIONAL PASSENGER TRAFFIC

- 5.58 As could be seen from the above that the overall share of foreign tourists to the islands has been below 30 percent over the years. The year 1999 – 2000 was exceptionally different to touch a share of foreign visitors at 57 percent, although the year was unusually low as far as total arrival of tourists is concerned. During 1996 – 97 the arrival of foreign tourists touched the peak level of 1359 numbers although thereafter it showed a steady decline.
- 5.59 Except for small percentage of foreign tourists arrived in Agatti Beach Resort as well as Kadmat centre substantial share of the above was accounted for by the Bangaram Resorts. It may be recalled here that the statement of Casino Group Chairman in one of his interviews that as much as 75 percent of the Group's turnover comes in foreign exchange.

SEASONALITY OF TOURIST TRAFFIC

- 5.60 The fair weather season for tourists in the Lakshadweep Islands is from October to May middle. By the onset of south west monsoon all sea travel is restricted. Only limited services will be operating to cater to emergencies and other requirements. The following Table provides the month wise statistics of arrival of tourists in the islands.

ARRIVAL OF TOURISTS – MONTH WISE

	1997-98	1998-99	1999-00	2000-01	2001-02
September	129	04	149	—	—
October	338	—	13	177	384
November	581	—	—	456	544
December	438	404	—	454	507
January	468	498	—	445	524
February	306	229	08	373	434
March	110	181	96	250	337
April	243	433	220	483	165
May	214	—	80	336	322
Total	2827	1749	566	2974	3217

Source: SPORTS, Lakshadweep

Note: The above data relate to only with packages operated by SPORTS and hence do not include Bangaram and Agatti Resorts.

5.61 It could be seen from the above that November, December and January are the peak periods in tourists arrivals. The Christmas holidays alongwith new year combined are generally considered as peak periods for world tourism also. Climatic conditions may be yet another consideration for this preference.

TOURISTS PROJECTIONS

5.62 The past data on tourism arrivals in the islands show an erratic trend with significant ups and downs. Although between the end periods the growth rate shown was only 3.92 percent per annum, on yearly basis the average registered growth was 12.5 percent per annum. This high rate was again due to the abnormally low arrivals in 1999 – 2000 and the sudden jump in 2000 - 01. Considering 1999 – 2000 also as a normal year the growth rate was only 8 – 9 percent. Taking into consideration the likely future development scenario and promotional activities planned in the islands, we have segregated the future span into three segments as follows:

Year 2000 – 01 to 2006 - 07 : Preparatory and initiation phase of the development process and changes in Government policies and initiatives : Growth rate expected 8 percent per annum

Year 2007 – 08 to 2013 - 14 : Growth realization phase of actions taken in the previous period : Growth rate expected 9 percent per annum

Year 2014 – 15 to 2020 - 21 : Consolidation phase. Expansion of further islands into tourist resorts and reaching the optimum growth level : Growth rate expected 10 percent per annum

5.63 Based on these three phases, and the growth rate expected we have projected likely future scenario of tourist arrivals. Overall, the implied growth will be about 9 percent between 2000 – 01 and 2020 – 21. The emphasis here is on **not** increasing the numbers, but the value generated.

5.64 Alternatively, we have also tried linear, log linear and moving average methods of projections. However, these did not yield satisfactory results.

5.65 The projected figures are given below. (This refers only to projected arrivals based on existing **tour packages**. Depending on the popularity, the existing packages will have to be redesigned to accommodate more **adventure sports** packages)

PROJECTED TOURIST ARRIVALS (2000 – 01 TO 2020 - 21)

Year	Tour package based
2000 – 01 (Base year)	2992
2001 – 02	3231
2002 – 03	3490
2003 – 04	3769
2004 – 05	4070
2005 – 06	4396
2006 – 07	4748
2007 – 08	5175
2008 – 09	5641
2009 – 10	6149
2010 – 11	6702
2011 – 12	7305
2012 – 13	7963
2013 – 14	8679
2014 – 15	9547
2015 – 16	10502
2016 – 17	11552
2017 – 18	12708
2018 – 19	13978
2019 – 20	15376
2020 – 21	16913

- 5.66 Considering the span of next 20 years (2000 – 01 to 2020 – 21) the average tourist arrival per annum **projected as above** would be in the range of 8100 numbers as against 2599 now. Based on this, per day tourist arrival would be in the range of 38 numbers as against 12 per day now.
- 5.67 The projected average level of 38 tourists per day (minimum 15, maximum 80) will be distributed in at least 7 major islands (Kavaratti, Kalpeni, Minicoy, Kadmat, Andrott, Ameni and Bitra) and hence unlikely to create serious problems with regard to carrying capacity. Moreover the tourist arrival in the islands is also restricted to only 210 days unlike other tourist locations.

DRAFT TENTH FIVE YEAR PLAN PROPOSALS (2002 – 03 TO 2006 – 07)

5.68 The Department of Tourism of the UTL Administration has drawn up various schemes of development in this sector during the Tenth Plan period at a total outlay of Rs. 50.154 crores. The proposed schemes and their outlays are given below:

a) Infrastructure and human resources development (Total outlay : Rs. 122.56 lakhs)

- Procurement of water sports equipments
- Health club facilities
- Assistance for commencing manufacture and sale of handicraft / curios items
- Training of various service staff in the tourism sector
- Creation of additional senior level posts to manage increased work load

b) Tourism marketing promotion (Total outlay Rs. 129.16 lakhs)

- Printing of publicity materials
- Participating in exhibition, trade fairs
- Personnel training abroad
- Tourism awareness programme
- Improvement in tourism liaison work

- c) **Tourism development plan (Total outlay : Rs. 61.00 lakhs)**
- Opening of more uninhabited island for tourism – payment of lease rent
 - Opening of more inhabited islands for tourism – developmental work
- d) **Equity participation with LDCL for SPORTS (Total outlay : Rs. 135 lakhs)**
- Equity participation with LDC for tourism development in various islands.
- e) **Acquisition of a ship exclusively for tourism (Total outlay : Rs. 4320.89 lakhs)**
- New ship acquisition
 - Procurement of speed boats
- f) **Continuation of civil works under tourism (Total outlay : Rs. 246.84 lakhs)**
- Construction of health club at Minicoy and Kadmat
 - Water sports facilities at Minicoy
 - Other civil works like resort cottages, dive centres, bathing huts, kitchen / dining hall

5.69 No doubt, the proposed schemes as above in the next five years (10th Plan) would bring about tangible developments towards promoting tourism in the islands. As part of the **Perspective Plan**, we have apart from the above suggested a number of programmes including policy related issues and promotional aspects involving various time frame. These proposed tourism related development programmes are detailed in **Chapter VII**.

CHAPTER VI

HUMAN RESOURCES DEVELOPMENT

GENERAL EDUCATION

- 6.1 As reflected in the general literacy rate, which is relatively higher as compared to other states, Lakshadweep Islands have shown significant progress in the field of general education. As much as one third of the population is presently going to various educational institutions.
- 6.2 Presently the education facilities in the islands are restricted only upto 12th standard. One of the important achievements in the island over the years is that girls education had gained importance and as much as 46 percent of the enrolment constitutes girls.
- 6.3 The existing levels of educational institutions in the islands are given below:

Nursery Schools	9
Junior Basic Schools (I to IV)	19
Senior Basic Schools (V to VIII)	4
High Schools (IX & X)	9
Senior Secondary Schools (XI & XII)	4

- 6.4 (There is one Navodaya School located in Minicoy). In Minicoy and Kavaratti CBSE pattern of education is imparted in Senior Secondary Schools. There is one Industrial Training Institute (ITI) located in Kavaratti.
- 6.5 Education is provided free at all levels in the islands. Free boarding and lodging facilities are provided to those students residing in hostels. In the case of students studying in the mainland the hostel expenses and travel expenses once a year are borne by the Administration. The entire educational expenses are met by the Government for students going for higher studies in professional colleges in the mainland.

- 6.6 Vocational education and training are attached significant importance in the school education system. Traditional vocations like fishing and coconut-based industries useful for increasing the productivity are given importance.
- 6.7 There are no degree colleges in the islands. One such college providing vocational courses is proposed to be set up at Kadmat alongwith the existing junior college.
- 6.8 An outlay of Rs. 2021.42 lakhs has been earmarked for educational facilities in the island during the 10th Plan period.

TOURISM RELATED VOCATIONAL COURSES

- 6.9 One of the important benefits that accrue out of tourism activities is the employment generation both directly and indirectly. The multiplier effect is extremely promising and established in the tourism industry. Travel and tourism emerges as one of the fastest growing sectors in the world accounting for 10.6 percent of the world's employment. Of the 669 million tourists visited all over the world in 1999 the direct employment generated was 15.5 million. In the context of development potential envisaged in this sector in the islands in future years, it may be necessary to properly equip and train the locals to take advantages of the opportunities emerging. The main objectives of development of tourism related human resources are:
- ◆ Raising the employment status of tourism activities so that it gets respected by way of earning a living,
 - ◆ Achieving higher level of technical and professional efficiency,
 - ◆ Delivery of international standards of quality in customer service,
 - ◆ Providing a viable alternative to Government related employment.
- 6.10 A few vocational training courses can be introduced in the islands for the above. Presently there are none.

6.11 Some of the schemes proposed as part of the **Perspective Plan** are:

a) Tourism as a subject at 10 +2 level

This is intended to create an awareness in the minds of the young about the basic approach and principles towards tourism and hospitality industry. A friendly approach by the local residents to the visitors would be of great asset to bring back the tourists again. The importance of eco tourism is yet another area of relevance to this island. This training would also provide an insight into the importance of tourism by generating employment and revenue to the economy. The core idea is essentially to plant a positive image about tourism in the minds of the young and to create a disciplined work force.

b) College level course on Tourism

At the degree college level as part of the curriculum, tourism can be introduced for those who do well at the school level and show an aptitude towards tourism activities. This formal training should also aim at improving the fluency in spoken English, which would be a prerequisite for establishing customer contacts and interactions. The growing younger generation in each island should have adequate knowledge about the need for development of tourism as a revenue earner to the exchequer. Affiliation with colleges of vocational studies under University of Delhi or any other University would be beneficial in designing the course curriculum and syllabus.

c) Hotel management and catering course

In order to cater to the needs of the hotel business and to provide employment to the locals, professional course in hotel management after +2 level may be introduced. This would be a three-year Diploma course. Housekeeping, front office management, food and beverages are some of the areas the institute can offer training. This could be setup in Andrott or Minicoy.

d) Tourism related ancillary skills

These include tour operation, tour guides, tourist information service, ticket booking and logistics. Although a major demand for employment in these areas is unlikely to generate, short courses in the above operational areas need to be introduced for the benefit of the locals.

Such trained hands will be able to provide sophistication and expertise for handling the hospitality sector effectively. **Educated women** in the islands need to be given preference in this training.

e) **Handicrafts training centre**

Training programmes for imparting skills for making handicrafts items out of locally available resources like coconuts, seashells, etc. can be constituted. Woodcraft is yet another area that could be developed. These training programmes should be **targeted towards women** in important islands and can be co-ordinated with a number of Self Help Groups (SHG). This programme can have affiliation with Government recognised institutes now existing in the mainland.

f) **Water sports training**

There is already a proposal by the Government to establish a swimming pool in Andrott Island. This facility can be used for providing initial training for water sports activities to the young locals.

TRAINING FOR TOURISM PERSONNEL

6.12 What we have discussed above is the type of orientation and training required to be imparted to the younger generation of islands to take advantage of the emerging growth potential. Apart from the above, it is also felt that periodic manpower training and exposure to the existing tourism staff on the operation side is extremely important in bringing about the desired changes. Some of these employees who do not have the necessary educational qualifications to conduct the professional requirements of the job and hence on the job training would provide them with adequate skills and exposure. These short-term courses would be required especially in travel logistics planning, ticket booking, behavioural aspects to guests, tourism information, hotel and restaurant service, etc.

6.13 Qualified operational personnel in the tourism activities now may be given opportunities for attending seminars, large tourism fairs, etc. conducted both at the national and international levels. These exposures would help in identifying the strengths and competition that exist outside and an insight to improve upon the present operational aspects.

6.14 Environmental protection being extremely critical in the islands, adequate exposure and knowledge about protection methods and sustainability are to be given to the existing staff. Guest lectures and awareness programme may be organized by bringing experts to different islands periodically. **GB Pant Institute in Delhi** had done detailed scientific work in watershed management and prevention of fragile systems and some of these experiences can be brought into the island.

CHAPTER VII

TOURISM DEVELOPMENT STRATEGY AND PROMOTIONAL PROGRAMME

BACKGROUND

- 7.1 World wide, tourism is now considered as a significant **economic agenda** and a number of developing economies are focussed towards tourism development, albeit in a small way. The World Travel and Tourism Council (WTTC) has estimated that globally the travel and tourism activities contribute roughly over 10 percent of the world Gross Domestic Product. An analysis of the top 20 tourism earners in the world (World total : US \$ 423022 million) accounting for 71.43 percent, also reveals that these countries are well developed and advanced in terms of infrastructure facilities as well as economic growth.
- 7.2 The following statistics are indicative of the importance of tourism in Asian economies over the years.

Countries	No. of visitors / annum (million nos.)
China	31.0
Malaysia	19.0
Hong Kong	13.0
Thailand	9.6
Singapore	6.5
India	2.6 (Represents 0.38% of all international tourists)

- 7.3 Alongwith the revenue generated, the government expenditure on tourism promotion is also commensurately high which is revealed in the following:

Countries	Government expenditure on tourism as % of GDP	GDP (Billion US \$)
Spain	10.0	—
Singapore	9.5	95
Hong Kong / China	7.5	1142
Malaysia	5.0	77
France	4.7	—
Sri Lanka	4.0	16
USA	3.8	8351
Germany	3.5	2079
UK	2.8	1338
Thailand	2.6	121
India	0.3	442

- 7.4 It is in this context that tourism is recognized as one of the primary **engines of growth** to achieve higher gross domestic product as well as per capita income. Thus, tourism planning assumes importance in formulating the strategies and guidelines for sustainable development that is responsive to community needs.
- 7.5 Lakshadweep consisting of 10 inhabited and 26 uninhabited islands although geographically covers a small land area, presents spectacular marine wealth of corals and coral reef, unique of their own. Needless to say, the coral based ecology of the island is highly sensitive and **any development should focus on the sustainability of these resources for perpetual use and conservation.**

BEACH TOURISM

- 7.6 **Beach and the sea** as a centre of pure tourist attraction and recreation are relatively recent phenomenon in our country, which began with centres like Goa and Kovalam (Kerala). As the word spread, international tourism brought European tourists to enjoy the warm tropical sea and beaches. As an added attraction to this, water sports activities also got developed in a small way. Today beach tourism is one of the prominent components of the

tourism industry. It has diversified from the simple act of idling and sunbathing to recreational and more aggressive adventure. The sea and the coast are crucial players in this regard. The water usage comprising of swimming, surfing, sailing, wind surfing, water scooters, boat skiing, para sailing, snorkeling, etc. is in advanced stages of development as part of tourism promotion.

- 7.7 Although Lakshadweep has specific advantage of developing into a world tourism destination, it cannot be achieved purely on number alone but on **high value addition**. The seacoast and the beach are delicate and vulnerable regions and the impact of uncontrolled tourism on coastal ecology and environment are seriously being deliberated the world over. Experience had shown that the cost of repairing the damages is much more than the income accrued from ungoverned growth of tourism. In many cases the damages are irreparable. However, despite global, national, regional efforts current approaches to the management of marine and coastal resources have not always yielded desired results, thus resulting in rapid degradation and erosion in many parts of the world. (The beaches in Goa are classic examples of mass tourism and haphazard development. The loss of natural charm and exclusivity have now resulted in low tourists arrivals and earnings).

TOURISM POLICY OF UTL ADMINISTRATION

- 7.8 Recognising the significance of **eco tourism** and the need for preserving the coral islands in their pristine beauty for future years, the Administration has been following a policy of tourism promotion alongwith environmental protection and conservation. The focused objective should be “**protection of the corals and coral reefs from further degradation and promotion of their sustainable use by creating awareness among the present and potential users**”. (All the beach resorts in the islands should carry this message in bold letters).

DEVELOPMENT PROGRAMME AND PROMOTIONAL STRATEGY

- 7.9 The following paragraphs provide an overview of various **developmental strategies** recommended as part of the **Perspective Plan**.

A. Policy Related Issues and Government Initiatives

There cannot be a policy without a **vision statement**. The vision statement for the island could be “**Transform Lakshadweep Islands as one of the most desired high quality tourist destinations in the region by providing quality infrastructure and friendly, peaceful atmosphere**”.

In simple terms it means that:

From

- ◆ Unexploited tourism potential
- ◆ Low awareness about the island in the tourism markets
- ◆ Very poor tourism infrastructure and divergent attractions
- ◆ Absence of private sector participation

To

- ◆ Well established tourism resorts adequately known in travel markets
- ◆ Sustainable natural assets and attractions
- ◆ Strong infrastructure facilities like transport and accommodation
- ◆ Growth oriented policy on private sector participation

Through

- ◆ Identification of focussed promotion of tourism attractions within the given limitations
- ◆ Creation of adequate support services in critical areas
- ◆ Propagation of an awareness and publicity programme in both national and international markets
- ◆ Above all, establishment of a strong awareness base within the islands regarding the importance of tourism to the economy

A set of **policy related issues** in which the initiatives are required to be taken by the Government are given below:

1. **Creation of awareness among the locals as well as visiting tourists on the ecological importance of tourism.** The major responsibility in this lies with local islanders. There needs to be a continuous campaign and an efficient **non-government organization** may also be entrusted with the task of spreading the message. This organization may recruit motivated and trained group of **'Green Army'** in every island to tackle environment related issues. This group will work in close co-ordination with the Department of Environment and Department of Science and Technology. Sustainable development based tourism promotion can be achieved only by a **"selective approach"** targeting high value tourists so that the islands can be maintained as an up market destination of **luxury beach holiday**. (It only means that 'backpackers' of tourists who seek cheaper amenities than beach resorts and those belonging to middle income level are not the target customers). This is precisely what is being practiced by island nations like Fiji, Mauritius, Singapore, Maldives, etc.
2. **Explore possibilities of relaxation of permit system to the tourists within the ambit of the carrying capacity.** This would facilitate the tourists approaching the islands from Mangalore or Kozhikode directly. There are a large number of tourists from places like Pune and Mumbai and for these passengers arriving by Konkan Railway, travel from Mangalore / Kozhikode to the islands would be easier. Moreover some of the northern islands like Ameni, Kiltan, Andrott, etc. are easily approachable for tourists from the above mainland locations. One of the important fall outs of the relaxation of the permit system is that the market forces would operate to create facilities like accommodation, restaurants, recreation, shopping, etc. These economic benefits would be enjoyed by the locals and is primarily one of the objectives of tourism promotion. (It is also felt in this context that periodical review on the developmental plans need to be strictly enforced to ensure limitations on carrying capacity).
3. **Selective** relaxation of prohibition rules through issue of permits. The relaxation could be tourist specific and may be restricted only to tourist resort premises. (Prohibition rules do not exist in resorts in Maldives and all the liquor bars employ only outsiders as bar tenders). In the case of Lakshadweep, relaxation would be more

relevant in the case of uninhabited islands to attract foreign visitors.

4. **Unambiguous tourism policy declaration** by Government to make tourism a growth platform. The main thrust of this policy is to give a clear direction and guidelines for the various activities and programmes to be taken up in future years for successful and effective spread of tourism. Since the **industry status** has already been given the various incentives and priorities are to be spelt out in this regard. The term **tourism related industry** in this context includes:

- ◆ Travel agencies, tour operators, tourist - transport operators.
- ◆ Units providing facilities of cultural, adventure, sports facilities.
- ◆ Surface, and water transport facility and suppliers of equipment.
- ◆ Leisure, amusement, entertainment, health units.
- ◆ Convention / seminar facility providers.

The incentives for investment in the above categories of operations including foreign collaboration, private equity participation levels, etc. are to be specified. It may be noted that the policies are products of time, technology and needs of the people and hence would require constant review and change.

5. Policy on **“Privatisation”** as a means of tourism development in the islands. In this context of privatisation, the incentives and priorities are to be brought into focus to attract investment. Tourism activities have to be recognised as multi sectoral with multi dimensional and multi agency involvement. Development can be taken forward only on a cooperative basis with Government (both Central and State) and private sector extending their respective roles. In this context, a strong pro-active participation of the local residents also may be encouraged. Transportation, building of tourism infrastructure like hotels, entertainment

avenues, resorts, ayurvedic centres are some of the areas that need immediate attention in terms of policy frame work on privatization. Some of the states which had gone ahead in this process had given incentives like:

- ❖ Tax holiday on sales tax for tourism related operations (100 percent tax exemption for 5 years).
- ❖ Investment subsidy for all tourism ventures (20 percent on capital costs subject to a max of Rs. 25.00 lakhs).
- ❖ Rebate on electrical charges (25 percent rebate on power bills).
- ❖ Exemption of luxury tax for new hotels
- ❖ **‘Special projects’** status for those involving higher investment (Above Rs 10 crores)

(Depending on the special situation and economic strength of the island these incentives can be suitably modified. Since most of the land based projects like resorts would be on leased land, the operations may be worked out on Build-Operate-Transfer (BOT) basis. Certain projects can also be implemented in joint sector with both government and private participation.

6. Need for **‘selective approach’** on the CRZ laws in the light of extreme pressure on the land in the island. Although CRZ is meant for regulating environmentally sensitive constructions, it is also felt that the existing Coastal Regulation Zone (CRZ) laws created in 1991, if strictly followed in the island in letter and spirit, the potential areas of development for tourism promotion would not be relevant because of narrowness of the strip. (Changes and modifications of the existing laws are invited from state governments to suit the specific environmental and geographic conditions.)
7. Beaches and the silvery sands are the invaluable gifts of nature as long as they are retained as beaches and hence preservation of these assets from **encroachment** and erection of all kinds of

temporary structures for carrying out traditional economic activities, needs to be strengthened in all islands. The Village Panchayats in association with Tourism Department may take necessary steps to remove the unauthorised structures and ban activities like drying of fish, copra, etc. so that the pristine surroundings can be kept in their natural form (It may be remembered that the focus of tourism in future years and the target segment are high value customers in the island).

8. The islands and their administrative functions are relatively small and hence co-ordination among important departments (Mainly Tourism, Port, PWD, Electricity, Environment) should be made more often. All tourism related developmental activities might be cleared under **single window clearance system** under the chairmanship of the Administrator. Interdepartmental clearances can also be sorted out in these meetings depending on the critical nature of projects.

The above body of various departments can be designated as the **Tourism Promotion Board**, which authorises final approval of all tourism projects in the islands.

9. Needless to add that the protection of the ecology can be achieved mainly through limiting developmental schemes to the carrying capacity of each of these islands. In this context it is felt advisable to promote **“bed and breakfast”** concept in some of the islands like Kavaratti, Minicoy, Andrott, Kadmat, etc. This concept has been approved and recognised by Government of India. State Governments where land availability is scarce have started promoting this concept. However, the Tourism Department needs to strictly enforce the requirements of such rooms (Room size, accessibility to the place, lighting / ventilation, furnishing and other facilities like television, fridge, air conditioner, telephone, break fast western style, etc.). Providers of such facilities need to register with Tourism Department / SPORTS. Once such facilities are made available further construction of resorts in inhabited islands can be minimized. Involvement of the islanders and consequent income generation would be an added attraction.

B. Tourism Promotion Agenda

1. Over the years the tourism activities have been taken up in the islands in a controlled way partly due to the existing limited resources backup as well as innumerable difficulties existing in accessibility to the islands. Now, there is an understanding in the related circles that the future should be **significantly different** in terms of development and achievement.

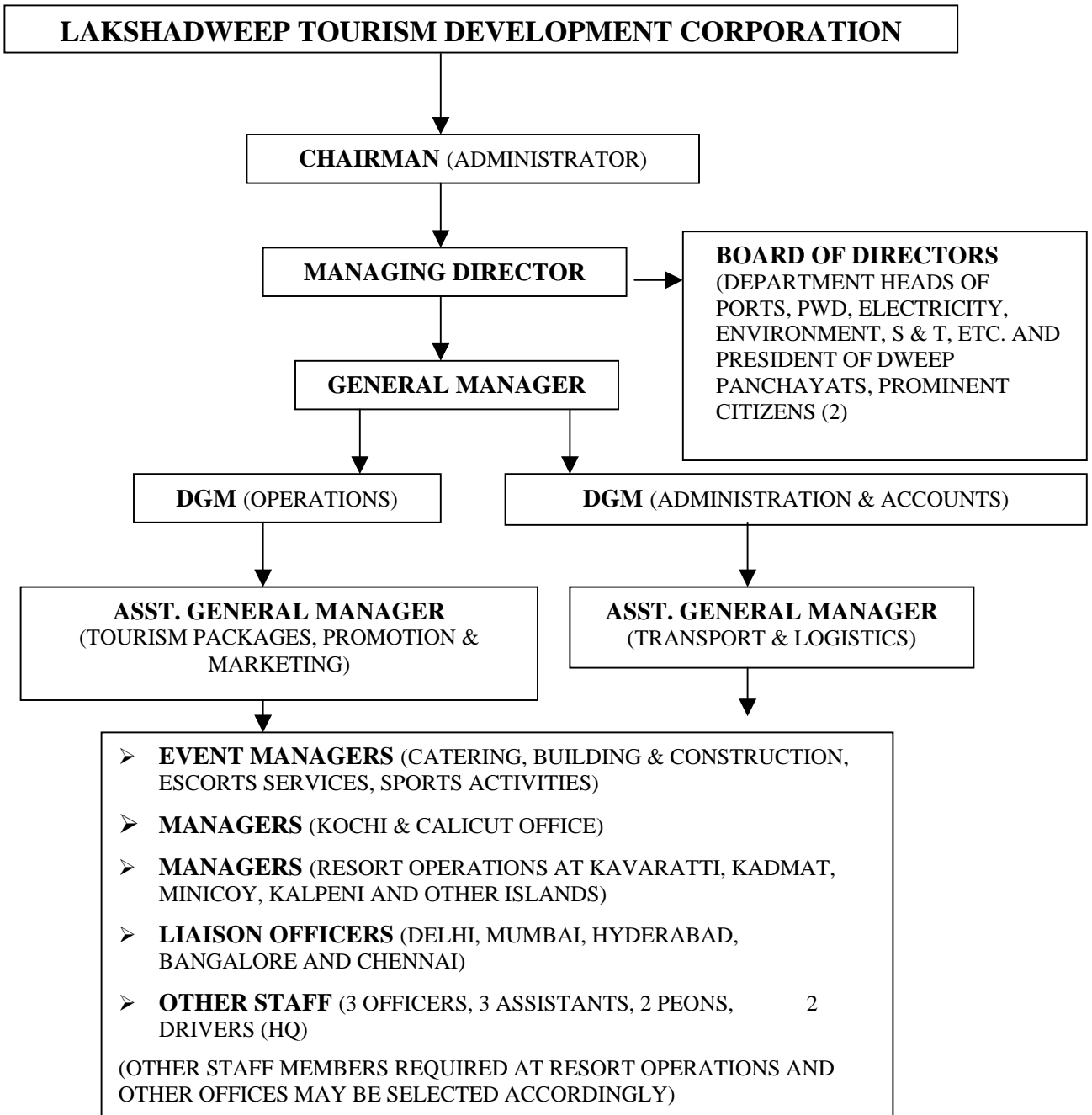
In order to concretise this thinking into an **'action platform'** we suggest the following changes in the tourism administration.

- ◆ **A separate Government Department** fully concentrating on tourism activities alone may be constituted headed by a Government Secretary. The present situation of Government Secretary holding functions of many departments can be delinked for tourism. This Department would be largely concentrating on the policy-related issues and co-ordination with other Departments. One of the specific advantages is that an independent Department will have arrangements to closely study the tourism related activities taken up by other island nations / states / UTs which could be of significant interest to the islands. This office would essentially operate as the **'think tank'** to evolve a corporate identity and recognition for tourism related activities.
 - ◆ In the same context it may also be worthwhile to have a full time **Director for Department of Information, Publicity and Tourism**. The present system of arrangement does not provide adequate time and opportunities for professional improvement and innovation.
2. SPORTS, as an existing organization needs to be re-christened as **Lakshadweep Tourism Development Corporation**, as a UTL Undertaking. The present structure of the organization and the Memorandum of Association need to be widened to accommodate expanded activities in future years. The need for such an organisation with commercial outlook would be immensely

required in the context of various activities and development programmes envisaged in the perspective plan. Its functional areas would include:

- Establishment of tourist cottages / resorts at different islands, their operations and maintenance.
- Promotion of tourism packages in such a way to optimize the arrival of tourists in the islands.
- Organizing the transport logistics of tourist movement to the island, among various islands and back in the most comfortable manner.
- Organizing accommodation / staying facilities in such a way with least disturbance to carrying capacities.
- Facilitating food and catering services to the tourists within the journey span as well as during their stay in the island. Extending catering services to other ships and other organizations as is done now.
- Establishment of facilities for water sports and water related activities.
- Creation of facilities like botanical gardens, theme parks, entertainment centres, cultural functions, etc.
- Promotion and marketing the islands in the upcountry markets by participating in tourism fairs, exhibitions, conventions / seminars, etc.

A tentative organizational structure is given below. (This could be modified further at the implementation stage).



Note:

- Event Managers, Managers, Liaison Officers will be reporting to respective AGM / DGM, as the case may be.
- Outstation liaison offices will be functioning alongwith other tourism offices of Kerala with an arrangement, atleast initially.
- Staff selection at various offices should be strictly based on the felt need on a continuous basis.

LTDC has to function as a professional organization in all respects with a commercial outlook. “Professionalism” should be the core factor of competency of the organization and hence manpower needs are to be selected accordingly. Since tourism development in the islands and revenue thereof is rather not too large due to various natural limitations, ecological compulsions, pressure on land, etc. the management of LTDC needs to be extremely cautious and prudent in financial management. Fixed manpower overheads which would cost a large percentage of turnover will have to be used most economically with higher productivity. Some of the Event Managers can be taken on contract basis to reduce the overheads.

During 2001 – 02, SPORTS turnover from **tourism packages** alone was of the order of Rs. 223.76 lakhs, which translates about Rs. 6900 per visitor. In the next five years i.e. by 2006 – 07 the target should be to achieve a growth rate of 15 percent in value terms (In real terms the growth will be around 8 – 10 percent). This means that the turnover of SPORTS would reach Rs. 450.06 lakhs from **package tours alone**. At the current rate the number of tourists required to realise the above would be about 6600 numbers by that year. Allowing an inflation rate of 5 percent on the tariff realization, by the year 2006 – 07 the required number of tourists would come down to about 5160 numbers. (It may be noted in this context that the current rate of tariff prevailing for tour packages is reported to be high by various tourist groups. Hence exorbitant increase in the rate for the sake of “high value, low volume” syndrome may not be fully productive and may work negatively). Depending on the developments that are likely to take place, appropriate targets can be fixed for later years.

Achieving the above target number may not be difficult considering the prospects of a separate passenger ship and speed vessels for the tourists alone. Streamlining the existing transport bottlenecks alone would provide the necessary fillip to tourist arrivals. Moreover various schemes that are envisaged under this Plan would also bring about additional revenue for SPORTS.

A total revenue target of Rs. 7 – 8 crores including other streams of income Viz. lease rent, catering, etc. by the end of next five years. i.e. by 2006 – 07 should be kept as the target. This target may be distributed among various centres, activities, etc. so that the respective managers will work on a target realisation mode.

Alongwith the restructuring of the organization, it is essentially required to have a closer look at the existing activities like water sports, catering, leasing, etc. so that a need based programme of expenditure can be brought in. Essentially, SPORTS will have to function as a **professionally managed organization** with commercial outlook. Once SPORTS is reorganised into LTDC, it may have to shift its operations to new premises with additional facilities. Modern communication channels will have to be installed with on-line connections to important world tourism centres.

3. In order to achieve better co-ordination and focussed attention among various islands it is suggested that the entire group of inhabited islands may be divided into **four groups**, as detailed below. Each island group can formulate its own developmental programmes depending on its specific conditions and accessibility.

(When tourism related developments take place later in uninhabited islands, these can also be brought into the focussed groups based on their location.)

a) Kadmat Based	<ul style="list-style-type: none"> ◆ Kadmat ◆ Bitra ◆ Chetlat ◆ Amini ◆ Kiltan
b) Kavaratti Based	<ul style="list-style-type: none"> ◆ Kavaratti ◆ Agatti ◆ Bangaram ◆ Thinnakkara ◆ Kalpitti – Parli- Suheli
c) Kalpeni Based	<ul style="list-style-type: none"> ◆ Kalpeni ◆ Andrott ◆ Thilakkam 1, 2 & 3 ◆ Cheriyam ◆ Pitti
d) Minicoy Based	<ul style="list-style-type: none"> ◆ Minicoy ◆ Viringili

Based on the above, tourism packages can be rescheduled focussing on a particular group. Basically there needs to be **two entry points** from Kochi and another from Calicut / Beypore. Both these entry points can be serviced by ship as well as air transport. (Kochi – Agatti air transport existing and Calicut – Andrott air transport proposed after completion of the airstrip at Andrott). All the tourism related developments as well as promotional responsibility rest with SPORTS / LTDC office located at the base island. As far as the new islands to be brought under tourism focus and related developmental work like beach cleaning, construction requirements, and organizing the required equipment for various sports activities will be carried out by the respective ‘base’ office during the off season. The **island group** based developmental plan would give a sense of in built competition among the various nodal points to enhance the performance and the revenue.

4. **Minicoy Island**, perhaps one of the finest beaches available among various islands, has staying facilities (Family huts 3-6 beds, Executive huts 10-20 beds) for tourists. The present occupancy level of these cottages is extremely poor (During 2001 – 02, 176 tourists visited Minicoy island with an average length of stay of 4 days. Based on this, the bed occupancy level here was only 12.9 percent ($176 \times 4 / 26 \times 210$). This needs to be improved by dedicated travel plans / packages to this island. The potential is very large (relatively clean sunny beaches, water sports, swimming facilities) and the added attraction is that this cottages and the beach are located in a relatively less inhabited area in the island. The tourists can be given experience of Jihad Dhoni (Snake boat) travel.

Direct 10 – 12 seater helicopter **chartered services** can be organized from Trivandrum. Such services are becoming popular among high spending tourists at various tourist locations. Companies like India International Airways Ltd, Million Air, Deccan Aviation Pvt. Ltd provide such chartered services in the country now. As medium term proposal it is also suggested to convert the existing helipad into an airstrip (500 x 50 m). Construction of **breakwater jetty** at Minicoy is also recommended as part of the Plan, which would facilitate smooth journey of visitors to a greater extent. (Construction of the airstrip is already included in the 10th Plan.

Minicoy is a relatively well developed island with high per capita income. However visitors to this island do not find comfortable accommodation and food. In this context it is recommended that a **high quality hotel and restaurant** (50 beds capacity initially) may be established. This could be promoted in the private sector.

Minicoy can also be promoted as an **aqua sports diving centre**. Diving is one of the relatively popular aqua sports activity, normally practised by the affluent classes. Once the link with the mainland is established by air or shortest ship journey, attracting international divers may not pose any problem if focussed promotional campaign is adopted (Managing the aqua sports centre can be with LTDC).

As part of this centre, establishing a **meditation / yoga / rejuvenation centre** can be considered. Experienced and highly qualified individuals need to be employed for imparting training to the participants. Such natural healing and preventive (systems purification and rejuvenation) aspects of healthy living are catching on with the foreign as well as domestic tourists. (Private sector can be invited to participate in this).

Introduction of **houseboat luxury cruising** journey through the existing deeper lagoons in and around Minicoy island is also being proposed as part of the Plan. This is purely a laid back, leisure travel of short duration in a top covered luxury boat with comfortable seating arrangements to enjoy the sights around. The uninhabited island of 'Viringili' can also be covered by this boat journey. The boat is aesthetically designed with seats arranged in such away that visitors enjoy the journey while viewing the spectacular green beauty of the land from a distance. (Private sector participation can be encouraged in this).

Minicoy has fairly high per capita income, due to employment in Middle East as well as in other professions, and the locals do not have adequate facilities for spending time and money. In this context a **Family Entertainment Centre (FEC)** which can also be used by tourists as well can be set up. Local residents can participate in this venture. This centre will offer:

- ❖ Clean and wholesome entertainment for entire family,
- ❖ Competitive sports in healthy environment,
- ❖ Forum for get-together and social interactions.

The FEC will have to start with facilities like four lane bowling alley, board games (Pool / Billiard / Snooker / Carroms) video interactive games, giant screen television, multi cuisine restaurant, etc. Other facilities like air hockey, health club, cyber cafe, motion stimulator, etc. can be added depending on the clientele and market acceptance.

5. **Kadmat Beach and the Resort Centre** are already being promoted as one of the picturesque lagoons and the advantage with this spot is that it has beach facility on both sides (West and East) at the southern most tip. Apart from normal aqua sports facilities like kayaking, yachting, para sailing, snorkeling, water skiing, etc. this centre has been promoted as a **dive centre**. Shallow lagoon is the greatest attraction here. Lakshadweep Institute of Water Sports was inaugurated in 1995, which provides training under short duration courses to the locals (Basically these are sponsored courses by Department of Education) as well as for others.

The dive centre is presently leased out to a private party from Mumbai. Scuba diving packages for beginners as well as for experienced divers are organized at this centre.

Although some beginning has been made and facilities are created here for aqua sports, it is felt that the centre may be upgraded into a **‘Centre of Excellence for Aqua Sports’**. This would result in Kadmat being sponsored and promoted mainly as an aqua sports centre, for the specific target group. The centre will have latest diving equipments and facilities like cylinders, buoyancy compensators, regulators, weights, fins, masks, compressor, outboard motor boats, etc.

KADMAT BEACH AND RESORTS



This centre needs to be run by a Professional Association of Diving Institution (PADI). Approval from world recognized diving institutes (Pacific Asian Diving Association, SAVA, Mauritius Scuba Diving Association, CMAS) is a prerequisite for this centre to attract clientele from upcountry markets of Germany, Italy, UK and the Pacific area. Excellence in quality and the ability to absorb what is latest in the diving activity are important criteria for higher capacity utilization and appreciation by the customers. Since the clientele for this centre would be largely international visitors, it would be preferable to employ international experts to give instructions.

It has been reported that diving has become immensely popular throughout the world and the trend is that it caters to a very affluent market, being an expensive sport (Maldives have been developed as a key centre in this respect).

The existing accommodation facilities of Executive huts, Family huts, and Scuba beds (44 beds) can be utilized for this purpose, so that the capacity utilization rate can be improved significantly from the present low level. The food and beverages facilities especially suiting the tastes of international visitors may have to be introduced. The present Marine Wealth Awareness Programme (MWAP) may be renamed as Aqua Sports and Dive Programme (This will attract both amateurs and professionals).

During 2001 – 02, MWAP attracted about 398 tourists. Most of these tourists belonged to general category of water sports lovers like rowing, kayaking, rafting, swimming, pedal boats, etc. and a very few of diving category. Properly marketed as a dive centre with latest equipments and training facilities the centre should be able to attract about 800 visitors per annum of this category alone by 2005 – 06. (during the fair weather season of 210 days). Normally these visitors (30 – 50 age group) spend about a week to ten days (Average length of stay : 8 days). Including diving charges and other expenses like food and stay, a visitor would be spending on an average US \$ 100 per day (US \$ 100 x 8 x 800 = US \$ 6.40 lakh). This would also ensure about 69 percent utilization ($8 \times 800 / 210 \times 44$) of the bed capacity. Depending on the popularity and acceptance of the dive centre the bed capacity utilisation can be improved further in later years.

The key external requirements to market this centre would be:

- Provision of air connectivity with mainland and the island. (Provision for bringing tourists by helicopter from Agatti to Kadmat needs to be made in this context. This class of visitors may not like to undergo the tedium of 4 to 5 hours journey by boat to reach Kadmat.
- International marketing and promotional campaign to introduce Kadmat as a new dive / aqua centre (Magazines, exhibitions, seminars, tourism fairs, etc. in specific markets of Europe and South East Asia need to be resorted to in this context).
- Follow strict safety norms for water sports (Ministry of Tourism, Government of India has brought out the requirements under safety norms for water sports. These regulations relate to infrastructure, equipment and accessories, operator qualifications rescue operations, etc.
- Marketing links with large tour operators and hotel chains abroad.

Management and technical skill of the diving centre are important. The basic needs are experienced supervisors for conducting diving trips and trainers for scuba diving for beginners and more advanced levels. The following staff would be required at the centre.

Centre Manager (1)	General administration, co-ordination of training programmes and dive tours, customer services, equipment sales, etc.
Diving Instructors (2)	Diver training, guiding equipment maintenance, boat handling, etc. (good academic background)
Dive Masters (2)	Guiding, equipment maintenance, boat handling, overall supervision, customer care, first aid, communications
General Assistants (3)	Transport and maintenance, equipment handling and storage, odd jobs, etc.

The **training programme** would consist of the following stages:

Stage I	Open water dive course, first aid, rescue diver course (2 weeks)
Stage II	PADI dive master course, boat handling, radio communications, equipment maintenance (6 weeks)
Stage III	PADI instructor development course, first aid instructor course, speciality instructor training (4 weeks)

The existing honeymoon cottages in Kadmat (8 numbers and 16 beds) require major overhauling / reconditioning. It may also be worthwhile to shift these from the present location to the resort centre alongwith Executive huts / Family cottages for better control and co-ordination. Specialities of honeymoon cottages, incentives and concessions offered during off-season are to be highlighted in the promotional campaign. Comfortable stay and safety are the hallmark of the promotional campaign of honeymoon cottages.

In order to effectively utilise the spare time available with the tourists, recreational sailing facilities in luxury boats (as planned in Minicoy) can be arranged between Kadmat southern tip and Ameni, which during high tides takes only less than one hour. (Can be promoted in the private sector).

Yoga and ayurvedic rejuvenation centre can be promoted as part of the activities at Kadmat. International tourists arriving there for aqua sports will be also interested in such treatment and rejuvenation programme (Can be promoted in the private sector).

As of now Kadmat Island does not have facilities for quality accommodation and food for visitors. Once the various developments planned as above are completed there would be requirement of class accommodation and a high-class hotel with dining facilities is suggested in the island. (This could be promoted with private participation.)

6. **Andrott**, one of the inhabited islands has certain special features. This island has not been exploited so far for tourism promotion.
 - The island's disposition is east to west, while all other islands lie in north – south direction. The island has relatively high population density and the entire stretch of land is uniformly inhabited.
 - The island does not have lagoon and extensive coastal zone constituting the beaches.
 - One of the unique advantages of this island is the availability of a break water jetty, which facilitates berthing of ships and speed vessels. The completion of the proposed phase would enable even bigger ships to berth at the jetty as close to the land. In all other islands larger vessels are berthed far away which requires transportation by boats to the shore (This happens to be one of the irritants for the tourists).

ANDROTT JETTY



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- The low-lying central part of the island is quite fertile suitable for cultivation of vegetables and other vegetation. The island has relatively better availability of ground water unlike other islands. Andrott also has favourable climatic conditions.
- Proximity of the island to the mainland of Kozhikode (About 200 kms).

Although the island has above in built advantages, package tours were not organized to Andrott island (Earlier ‘Ziyath Tour’ was organized and due to low market acceptance it was discontinued). However, observations and discussions with the various sources in Government as well as general public in the island, reveal that Andrott can attract tourists provided tourism related facilities and attractions are made. These sources also feel that the visitors will have totally different sea experience what they would have experienced in Kalpeni or Kavaratti. Some of the suggestions for bringing Andrott also in the tourist itinerary are as follows:

- On the north – east tip of the island there is a sandbank covering the beach area (locally called Moolah beach) which can be developed into **beach recreation facilities**. Resort facilities including stay and food need to be provided for these tourists either as ‘day tourists’ or as ‘staying tourists’ (Since the land adjacent to the aforesaid beach belongs to private parties, privatisation of the resort complex may have to be resorted to while implementing the project. Either the land can be taken on lease basis or the resorts can be promoted by private parties themselves).

To start with, the resorts will have 10 cottages with 20 beds and with in built provision for expanding up to 50 beds later. Including the cost of interior furnishings the cost per cottage need to be restricted to Rs. 5.00 lakhs. Usage of eco friendly and locally available materials needs to be encouraged to the maximum extent. (Local residents can be motivated to participate in this venture).

- These beaches and the shallow water area can be utilized for boating, kayaking, canoeing, swimming and other water sports activities. In order that the tourists spend their time enjoyably and productively, recreation facilities like beach volleyball, football, badminton, etc. can be arranged by Event Managers of SPORTS.
- The beach area available next to the jetty (West side) can be converted into a **‘theme park’** with facilities for children to play. Circular mini train, illuminated fountains, computer kiosks, reading facilities, indoor games, etc. can be provided here. Since the width of the land area is not very large, a normal amusement park with giant wheels and such other facilities cannot be planned here.
- The **Juma Mosque** (The tomb of Saint Ubaidulla) can be improved upon as one of the tourist attractions in the island. (Standalone Pilgrims trip to this place may not have sufficient tourists). A **“light and sound”** programme, based on the life and work of the saint (half-an hour Programme) can be prepared to attract the visitors as well as to keep the place lively and vibrant.
- The central portion of the island is quite fertile and can be used for establishing a **botanical garden**. The impressive landscaped garden, fountains, flowerbeds, etc. will provide a fair for nature lovers and enjoyment for tourists. One part of the garden can be devoted to grow medicinal plants and flowers. (It could provide the necessary raw materials for health resorts including ayurvedic treatment centre). The garden will have facilities like lawns, green house, glass house, fountain, aquarium, landscaped garden, cascades, etc. The various species of plants and trees to be selected would be done in consultation with the Horticulture Department as well as the Department of Forests. A well-developed botanical garden can be preserved and conserved as a rich heritage and provide scope for educational tours.

The Department of Agriculture and Horticulture can take initiatives in this direction in making arrangement for the required land (Minimum 5 acres). It may be that it would be difficult to

acquire the entire land at a stretch. Landowners of contiguous properties can be requested to participate in this activity.

- Expansion of the helipad area into a mini airport (Discussed in the transport section) has been recommended as part of the Plan proposal.
- In order to improve the tourism attractions within the island it is also recommended to establish an aquarium / ornamental fish type on the lines of Kavaratti aquatic museum.
- Construction of a **swimming pool** at the northwest area has been proposed by the Education Department and the land has already been earmarked for this purpose. This is intended to benefit the local population in getting trained in aquatic activities.
- **Jubilee Convention hall** is already existing (MPLAD) and this can be utilized for organizing **corporate meetings, seminars, conventions**, etc. The resorts planned at Moolah beach can provide accommodation to these guests. Alongwith tourism facilities which are planned these developmental projects would boost the arrival of corporate visitors, if marketed properly among the target groups as '**corporate retreat**'. An **Executive Health Programme** can also be attached to the above to make the stay duration enjoyable and productive.

7. The resort complex at **Agatti** sponsored by SPORTS is now managed by private parties. The resorts are located close to the Agatti airport, which by itself is the greatest advantage in transport logistics. Discussions with these sources reveal that the capacity utilization at the resort is not very encouraging. Lack of publicity and promotional campaign focussing on the tourism attractions at the complex are the important reasons for this. It is suggested that chartered helicopter services can be employed to attract high spender category of tourists. Bangaram beach resort which is located further away from Agatti (About 2 hours boat journey) is able to attract more tourists mainly due to the innovative marketing strategies and promotional campaign adopted by the resort managers. This resort is reported to be getting a number of repeat visitors primarily because of the satisfaction and value for money derived in earlier visits.

BANGARAM RESORT AND BEACH



Agatti and Goa are connected by air. Goa continues to attract a large number of beach tourists and has been developed as a centre of variety of attractions including food and entertainment. Goa tourism is actively packed and hence these tourists can be lured to Agatti / Bangaram for a distinctly different leisure experience (While Goa beaches are overcrowded, Agatti / Bangaram beach resorts would provide loneliness and solitary leisure holidays). Thus Agatti – Goa – Bangaram can be developed as a **tourist circuit** through focussed promotional efforts. The initial liaison work and co-ordination with Goa Tourism Promotion Board may have to be taken up by Tourism Department / SPORTS alongwith private promoters. Once the link is established the private promoters can continue the promotional work to sustain the market. It is also advised in this context to open a liaison office of SPORTS in Goa to promote awareness and a continuous publicity campaign at resort centres.

Agatti airport is proposed to be expanded to accommodate bigger flights. As of now the visitors / tourists do not get any decent accommodation or boarding facilities. In fact Agatti does not have any such facility except the Government bungalow. Once relaxation in the permit system and the proposed tourist circuits are developed the need for good accommodation and food will increase in future years. It is suggested that a **class hotel** (no star category) of 50 beds and restaurant with multi-cuisine facilities may be promoted in the island. The southern side of the island which is sparsely populated can be used for this purpose by private sector participation. Land owners in Kalpitti island can also be encouraged to invest in such ventures.

8. **Kalpeni** and the surrounding islands of Thilakkam, Pitti and Cheriya provide excellent sea and beach related natural assets, which could be further promoted. Kalpeni has four resorts now (8 beds) which are owned by private party. Although marketed by SPORTS, due to various reasons the '**Coconut Grove**' package has not been popular to any extent. Lack of a variety of entertainment avenues in the island and also the existing problems in transport logistics are the primary reasons. Moreover this tour package is not given focussed attention in the promotional campaign. Once certain facilities and attractions are

created it may be necessary to refurbish these cottages and give a total re-orientation to attract tourists.

Thilakkam, Pitti and Cheriyam are uninhabited islands, which could be taken up for further development. Tourists from Kalpeni are taken to Thilakkam (15 minutes) by boat for swimming and aqua sports activities (Snorkeling, Kayaking, etc.). There is no resting and change room facilities at this beach location. It is necessary to provide temporary shelters (protection from scorching sun) at this location. Moreover the bathing area is to be cleaned and rough pebbles removed for smooth movement.

Thilakkam – Pitti and Kalpeni form a triangle and the distances among these three are less than a kilometer. It may be an attraction for the tourists if all these three are connected by **walking suspension bridge**. Construction of such a bridge would not do any harm to the ecology or to the coral reefs around. (Illuminated bridges during evenings and nights would be a great attraction for staying tourists at Kalpeni).

Cheriyam lies closer to Kalpeni at a distance of about 2.5 kilometers. There is already a proposal made to connect these two islands by a narrow bridge of 10' width. Once this bridge is built, Cheriya m can be developed into an **exclusive island** for the visitors. The model here is **Sentosa island** in Singapore. This exclusive tourism island proposed will have entertainment facilities like circular railway, swimming pool, parks, beach, shopping facilities, cafeteria, etc. There are no staying facilities provided here. Entry into the island from Kalpeni where staying facilities are available is through an entry fee. Cheriya m island has drinking water problems and any development in this island needs to be supported by provision for drinking water facilities through R O desalination plants. Collection of rainwater through storm water pits in the island would help improving the quality of ground water, which can be used for all purposes other than drinking.

Visitors to Kalpeni can be brought as '**staying tourists**' and apart from the beach related activities the attractions in the exclusive island would prove to be of additional advantage. In this context it may be necessary to increase number of cottages at this location. The number can be increased based on the clientele. The activities of existing **hosier y unit**

of Kalpeni may be improved further and sales counters manned by trained sales people to attract visitors.

These Kalpeni based developments (especially creation of exclusive island) would involve higher project outlay and hence **private participation** would be necessary and can be considered as a **long-term plan (2010 – 11)**.

9. **Ameni Island**, one of the historically important islands is located closer to Kadmat and is surrounded by lagoon. However, the beach availability is only in patches at some locations. One of the significant aspects to be noted here is that Ameni has the highest density of population of 2834 per sq. km. as compared to 1894 for the UT as a whole. The high density and the consequent growth restrict the carrying capacity of the island substantially from other development angles. Availability of free land is highly restricted.

Small beach area is available just behind the high school on the west side. However, developing this into a beach resort may not be advisable due to the location of the primary and higher level schools close by. Activities that could be developed in this beach are games like football, volleyball, etc.

Two important developments that are taking shape in the island are construction of a **breakwater jetty** and **convention hall** (MPLAD Scheme). Although the convention hall is nearing completion, the break water jetty will take about another few years to become a reality. The convention hall can be utilised for organising cultural events and other entertainment that would be enjoyable for both locals and visitors as well. (The Event Managers of SPORTS may take initiative in organizing cultural events (dance and music), festivities, etc.)

Development of **helipad area (Barana)** on the southern side is a possibility in terms of creation of tourist attractions. Observatory is located here. Due largely to the low carrying capacity and orthodox outlook of the people, Ameni is not recommended for construction of resort facilities. As a transit point visitors from Kadmat can be brought and taken around. Hence at the observatory location, adequate resting and dining facilities can be created (Kalpeni type). Private

participation can be encouraged in developing this area and providing restaurant facilities.

10. **Kavaratti**, the capital of Lakshadweep is relatively better developed in terms of facilities and living conditions. Apart from tourists, this island also gets a number of other visitors coming for various business and official purposes. Unfortunately, there are no quality hotels or eating establishments catering to this floating population. One or two tourist lodges existing near the jetty have only limited number of rooms and cannot serve the requirements. The standards of available restaurants and eating establishments are extremely poor in terms of variety and quality. The number of floating visitors especially to this island will increase in future years in tune with various developments visualized. Moreover, the number of tourists who prefer to come to the island independently of the package tour would increase in future years once the permit system is relaxed.

In the above context, it is suggested that efforts may be taken to establish one **quality hotel** (no star category) with restaurant facilities. This would provide the basic comforts of staying. The hotel will have capacity of 50 beds (Ground + Single storey) in single and double rooms, some with air conditioned facility. The restaurant will provide both vegetarian and non vegetarian food. (Indicative investment : Rs. 200 lakhs). This may be promoted in the private sector, and our enquiries during the survey with local shop owners and others reveal that they are willing to participate in such ventures. What perhaps required is an initial momentum from the Administration to initiate the project. An expression of interest can be invited from prospective investors in the island and mainland in this regard.

Once a reasonably good hotel and eating facilities are established this will provide a number of direct employment to the locals. Indirectly, this will also create opportunities for various other services like transport, supply of materials, etc. The shopping malls of handicrafts, curios, souvenirs, specialities of the islands, etc. will also give revenue to the general public.

Kavaratti being the capital, a number of land based constructions may have to be made to accommodate Government offices and utility services. Hence it is advised not to increase further constructions to

attract tourism. It is recommended in this context to improve the bed capacity utilization of the existing resort cottages (5 huts – 10 beds). The Coral Reef package which is quite popular among the tourists, is now operated mostly as a ‘day tour’ and night stay in the ship. On days when such packages are not arranged, tourists of small groups can be brought to the island on a staying package. Alternatively these cottages can be rented out to other official visitors to the island on days when these are free from tourists. ‘Bed and breakfast’ concept can also be introduced here for the benefit of stray visitors. Providers of such facilities need to be registered with the Tourism Department / SPORTS.

KAVARATTI BEACH, RESORT AND JETTY



Kavaratti is well connected by air from Agatti. This facility can be used for using the existing resort cottages or convention hall for

holding company meetings, small seminars, etc. These gatherings can also be arranged in the open space available at the resort side. Adequate publicity in this regard focussed towards corporate companies can be organized right earnest.

Restaurant and dining facilities (SPORTS) are available at the Kavaratti resorts and this is activated only when tourists arrive. In order to utilize the spare time capacity of the infrastructure facilities and the manpower, it is suggested to convert it into a **sea food speciality catering service**. (The normal items of food will be provided on days when tourists arrive). The availability of such facility is likely to become an attraction for local inhabitants as well as visitors other than tourists. Non vegetarian group among the tourists would also like such food attractions.

Pitti island lying in the north – west direction of Kavaratti and 18 kms away accommodates large concentration of birds which is really a scenic beauty by itself. The tourists can be taken to the island by boat for a distant view of these birds.

Beautification / illumination of the beach / jetty and adjoining area need to be taken up in Kavaratti. Cleaning and the removal of all waste materials scattered all through the beach / jetty need to be enforced. Since floating population is relatively high in Kavaratti, and the jetty being a major activity centre, these floating population can spend the evenings productively in an enjoyable manner. **‘Light and Sound programme’** could be yet another attraction that could be effectively brought out here. (Beautification / illumination of the beach and Jetty area is a necessity in all major islands developed for tourism)

Weeklong **cultural extravaganza** (music, dance, drama) can be organized in the island during the fair weather season. This would attract largely the staying package tourists and help increase their average length of stay. Exponents in each area can be invited for these festivals. At Kavaratti, central library premises can be used for these functions.

11. In the group of inhabited islands **Bitra, Chetlat** and **Kiltan** lying in the northern part and closer to places like Mangalore and Kannur are relatively underdeveloped in various fields. Economic development and other infrastructure facilities are poor in these islands. In Bitra population is very low and the ground water quality is extremely salty.

The inhabitants depend on rainwater and other sources of supply (RO desalination plants). Other infrastructure facilities like road and movement facilities are also poor. Nevertheless, Bitra is named as the '**Jewel of Lakshadweep islands**' due to its extensive lagoon and the coral assets. It also has white sandy beaches. The island is lovely although sparsely populated. Being closer to Kadmat, these attractions can be capitalised by taking tourists at Kadmat as day visitors to Bitra by boat. The beach can be cleaned up to provide comfortable shelter for tourists. Facilities for refreshments can be organized by local residents with proper supervision of the SPORTS. Residents in the island can be also motivated to keep the beach and the lagoons neat and clean.

Kiltan and **Chetlat** also have these limitations of poor infrastructure development as well as low quality of ground water. Not only that, in both these islands the fresh ground water potential is relatively low as compared to other islands. Both Chetlat and Kiltan have only small lagoon (1.60 sq. kms. each) and the importance of Kiltan is that it lies on the international trade route.

It is felt that the cost of development in these three islands in creation of various attractions to make them presentable to the tourists would be much more than the revenue that can be generated due to poor transportation possibilities. Moreover except for corals and lagoons there are nothing unique as tourist attractions in these islands. Since these islands lie wide apart transport logistics also pose problems and the sea journey by ordinary boats is not a desirable situation. Considering these various aspects, tourism related future development plans are proposed to be taken up in these islands only as long term measure. Perhaps by that time the proposed construction of breakwater jetty in Kiltan would also be completed. This could be a great attraction for bringing tourists directly to Kiltan and later to Kadmat, Bitra and Chetlat.

There was a proposal to build an airstrip at Kiltan and the land was also earmarked for this purpose. No construction work has yet been initiated. Once the airstrip plan becomes a reality, tourists related activities could be initiated in these islands. Tourists from Kozhikode / Bepore can be brought here directly. This could be of significant advantage to the tourists.

C. Uninhabited Islands

7.10 Individually taken though extremely small in geographical area, there are a number of uninhabited islands in the Lakshadweep Group, which could be brought under tourism development. Bangaram, which is an uninhabited island is already functioning as a tourist resort complex managed by a private operator. To continue the process such developments can be replicated in islands like **Thinnakkara, Suheli, and Parli**. Bringing uninhabited islands under the purview of tourism operations connotes significance on various grounds. (Suheli has the largest lagoon area of 78.96 sq. kms.)

- ◆ The inhabited islands have limited carrying capacities and further expansion possibilities in terms of creation of land based facilities are limited.
- ◆ Availability of vacant land is scarce and most of the inhabited islands have very high population density. The traditions and cultural habits of the islanders vary widely with that of the visitors.
- ◆ Tourists by nature are fun loving and expect freedom of movement and entertainment. Lesser the controls and regulations, greater will be the enjoyment (Tourism in developed world has exhibited cyclical pattern that lesser the controls, higher the influx).
- ◆ Tourists do not like to be treated as objects to be kept at a distance.

7.11 Given the various limitations and conditions that prevail in the inhabited islands which are difficult to alter, it may be prudent to divert tourism development to uninhabited islands. Maldives, which has a number of uninhabited small islands have gone ahead in this direction and has reportedly done well. A number of island resorts have been set up by private parties including large hotel chains. Reportedly, these resorts are doing extremely well and the revenue generation by the Maldivian Government has increased significantly. Currently as much as 20 percent of the GDP is generated from tourism activities. (see write up on **Maldives – Case Study**).

7.12 The proposed developments in the islands immensely rely on the premises that the marine life and the coastal resources are to be preserved to continue enjoyment on a sustainable manner. This principle of **conservation for prolonged use** is to be strictly followed to bring the environmental disturbances out of human activity to a reducible minimum. The worst offender in this context is the building construction activity, which can be controlled and brought under eco-friendly materials by suitable legislation.

- 7.13 In this context, as part of the plan we suggest the following phased strategy to develop the uninhabited islands.

Phase I (Year 2002 to 2004)

Privatisation policy of the government especially targeted towards the uninhabited islands needs to be clearly brought out highlighting the objectives like: (Examples can be drawn from Maldives and earlier experience of Bangaram).

- ◆ Promote an eco friendly tourist resort of international standards targeting high spenders.
- ◆ Develop a resort, which is aesthetically designed to blend with the local ambience.
- ◆ Encourage investment by private entrepreneurs in the tourism sector especially focusing on development of tourism related infrastructure facilities.
- ◆ Establish eco friendly operations in development / management of resorts and recreational, entertainment aspects.
- ◆ Facilitate promotion of eco friendly tourism in specialised sectors of water sports including scuba diving.

Based on the above, various terms and conditions for private sector to participate can be unfolded. The important issues involved are:

- Role of the Government and the private promoter.
- Leasing from the owner to Government and then to promoters.
(Procedures and terms and conditions at various stages.)
- Restrictions on land area, built up area and construction materials to be used.
- Leasing period (Normally varies and depends on investment).
- Lumpsum payment / variable payment to the Government.
(Renewable at fixed periods)
- Infrastructure development (water, power, transport, road, sewage system, communications, etc.).

- Employment opportunities to the locals.
- Concessions and incentives to the promoters.
- Various other guidelines like preservation of the cultural identity of the people, prohibition, etc.

It is suggested that a few islands say two or three may be selected to start with on an experimental basis to understand the growth potential and ground realities. Initially the islands of Thinnakkara, Parli, Suheli Valiyakara can be chosen for development. The selection of islands for the initial development may be prima-facie based on a) their suitability for tourism development (availability of lagoons, corals, beach, etc.) and b) nearness to the existing airport, at Agatti. Such developments will bring about added importance and significance, once Agatti airport is expanded to accommodate bigger planes.

Once the policy guidelines are discussed and approved at the highest levels, (Tourism Promotion Board) specific **“Expression of Interest”** can be invited from prospective entrepreneurs both national and international. (Maldives island resorts are promoted by large hotel chains and other international investors). The bid document has to be made elaborate giving complete description about the resorts to be developed, the project components, approximate investment and the selection criteria. Selection of the promoter can be made based on the strength of the promoter on various criteria laid down for this purpose. As done in Maldives, only one operator may be permitted in each island.

Phase II (Year 2004 to 2008)

Implementation phase of the selected islands (initially three islands) in terms of required developments. (The extent of developments and facilities to be created at a resort island may be left to the promoter concerned. While some islands can support five star facilities, some others can accommodate only moderate facilities).

The broad development plan is given below:

a) Villa details

- Construction of self contained lagoon villas, projecting in to the lagoon.
- Each villa 2 bedded type, all facing sea.
- Total 50 villas per island - 100 beds capacity. (Can be expanded later depending on the success and the carrying capacity of the island).
- Small lobby, drawing room, bedroom, sit out, toilet and small pantry.
- Each villa will have 500 sq. ft. built up area.

b) Common facilities (Maximum land area to be used only 20 percent)

- Main Restaurant (serving different cuisine)
 - The Bar (Locals should **not** be employed in the bar)
 - Meeting / Convention hall
 - Facilities for other essential services (Travel desk / E-mail / Fax)
 - Safe deposit locker rooms
 - Foreign exchange counter
 - Gymnasium / fitness centre
 - Shopping area (only speciality items)
 - Indoor games
 - Library / reading room
 - Laundry services
- (Total built up area of the above would be about 6000 sq. ft.)

c) Recreation and Entertainment

- Water sports facilities / adventure sports
- Land sports (volleyball, shuttle cock, table tennis)

Note:

It may be noted here that the extent of facilities to be provided in the island depends on the vision of the promoter and his targeted clientele. Hence except for broad guidelines and periodic inspection for compliance with various formalities, Government's role will be limited in actual implementation.

One of the crucial factors of success of such ventures would be the ability of the promoter to ease the existing transportation problems in the islands. Easy and quick access is the key to attracting visitors. No doubt, certain changes and additions as suggested are expected to be in place in the next few years, and these would reduce the existing problems to a certain extent. Bringing tourists to the specific islands by chartered flights / helicopters at least during initial years can be tried out. The promoter will have to organize comfortable inter island transport. (The resort promoters in Maldives have their own speedboats to transport tourists from the international airport).

Phase III (Year beyond 2010)

Based on the satisfactory progress made by the promoters and the acceptability by the tourists, the Administration can take appropriate decisions to review and extend the development process to other uninhabited islands also. We expect that the same facilities can be extended to another five more islands in later years.

7.14 Brief project requirements of the Resort Complex.

❖ **Land acquisition and development**

Though uninhabited, the island's land is owned by islanders living in other islands. What is required here is the creation of awareness among these locals about the need for promotion of tourism as a revenue earner to the Union Territory and to the people at large. Presently these land areas are utilized for cultivation of coconuts and the yield from these is dwindling over the years. By and large, the natives are willing to experiment with new projects, although they may not have the necessary expertise and finance. The Administration may have to take

these owners into confidence by suitable incentives and attractive terms. Leasing period of the land to the promoter may be based on the investment plan. **(21 years lease for investment up to US \$ 10 million and 35 years for investment above US \$ 10 million is practised in Maldives).**

The Development of the land should be done in such a way not to cause heavy damage to the existing landscape and trees.

In building construction the following guidelines are to be ensured.

- A minimum of 20 percent of the beach area is to be left for free passage and movement.
- Optimum use of locally available materials is to be ensured.
- Height of the buildings to be restricted so that the green view of the island is not obstructed.
- Stilted structures above the ground are to be used to ensure minimum disturbance.
- Uniform architectural design to be used to provide aesthetic exterior.
- All buildings should have maximum roof space to facilitate collection of rainwater.

The number of villas to be constructed depends on the physical carrying capacity, which is defined as the **beach area required by a tourist**. (Since all the activities are concentrated on the beach, the relevant area refers to 'beach area' only). Normally, 30 sq. meters of beach area per tourist (equivalent to above 60 sq. meters of the land area per tourist) can be considered appropriate for smaller islands (Bigger islands will have even 60 sq. m. of beach area per tourist). This means that about 330 tourists can be accommodated **per hectare** of beach area. Considering a factor of 70 percent of the tourists would be on the beach at any given time (allowing for various other activities) and the peak bed occupancy rate of 80 percent, roughly about 600 tourists can be accommodated in a hectare of beach area (10,000 sq.

meters). This could be taken as the upper limit and would come down considering other factors like requirements of power, water, solid waste treatment, etc. For example, Thinnakkara island has 30 hectares of land area, and based on 60 sq. meters / person (for whole area) about 160 people can be accommodated per hectare of land area (About 300 persons / hectare considering bed occupancy and land occupancy). Based on the actual extent of beach area this would be about 150 tourists per hectare. (The proposed bed capacity of the resort is only 100 and hence would not affect the carrying capacity.)

The following assumptions are made to estimate the bed capacity and tourists arrival.

- By 2006 – 07 three islands are ready with 100 beds capacity each (Total 300 beds)
- Average length of stay of each tourist = 6 days
- Expected capacity utilization of the resorts = 50% (gradually increasing)
- No. of operational days (excluding heavy rains) = 220 days
- Likely number of tourists required : $6x = 300 * 220 * 0.5$
(At 50% capacity utilisation) =5500 / annum

Say by year 2011 – 12 another 500 beds are added (5 more islands of 100 beds each) the requirement of tourist would be in the range of 14600 in the resorts alone. Hence future expansion programme should be purely based on the popularity gained and the acceptance level by the tourists.

❖ **Other infrastructure facilities**

The requirement of **soft water** depends on the bed capacity created in the island. Since the ground water is unusable rainwater harvesting and desalination plants may have to be used. Although drinking water requirements may not be very high, other requirements in the common facility area, bathing, etc. (being humid conditions) would require in large quantities. All taken together (including restaurant, kitchen, etc.) a per capita, per day requirement of 400 litres would be sufficient to meet

the quantum of fresh water requirement. A desalination plant of 5000 litre / hour with an average recovery rate of 70 percent would be able to meet the demand (for 100 beds capacity).

In the case of diesel **power generation**, one important thing is the cause of atmospheric and noise pollution. Solar power plant of 200 Kw would be able to serve the requirements of 100 tourists. Although the power consumption may not be high, the connected load needs to be of 200 Kw. The above can also be supplemented by other non-conventional energy sources like biomass power generation.

In the field of **waste management**, sewage treatment plants are to be installed and the recycled water can be used for irrigation. The usage of septic tank system may be avoided since leakages cause ground water pollution. Introduction of bio toilets can be investigated in this regard. In the case of solid waste management, all non-biodegradable wastes can be transported to the mainland for treatment (Installation of incinerators, bottle crushers and compactors are the other methods of solving this problem). The biodegradable waste can be converted into organic manure, which can be used for nutrient enrichment.

In the field of environment conservation, primarily the slogan should be to create **awareness among the tourists to respect the environment** in letter and spirit. Increasing the vegetation on the vacant places is yet another way of improving the environment. In the case of water sports only those which do not endanger the lagoons / corals may be promoted. High-speed water scooters are reported to have negative impact on the lagoon. (The corals grow on the calm waters).

❖ **Estimated project investment**

Tentative project investment is worked out based on the following premises.

(Value in Rs. Lakhs)

Island	Thinnakkara
Land area	30 hectares (3.0 lakh sq. m.)
Lagoon villa planned	50 villas of 2 beds each (100 beds capacity)
Built up area of the Villa	500 sq. ft.
Other common facilities	6,000 sq. ft.
Total built up area	31,000 sq. ft. (2881 sq. m.)
Construction cost @ Rs. 800 / sq. ft	248.00
Interior decoration, furniture, AC, TV, etc.	150.00
Kitchen equipment, utensils, etc.	100.00
Cost of desalination plant	30.00
Power plant / solar and biomass	500.00
Waste management	20.00
Environmental conservation	20.00
Water sports equipment	150.00
Cost of arranging transport / boat	200.00
Other miscellaneous assets	100.00
Total fixed capital	1518.00
Working capital requirements	150.00
Total	1668.00

The above **excludes:**

- The cost of land which will be on lease basis.
- Dedicated helicopter service to bring the guests direct to the resort island, if required.

Note:

1. It may be noted here that the above cost estimates are only very indicative in nature and hence **detailed feasibility** may have to be worked out at the time of implementation.
2. As part of the above, detailed **environment impact assessment** also may have to be conducted based on de-facto mapping of geographical and island conditions.

7.15 A **summary of recommendations** given under various activities in this Chapter is given in the following pages.

7.16 A **case study of Maldives**, highlighting tourism development process is also given at the end of this Chapter.

SUMMARY OF RECOMMENDATIONS

Proposal	Department	Time Span	Approximate Investment (Rs. Lakhs) (Excl. land cost)
A. Policy related issues – General			
1. Creation of awareness among the locals about ecological importance of tourism promotion – Formation of Green Army	Tourism & Environment / NGO	Immediate & ongoing	50.00 / annum
2. Selective relaxation of permit system of entry and prohibition rules	Administration	2003 – 04	—
3. Tourism policy declaration	Administration / Tourism	2002 - 03	—
4. Policy on privatisation	Administration / Tourism	2002 - 03	—
5. CRZ laws – selective approach	Administration / Science & Technology	2002 – 03	—
6. Protection of beaches from encroachment	Administration / Dweep Panchayats / NGOs	Immediate & ongoing	20.00 / annum
7. Single window clearance system for tourism projects (Tourism Promotion Board)	Administration / Tourism	2003 – 04 & ongoing	—
8. Limiting development activity to carrying capacity	Administration / Tourism / Environment	Immediate & ongoing	20.00 / annum
9. Bed and breakfast system in	Administration / Tourism	2003 - 04	—

major islands			
B. Tourism Promotion Proposals			
1. Separate Tourism Department and Directorate	Administration	2003 – 04	—
2. Reorganization of SPORTS and creation of additional facilities (Building + Communication)	Administration / Tourism	2003 – 04	1000.00 + (Equity fund) 100.00
3. Segregation of islands under different groups with one island as base	Administration / Tourism	2003 – 04	10.00 (Initial cost)
4. Opening of entry point at Kozhikode / Beypore	Administration / Tourism	2003 – 04	10.00 (Initial cost)

5. Minicoy island			
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➤ Chartered flights by helicopter	Administration / Private sector	2004 – 05	—
➤ High class hotel and restaurant	Private sector	2004 – 05	200.00
➤ Aqua sports diving centre	Administration / SPORTS	2003 – 04	100.00
➤ Meditation, yoga rejuvenation centre	Private sector	2004 – 05	50.00
➤ House boat luxury cruise journey	Private sector	2003 – 04	100.00
➤ Family entertainment centre	Private sector	2004 – 05	200.00
➤ Conversion of helipad into airstrip	Administration / Ports	2005 – 06	(Included in 10 th Plan)
➤ Construction of breakwater jetty	Administration / Ports	2005 – 06	30000.00

6. Kadmat Beach Resort			
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➤ Centre of excellence for aqua sports – Provision for European cuisine	SPORTS / Private sector	2004 – 05	250.00
➤ High class hotel and restaurant	Private sector	2004 – 05	200.00
➤ Improving the bed capacity utilization at resort centre	SPORTS	2002 – 03	—
➤ Focussed promotion of honey moon cottages	SPORTS	2003 – 04	50.00
➤ Yoga & ayurvedic rejuvenation centre	Private sector	2004 – 05	50.00
➤ Recreational sailing boats to other islands	SPORTS / Private sector	2004 – 05	100.00

7. Andrott Island			
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➤ Moolah beach development	Tourism / Private sector	2005 – 06	100.00
➤ Water sports activity	SPORTS / Private sector	2004 – 05	50.00
➤ Light & sound programme at Juma mosque	SPORTS / Tourism	2003 – 04	20.00
➤ Botanical garden	Horticulture / Tourism / Private sector	2005 – 06	50.00 (excluding land)
➤ Expansion of helipad into a airstrip	Administration / Airports Authority	2005 – 06	(Included in the 10 th Plan)
➤ Aquatic Museum	SPORTS / Tourism	2005 – 06	100.00
➤ Theme park at jetty area	Administration / Tourism	2004 – 05	50.00
➤ Convention hall based tourist promotion / corporate retreat	Tourism / SPORTS	2004 – 05	20.00
8. Agatti beach resort			
➤ Focussed promotional campaign on existing resorts	SPORTS / Private promoter	2002 – 03 & ongoing	10.00 / annum
➤ Tourist circuit between Agatti –Goa – Bangaram	SPORTS / Private promoter	2003 – 04 & ongoing	20.00 / annum
➤ Class hotel & restaurant	Private sector	2004 – 05	200.00

9. Kalpeni Island			
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➤ Bathing hut facilities and shelters at Thilakkam	SPORTS	2003 – 04	30.00
➤ Walking suspension bridge between Kalpeni – Thilakkam – Pitti	Administration / Tourism / PWD	2007 – 08	300.00
➤ Cheriyam Island development	Administration / Tourism / PWD / Private sector	2009 – 10	5000.00
10. Kavaratti Island			
➤ Quality residential and food facilities	Private sector	2004 – 05	200.00
➤ Improving the bed capacity utilization at resort complex	SPORTS	2003 – 04 & ongoing	—
➤ Seafood specialty catering service	SPORTS	2003 – 04	20.00 (Initial investment)
➤ Pitti (bird) island cruise	SPORTS	2002 – 03	—
➤ Beautification / illumination of beach / jetty area	Tourism / SPORTS	2002 – 03 & ongoing	10.00 (Initial investment)
➤ Light & sound programme	Tourism	2003 – 04	25.00
➤ Organizing weeklong cultural extravaganza	Tourism / SPORTS	2003 – 04	10.00

11. Ameni Island			
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➤ Convention hall based cultural programmes	Tourism / SPORTS	2003 – 04	10.00
➤ Development of helipad area based activities	Tourism / SPORTS	2003 – 04	50.00
➤ Proposed breakwater jetty based developments (Childrens park)	Tourism / SPORTS	2007 – 08	50.00
12. Bitra Island			
➤ Transit visitors from Kadmat (Day shelter, refreshment facilities) including beach development	SPORTS / Tourism / Private sector	2004 – 05	50.00
13. Kiltan / Chetlat Island			
➤ Breakwater jetty and airstrip proposal	PWD / Airports Authority / Administration	2007 – 08	(Included in the 10 th Plan)
14. Uninhabited islands			
➤ Construction of lagoon villas at Thinakkara, Suheli, Parli	Administration / Tourism / Private Sector	2003 – 08 (Further expansion beyond 2010)	Rs. 1500 – 1600 lakhs per island (excluding land)

15. Transportation sector			
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➤ Second dedicated ship for tourists	Administration / Tourism / Ports Dept.	2010 – 11	10000.00
➤ Privatisation of inter island transport	Administration / Ports Dept. / Private sector	2003 – 04	—
➤ Air taxi operation by helicopter between islands	Private sector	2004 – 05	—
➤ Introduction of sea planes	Private sector	2003 – 04	—
➤ Expansion of terminal facilities at Agatti	Administration / Airports Authority of India	2005 – 06	2000.00
➤ Construction of smaller airports at Andrott, Minicoy, Kadmat	Administration / Airports Authority	2006 – 07	(Included in the 10 th Plan)
➤ Air connection between Trivandrum – Minicoy and Kozhikode – Andrott	Administration / Airports Authority / Airlines	2004 – 05	—
➤ International airport in one uninhabited island	Administration / AAI / Private sector	2010 – 11	20000.00
➤ Widening of existing roads	Administration / PWD	2004 – 05 & ongoing	(Included in the 10 th Plan)
➤ Parking space at jetty (Important islands)	Administration / PWD	2004 – 05	20.00
➤ Operating a circular bus route in important islands (Kavaratti & Minicoy)	Administration / Port	2003 – 04	20.00

16. Water supply & sanitation (In			
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<p>addition to 10th Plan proposals)</p> <ul style="list-style-type: none"> ➤ Introduction of specific methods for rain water harvesting in tourism islands ➤ Expansion of Ro desalination plants at Minicoy, Agatti, Kavaratti, Kadmat ➤ Introduction of eco toilets / bio toilets in tourism islands ➤ Developing NGOs for beach cleaning, waste collection, beautification, etc. 	<p>Administration / PWD</p> <p>Administration / PWD</p> <p>Administration / PWD / S & T</p> <p>Administration / PWD / Tourism</p>	<p>2004 – 05 & ongoing</p> <p>2004 - 05 & ongoing</p> <p>2003 – 04 & ongoing</p> <p>2003 – 04 & ongoing</p>	<p>50.00 / annum</p> <p>100.00 / annum</p> <p>50.00 / annum</p> <p>20.00 / annum</p>
<p>17. Human resources development</p> <ul style="list-style-type: none"> ➤ Introduction of tourism related vocational courses at 10 +2, College level ➤ Hotel management & catering course ➤ Tourism related ancillary skills (preference for women) ➤ Handicrafts training centres for women ➤ Water sports training at proposed swimming pool at Andrott ➤ Training for tourism staff 	<p>Education / Tourism</p> <p>Administration / Education</p> <p>Education / Industries</p> <p>Education / Industries</p> <p>Education</p> <p>Tourism / SPORTS</p>	<p>2004 – 05 & ongoing</p> <p>2004 – 05 & ongoing</p> <p>2004 – 05 & ongoing</p> <p>2004 – 05</p> <p>2004 – 05 & ongoing</p> <p>2003 – 04 & ongoing</p>	<p>50.00 (Initial cost)</p> <p>100.00 (Initial cost)</p> <p>50.00 (Initial cost)</p> <p>30.00</p> <p>10.00 (Initial cost)</p> <p>20.00 / annum</p>

18. Environmental impact analysis	S & T / Tourism	2004 – 05 &	50.00 / annum
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		ongoing	
19. Market development & image building	Tourism / SPORTS	2003 – 04 & ongoing	70.00 / annum



MALDIVES – A CASE STUDY

Geography and Location

The Republic of Maldives (known as MALDIVES) is a scattered chain of coral atolls in the Indian Ocean, 80 -130 kms. wide and stretching for around 820 kms. and lies to the southwest of India. There are altogether 26 natural atolls, which for purposes of administration are grouped into 21 units, with Male' the capital island forming a separate administrative unit.

The atolls of Maldives vary in shape from circular, oval and elliptical to pear-shaped, and lagoon waters vary in depth from 40 to 60 m. Islands vary in size from 0.5 to several square kilometres. Maximum height above sea level within the Maldives is around 3 m and in excess of 80 percent of the land area is less than 1 m above the mean high tide level.

The Maldives has a tropical climate, which is warm and humid. The weather is dominated by two monsoon periods: the Southwest monsoon from April to November and the Northeast monsoon from December to March. The average annual rainfall of about 1980 mms. is evenly distributed throughout the year.

History

Throughout its history, Maldives has remained an independent state except for brief periods of invasion and control, first by the Portuguese in 1558, then by Indian Malabars in 1752. In 1887 the Maldives agreed to be a Protectorate of the British, but with very little interference by the British in internal affairs. Because of this limited exposure to external influence, the Maldives retained a unique cultural identity, a unique script and language. It has also maintained traditional systems of health and education.

Male' is the capital island of the Maldives. It can be said to be the only "city" in the Maldives, although its geographical dimensions may not merit it being in the category of a "city". The Male' Municipality is administered under the Ministry of Home Affairs and the Chairman of the Municipality reports to the Minister of Home Affairs, directly. Male' has an area of about 1.77 Sq.Kms. of which 22% is reclaimed from the sea. It houses about one-fourth of the national population of about 3.0 lakhs. Male' is divided into five Wards and each ward is administered by a ward office whose principal responsibility is to administer the municipal services provided by the Government and regulation of activities within each ward.

Culture

The Maldives has been a melting pot of different cultures as people from different parts of the world came here and settled down. Some of the local music and dance for instance resemble African influences. There is a great South Asian influence in some of the music and dancing and especially in the traditional food of the Maldivians. However many of the South Asian customs especially with regard to women - for instance the sub continent's tradition of secluding women from public view - are not practised here. In fact women play a major role in society, not surprising considering the fact men spend the whole day out at sea fishing. Many of the traditions are strongly related to the seas and the fact that life is dependent on the seas around.

Society and Religion

Islam is the national religion with 100% of the people belonging to the Sunni sect. Islam exerts a strong unifying influence on the Maldivians who have inhabited the dispersed islands. The values of the society are guided predominantly by the principles of Islam, which was accepted as the state religion in 1153-1154 AD. Society is liberal with women enjoying considerable freedom and traditionally playing an important role in island communities while men spent long periods at sea. The society is stratified but socially mobile, with respect and status being determined by political connections, wealth and education.

Language

Dhivehi is the official language of the Maldives and is written in Thaana script. It is the language spoken in all parts of the Maldives. English is widely spoken by Maldivians and visitors can easily make themselves getting around the capital island. In the resorts, a variety of languages are spoken by the staff including English, German, French, Italian and Japanese.

The Maldives has a high functional literacy rate of 98 percent. The literacy rate is marginally higher for females than for males and presents no rural urban disparities.

Population

The population of Maldives rose from a level of 213,000 in 1990 to 296,000 in the year 2000, showing an annual growth rate of about 3.3 percent. The population is expected to reach a level of 338,000 by 2005 and 388,000 by 2010.

Socio-economic Factors

Regional disparity between Male and the atolls is a key poverty concern. Income disparities between Male and the atolls were found to be in the order of 2:1, with the ratio increasing to 3:1 when the lowest average per capita income is considered. Main factors that contribute towards this disparity include physical and information isolation, limited institutional capacity to foster socioeconomic development in the atolls; skill shortages; quality deficiencies in basic education, and limited capacity in secondary and post secondary education. The poor quality of electricity, transport, and telecommunications services in the atolls; limited access to curative health care are some of the additional reasons for this income disparity.

Infrastructure

Transportation services in the Maldives had to be developed extensively, mainly because the islands are widely dispersed. With the expansion of tourism and trade, inter-island transportation has become increasingly regular and frequent. The main modes of inter-island transport are mechanized boats, water taxis, sea planes and helicopters which are owned and operated largely by private enterprises (including both foreign and local firms).

Ports and harbours	: Two (Gan, Male)
Merchant marine	: 17 numbers (16 cargo & 1 passenger) with 58604 GRT, 81451 DWT
Airports	: Five, of which Two are with paved runways (Runway over 3000 meters: 1 " 2400 – 3000 meters: 1)

Electricity is provided by the Government, private organisations and by individuals in outer inhabited islands. All the tourist islands and most of the inhabited islands have their own diesel generators.

Generation (1999) : 101 million kwh (100% fossil fuel)
Consumption (1999) : 93.9 million kwh

Telecommunication facilities are well developed in Male' and at the tourist resorts direct dialing international telephone and facsimile services are available. Consequently telephone ownership is high in Male' and at the tourist resorts. Most of the islands of Southern Atolls have full telecommunications facilities and such facilities are available in all inhabited islands.

Telephones – main lines in use (1999) : 21,000 numbers
Telephones – mobile cellular (1997) : 1,290 ”

Domestic : Inter atoll communication through microwave links; all inhabited islands are connected with telephone and fax service

International : Satellite earth station - 3 Intelsat (Indian Ocean)

Radio broadcast stations (1998) : AM 1, FM 1, short-wave 1
Radios (1999) : 35,000 numbers
Television broadcast stations (1997) : 1
Televisions sets (1999) : 10,000 numbers
Internet Service Providers (2000) : 1
Internet users (2000) : 2,000 numbers

Economic Scenario

Maldives is a country with minimal natural resources. The Republic is also faced by numerous challenges and vulnerabilities generally seen in small islands. The plot of cultivable land in each island is very small. Male' is very much dependant on trade and commerce for development, continued growth and prosperity. Given this scenario, it is evident that e-applications and other e-resources will provide a gate-way superseding natural resource restrictions. This will be very much relied upon in the coming years.

It also has adopted a long-term strategy for improving provision of public services by means of IT. A national project is underway for development and implementation of government information systems, and a similar one is in the pipeline for government agency networking. With the establishment of the Ministry of Science and Technology, the Government is rapidly undertaking development of both infrastructure and services to provide an enabling environment for the movement of municipal and administrative districts into the e-age.

Economic activities in the Maldives were dominated in the past by subsistence agriculture and fishing with some exchange of marine and other products for rice and other necessities.

Fishing has always been a central activity in Maldivian society and has been expanded through mechanisation of the traditional fishing fleet, fuel distribution systems and fish collection facilities. Fishing is widespread throughout the atolls and boats operate primarily within about 75 miles of the atolls. Fish collector boats and mother vessels purchase fish from fishermen, consolidate and freeze the supplies and deliver them to the plants for further processing. The fisheries sector is extremely important for the economy providing around 80% of export income.

The Maldivian currency is ‘Rufiyaa’ and Laaree, which is in the range of Rf. 11.5-12.0 against \$1. Inflation has been kept in check and unemployment is virtually non-existent. The GDP which stood at US \$ 44.9 million 1978 has reached a level of US \$ 689.8 million in 2001. (Growth rate = 12.6 percent)

Currently, the main industries are fish processing, tourism, shipping and commerce. The economy has grown by 7.4 percent annually since 1991. In 2000 the Gross Domestic Product (GDP) growth slowed down to 4.8 percent mainly due to a slow pace in tourism revenues, a decline in resort construction, and a reduction in the level of fish catches. The proportion of contribution by these activities to the GDP distribution is given below. Per capita GDP increased from \$ 1,636 in 1995 to \$ 2,517 in 2001 showing a growth rate of 7.4 percent.

Sector	%
Tourism	19.1

Fisheries	17.8
Construction	11.8
Government administration	9.1

The tourism sector is the largest **foreign exchange earner**. Generally, resorts are established in uninhabited islands leased to resort developers for a 25-year period. Resort development relies heavily on imported equipment, facilities, foodstuffs and skilled labour. (see detailed write up on tourism).

The commercial harbour is in Male' where all international marine cargo is handled. There are regular cargo services from the Far East and Europe. The external trade statistics are given below:

IMPORTS AND EXPORTS - MALDIVES
(US \$ Million)

Year	Imports	Exports
1993	191.3	35.7
1994	221.7	47.0
1995	267.9	78.4
1996	301.7	—
1997	348.8	71.7
1998	354.8	20.5
1999	403.1	20.3
2000	389.5	76.3
Growth (%)	10.69	11.15

Note: Indicates negative balance of trade due to heavy imports

Imports: Aviation and Marine fuel, Timber, Cement, Cigarette, Sugar, food grains, Milk powder – Imported from Singapore, UAE, India, Japan, Thailand, Malaysia

Exports: Canned fish, Salted and dried Frozen skipjack, Dried skipjack, Fish meal and Garments – Exported to Sri Lanka, UK, USA, Germany, Italy, Japan, Hong Kong

Tourism – Sector Report

The early development of tourism in Maldives was also unplanned activity, which was later driven by the initiative of the private sector. In 1978, the Government established the **Department of Tourism**, mainly to promote development of this industry and to set the policy direction.

The country's tourism master plan identifies both – the underwater environment and ‘the Robinson Crusoe factor’ as major attractions. The realization that tourism industry in Maldives would thrive on ‘sun, sea and the sand combination’, which are not compatible with large-scale, low budget, mass tourism and hence, the strategy was to develop a limited number of quality resorts, each on its own uninhabited island, free from traffic and crime.

Most of the resorts are located in **uninhabited islands**, and are totally self contained and are **easily accessible by boat** and other means from international airport. This airport receives international flights from various parts of the world. A large number of the resorts are developed in Kaafu (Male) atoll, where the capital city of Male and international airport are located.

Tourism in the Maldives is carefully managed. The Maldivian tourism strategy also aims to minimise the adverse effects of tourism on traditional Muslim communities. Tourists can make short guided visits to local fishing villages, but must return to their resort. Most of these are satisfied with a glimpse of local life and culture, but to stay longer or to travel to atolls outside the tourist zone requires a good reason, a special permit, and a local person to sponsor the visitor. Most tourists come to understand the restrictions after a short visit to an accessible island. It is difficult to imagine how isolated Maldivian communities would benefit from extended stays by an uncontrolled number of tourists.

Revenue Sources

The growing importance of Tourism to the Maldivian economy as well as the economy's dependence on tourism is thus indicated by the fact that tourism sector contributes around 20 percent of total GDP. By early 1990, Japan and Australia

emerged as major markets, resulting in a contribution of 18 percent of the GDP and accounting for 11 percent of the total employment.

Along with the direct tourism and travel operations, a significant proportion of commercial activities in goods distribution and transport sectors also are directly related to this sector. The lack of local resources makes it necessary to import virtually everything a visitor needs, from furniture to fresh vegetables, which means that Maldives cannot really compete on prices. Over the years tourism has contributed significantly to government revenue. The government has three major sources:

- **Collection of bed tax (US \$ 6.00 per person per bed-night)**
- **Airport tax (US \$ 10 per passenger)**
- **Rental from land lease of resorts (Government leases resort islands for a period of 21 years for less than US \$ 10 million or 35 years for US \$ over 10 million Investment.**

Some of these resorts provide five-star luxury while others offer moderate facilities with wooden bungalows amidst palm trees – whichever island is chosen one can be sure of relaxed and unhurried pace of life. Activities like scuba diving, snorkeling are available for adventure type. Back on the land, tennis, volleyball, badminton are provided and for the tired lot, lazing around in the sun with good books can be the way.

Some of the popular resorts are:

Club Rannalhi : Located in South Male atoll in an area of 12 acres. 45 minutes by speed boat from airport.

- Taj Coral Reef Resort : Located in North Male atoll in an area of 9 acres. About 1 hour by speed boat, 66 rooms in small bungalows.
- Biyadhoo Island Resort : Located in 25 acres island – 45 minutes by speedboat. Twin bedded rooms available in two storey building.
- Lily Beach Resort : Located in South East Ari atoll in an area of 13 acres. About 1 hour by speed boat from airport.
- Soneva Fushi Island Resort : Located in North Male atoll. About one and half hour by speed boat from airport.
- Kuramathi Cottage Club : Located at Rasdu Atoll offers full NAVI, CMAS and PADI open watercourses as well as advanced and speciality courses. Excursions and Entertainment, Discotheque, Night Fishing
- Giravaru Island Resort : Located on South Male' Atoll, on an area of 7 acres. 7 miles from Airport. 1 Hour by Motor Boat, 15 min by Speed Boat. Offers 65 Deluxe Rooms, 20 Dive Sites, Hose Reef, Floodlit Tennis Court, Table Tennis, Volley Ball, Island Hopping, Excursions, Scuba Diving, Snorkeling, Trawling & Night Fishing, Windsurfing, Water Skiing, Live Band Music, Coffee Shop, Discotheque, Swimming Pool with Bar.
- Kurumba Village Resort : Situated in Male' Atoll and lying at a 5 minutes speedboat ride away from the airport and 10 minutes away from the capital. A total land area of 25 acres with deluxe rooms, water cottages, suites – volley ball, Ming court, diving school, facilities available are Piano bar, palm bar, Gymnasium, Sports Ranging From Tennis To Chess, a Whirlpool, Sauna, Children's Park baby-sitting, Convention Center

- The Full Moon Beach resort : 3.5 miles away from the Male' International Airport - 15 minutes speedboat ride. Shaped like a guitar, 104 air-conditioned superior rooms and the water bungalows with direct access to the blue lagoon. The island has lush landscaped gardens and vast natural beauty and provides The Piano Bar, the karaoke programs, Anchorage Bar, Piped in music, minibars, snorkeling, water-skiing, catamaran sailing, windsurfing.
- Baros Holiday Resort : Baros is only 18 kilometers away from Male International Airport. a speedboat will take about 15-20 minutes.

Tourism Growth

From two resorts with 280 beds in 1972 the tourism sector has expanded phenomenally to a total of 85 resorts with a bed capacity of 15,778 (includes resorts, hotels, guesthouses and vessels) by the year 2000. Over the period the flow of tourists has increased multifold to reach 467,154. The expansion in the number of visitors is thus equivalent to the growth rate of 16 percent a year during the past 28 years.

The Table below gives the details of bed capacity and tourists inflow over the years. Overall during the period 1994 to 2000 the growth rate achieved was 8.9 percent and bed capacity increased to the tune of 7.1 percent during the same period.

Year	Tourists inflow	Bed capacity
1994	279655	10108
1995	314900	-
1996	338700	14129
1997	365600	-
1998	395700	-
1999	429725	14652
2000	467154	15778

Country wise tourist arrivals are given in the following Table:

TOURIST ARRIVALS AT MALDIVES IN YEAR 2000 (BY NATIONALITY)

TOTAL EUROPE	362196	TOTAL ASIA	86524	TOTAL AMERICA	7108	OCEANIA	9015	TOTAL AFRICA	2311
Austria	11,725	Bangladesh	321	Argentina	176	Australia	8,090	South Africa	1,767
Belgium	5,071	China	5,380	Brazil	318	New Zealand	910	Others	544
Czechoslovakia	1,091	India	10,616	Canada	1,316	Others	15		
Denmark	772	Indonesia	325	United States	4795	Stateless / Not stated	0		
Finland	350	Japan	47180	Others	503				
France	27,517	Korea	5,771						
Germany	77,642	Malaysia	1,829						
Greece	1,776	Pakistan	1,049						
Italy	106,451	Philippines	317						
Netherlands	7,275	Singapore	2,530						
Norway	945	Sri Lanka	8413						
Poland	1,264	Thailand	1,007						
Portugal	4,276	Others	1,786						
Russia	3,608								
Spain	5,322								
Sweden	2,236								
Switzerland	24,528								
Turkey	1,419								
United Kingdom	71,440								
Others	7,488								
TOTAL TOURIST ARRIVALS IN 2000 : 467154									

Tourism Sector - Key Indicators

The key indicators related to tourism, such as the average length of stay and the average expenditure per day are consistent over a period of last eight to ten years.

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tourist Arrival (000)	235.9	241.0	280.0	314.9	338.7	365.6	395.7	429.7	467.1
Average Length of Stay (days)	8.4	8.7	8.4	8.5	9.0	9.0	8.8	8.7	8.4
Nightly Expenditure (US\$ per person)	—	—	77	77	77	87	88	87	87
Bed Occupancy Rate	66.2	64.8	67.9	70.5	72.8	77.4	76.2	70.2	68.3
Tourist Resorts (Number)	69	69	73	73	73	73	79	85	85
Contribution to GDP (%)	17.7	17.1	17.8	18.4	19.1	19.3	19.3	19.3	19.1

Tourism and Trade

While statistically tourism represents approximately 20 percent of the GDP of Maldives (and over 28 percent of direct Central Government Revenue and probably over 40 percent when the secondary effects are also considered), its broad societal impact are far greater than even these percentages indicate.

Tourism accounts for more than 70 percent of the country's foreign exchange, an increasingly important consideration given the current high demand for foreign currency. Although tourism is the largest foreign exchange earner, the outflow of foreign exchange by expatriate workers is also high. Maldives has heavy dependence on foreign skilled labour. At the end of year 2000, Maldives had about 31000 expatriate workers.

The Tourism Sector's far reaching effects and broad spectrum of influence on the Maldivian economy reach into other areas of economic significance such as fisheries, agriculture, the commercial trade, communications, transportation, etc, and its full impact on the Maldivian economy is difficult to estimate.

In earlier years Maldivian builders traditionally used coral materials for building construction. In an effort to encourage construction with other materials and to

protect the environment the government slashed import duties from 35 % to 5 % on building materials. Government later announced a ban on all coral mining for construction of tourist resorts including breakwaters. The development of new resorts along with developing related recreational and transportation facilities is encouraged by government which automatically opened avenues for trade. Areas of opportunity for imports are primarily in the tourism sector, and relate to the development of new resorts. The items of imports include:

- ◆ Building materials
- ◆ Plumbing hardware
- ◆ Ceramic fixtures
- ◆ Interior fittings
- ◆ Furniture
- ◆ Lamps
- ◆ Mirrors and other accessories
- ◆ Mattresses
- ◆ Carpeting / floor coverings
- ◆ Industrial kitchen equipment
- ◆ Cookware supplies

A sizeable investment in resort development has been done by *Italian companies*. Most of the imports to Maldives, items like granite slabs, desalination plant parts, power generation sets, diving equipment, water pumps, other food materials originate from Italy. Major items of trade between *Maldives and Italy* during 2000 are given below:

IMPORTS		EXPORTS	
Items	Value (US \$)	Items	Value (US \$)
Granite tiles	448,241	Frozen skip jack	398,054
Desalination plants / parts	309,350	Tuna loins	72,664
Wine	307,419	Dried skip jack	41,532
Machine parts	153,911	Live ornamental fish	29,546
Power generating sets	151,245		
Liquor	130,540		
Pasta items	128,646		
Diving equipment	109,432		
Canned vegetables & other	102,094		
Water pumps	101,252		
Other items	3,308,64		
Total	5250773	Total	541796

It is of significant importance that a Danish Company recently implemented air taxi operations from the international airport to the resort and back. Resorts which are far from the airport (Alifu atoll) solely depend on the air taxi service to ferry the passengers. This emerges from the fact that high spending tourist segments consider time extremely precious.

Barriers to international tourism

While in the period 1995-1999 there has been a significant increase (37.4 percent) in bed capacity, although total bookings have remained relatively stable. This pattern of low growth was attributed to a variety of market influences. There are a few internal barriers (e.g. publicity about coral bleaching, absence of a functioning national air carrier) and external barriers (e.g. competition with global events such as Olympics) which restricted the tourist flow.

As of now, there is an actual surplus of bed capacity even during high season. This brought about a contraction in revenues for some resorts and has reinforced the need for a valuation of the long-term tourism projections for Maldives and of plans to create even more new resorts. The current dilemma of the national airline, Air Maldives, has also caused great concern within the tourism industry.

Greater access to quality and stable air service options for potential visitors and subsequent inter-island air or sea travel facilities are of paramount importance to such island tourism destinations. One must also surmise that changes in the size and age distribution of target population are bound to affect vulnerable tourism markets. Strategy should involve diversifying Maldives' future marketing to include such target groups as senior travelers, wedding and anniversary vacation parties, and other family-oriented visitors.

Tourism related future developments

The major needs of Maldives tourism in the transport area are for *greater coverage, frequency, dependability, and safety in boat, ship and air transportation*. Current capacity is generally good in quality but insufficient in quantity; the major areas identified for capacity enhancement are:

- Provision of regional airports
- Initiation of a fully operational safety network for air and sea traffic, and
- Development of a better international air service through creation of a new or revived national carrier.

Tourists require affordable, timely, and safe transportation. As resorts are built farther and farther from Male', **issues of transportation are becoming even more important** within the Tourism Sector and it will be harder for resort operators to meet these above requirements. The current capacity of the Maldivian transportation system is not sufficient to meet present needs and will fall far short of future requirements.

However, the future of tourism and transportation in the Maldives is inherently linked to one another in a symbiotic fashion that will require each to **adapt and adopt new approaches** over the coming years. Increases in the frequency, comfort, and safety of scheduled dhoni service or speed launch connections between Male', residential islands and resort sites, are important for greater customer convenience and lowering transport costs. This would also help in increasing the attractiveness of working on resorts for employees.

MALDIVES TOURISM PROMOTION BOARD

MISSION

The Maldives Tourism Promotion Board will promote quality and sustainable growth in the tourism industry to foster a well utilised and financially healthy private sector industry - in this way enabling the industry to deliver long term economic, social and cultural benefits to the people of Maldives, whilst at the same time contributing to enhancements in Maldives' unspoilt marine environment to the benefit of the people and visitors of the Maldives.

VISION

- Be the most exclusive destination in South Asia
- Be the top tourism earner in South Asia
- Be an example of sustainable tourism development in small island nations

OBJECTIVES

- ◆ To strengthen and enhance the exclusive image of the destination in the source markets
- ◆ To position the Maldives as a **'premium'** destination worldwide

- ◆ To achieve the growth targets set for the destination in the Marketing Plan for each year
- ◆ To diversify the source markets as well as the market segments to the destination
- ◆ To undertake market research to monitor the world economic conditions and travel trends in order to identify market opportunities
- ◆ To monitor and support the private sector in their operations to maintain viable bed occupancy levels and to iron out seasonal fluctuations in visitor arrivals

The Tourism Master Plan (TMP) for 1996-2005 specifically recognises the following policy objectives relevant to this vision of the Tourism Sector:

- Development of human resources in Maldives with a scheduled quota based reduction of expatriate labour *and replacement with Maldivian workers*;
- Change the attitudes towards careers in Tourism;
- Improve service - excellence in quality and development of a “premium eco-positioning” in the Tourism market should be the goal;
- Decentralisation of tourism;
- Increase of female employment participation to 25%;
- Diligent Environmental monitoring; and
- Increased Maldivian investments and opportunities for ownership of resorts.

The Government of the Maldives has created an environment conducive for foreign investments. The Government enacted the ‘Foreign Investment Act’ (Law 25/79) in 1979 and reviewed it in 1989 to facilitate foreign investments in the Maldives. Some of the incentives that offered by the Maldives to foreign investors include:

- Exemption from income tax, corporate tax or property tax
- Exemption from import duty on raw material
- Right to 100 percent foreign ownership of operation
- Legally supported investment guarantee
- Overseas arbitration of disputes
- Long-term lease of land
- Freedom to use foreign managerial, technical and skilled workers
- Non-imposition of exchange restrictions
- Unrestricted repatriation of profits

CHAPTER VIII

ENVIRONMENTAL ISSUES

BACKGROUND

- 8.1 Environmental issues have become part and parcel of project planning, of late. This aspect has become primarily important in India (since 1994 January an EIA notification was specially made by the Government) to ensure that the project plans are based on techno economic and **environmental considerations.**
- 8.2 Thus EIA operates as a management tool for decision making. It identifies and evaluates the foreseeable environmental consequences of proposed development projects, policies and strategies. Moreover, EIA helps in stabilising the sustainability of scarce resources leading to the development plans. In simple terms sustainable development embarks on carrying out an economic activity by making use of available natural resources in such away that they are replaced in the process, rather than allowing it to get depleted. It only means that utilization of the resources is continuously being replaced in equal measure or more. This is not to say that the development process will not have any impact on the environment. Under EIA, these impacts are anticipated and estimated with a scientific base and adequate measures are provided in managing the impact.

TYPES OF ENVIRONMENTAL IMPACT

- 8.3 In the case of tourism development, in which visitors are introduced into a natural or underdeveloped area, certain physical activities like construction of buildings and other support services obviously become necessary. The purpose of EIA here is that the above introduction does not impose any undesirable influence. Such unacceptable influences arise from different situations like:

- ◆ Damage and disturbance to sensitive ecology of flora and fauna by additional intrusion of people.
 - ◆ New constructions for accommodation and other facilities require land utilization and in the process generate features alien to the environment.
 - ◆ Erosion in the landscape, green belt, and forests due to indiscriminate (or sometimes necessary) clearance of the natural vegetation.
 - ◆ Waste accumulation and consequent contamination of the ground water sources and environmental degradation.
- 8.4 It is no doubt accepted that the human activities would lead to detrimental effects on the resources, but the **strategy should be to reduce these impacts** by relevant inputs and also to set limits. Entry into an area can be limited through setting the carrying capacity of the land and imposing appropriate regulations and control measures. It may be mentioned here that setting limits and bringing regulations are taken up by various Governments and the implementation of **these standards has not been fully successful** due to a plethora of reasons and compulsions.

E I A IN LAKSHADWEEP

- 8.5 It needs to be emphasized here that the long term survival of the island with its natural assets and heritage can be ensured only through a systematic and careful evaluation of the eco system and its fragile nature. The beach, corals, coral reefs and the lagoon, in totality supports the life and economic activity of the island.
- 8.6 The living resources of the coral reefs like small reef associated fishes, molluskas, crustaceans are caught by the islanders and provide adequate food potential to the islanders. The traditional 'pole and line' tuna fishing solely depends on the live baits (small fishes) which live on the reefs. Hence any damage to the coral reef would affect the **tuna fishing** which is essentially the lifeline of the islanders.
- 8.7 Due to various forms of developmental activities, these corals / coral reefs are damaged to a greater extent. Oil spill, sewage, over fishing, extraction of building materials, high dredging, blasting and various other sea based activities have contributed to the present state. Walking on the reef, boating and anchoring of small boats at low tides cause damages to the reef. On top of these, from the demographic point of view the islands support a huge population in comparison to the land area. Under their continuous

interference and over exploitation, the environment and the flora and fauna are under stress. Although population control and awareness measures can be implemented through education and community involvement, the results can be achieved only to a smaller extent.

- 8.8 What is required is an **assessment of the carrying capacity** as part and parcel of development planning and project implementation. Apart from mere physical land availability, the assessment needs to be based on the other supportive elements like air, water, biological environment, socio economic environment, etc.
- 8.9 Considering the importance of the eco systems and their present situation in the island, we refrain from recommending excessive land based activities and development in the inhabited islands. Certain building constructions, modifications, alterations which are necessary to support the developments may have to be taken up on a very selective basis. Even these constructions may be based on materials available locally and also on the basis of an environmental assessment.
- 8.10 The current situation of different islands in terms of various environmental parameters like air, water, soil, solid waste, liquid waste, landscape, land use, lagoon corals, marine life, social impact, etc. prepared as part of the 9th Plan is presented in the following matrix tables. While these findings would serve indicative in nature, in depth environment impact studies may have to be conducted before actual implementation of the Plan Programmes. The above study highlighted the following:
- ❖ The planned developmental programmes during the 9th Plan period in the field of **agriculture, animal husbandry, co-operation and fisheries** did not contribute any form of environmental hazards listed. Larger use of mechanised boats for fishing may have smaller impact on the lagoons and the marine life.
 - ❖ Augmentation of **power generation** capacity through diesel sets will have impact though in a small way on air, water, soil, noise, lagoon corals, marine life, etc. (see **Exhibit**). The study also recommended addition of generating capacity through solar power plants, wind generation, biomass, etc. which contributes negligible impact on environment parameters.

- ❖ In the case of **Industries** the plan activities do not pose any environment degradation. In coir fibre extraction factories there could be some amount of noise and dust pollution, solid waste, etc.
- ❖ In the field of **Ports, Lighthouse and Shipping** proposed activities will have adverse impact though small in nature on the coral reef, marine life, etc. Construction of airstrip in some of the islands would also generate impact on water, soil, noise, land use, landscape, etc. (see **Exhibit**). Transportation plans being one of the important components of island's activities, adequate corrective measures are also proposed to mitigate the impact.
- ❖ The **Science and Technology** programmes envisaged are completely free of any environmental impact.
- ❖ The activities envisaged under **tourism** plan like opening of more islands for promotion of tourism are likely to create 'small impact' on various elements studied here. Here again, the impacts indicated are not extensively alarming (see **Exhibit**).
- ❖ Activities under **education and social welfare** are not likely to create any environmental impact.
- ❖ In the case of **PWD**, various developmental activities like housing, urban development, water supply, etc. which involve physical construction are likely to create environmental impact (see **Exhibit**). Since the proposed activities of PWD are essentially supportive and developmental in nature, corrective mitigating measures are proposed to counter check these impacts.
- ❖ The proposed expansion activities of **Printing and Stationary Department** would create biodegradable and non-biodegradable wastes. Appropriate measures are being taken by the Department to mitigate these problems (see **Exhibit**).

8.11 Looking at the future, compulsions on development on one side and the limited expansion possibilities and existing bottlenecks on the other side, it is felt that effective counter check and mitigating factors are to be introduced in various fields. These are to be employed on a continuous basis and appropriate supervision by the Authorities is to be deployed. Simultaneously, a very judicious selection of projects especially those involving large construction activities needs to be made. Eco friendly

materials and construction techniques are to be deployed wherever necessary.

- 8.12 As the population grows, the pressure on essential services like water, sewage, electricity, housing, etc. will increase immensely and the demand-pull on all these services would be much more than what it was in the past due to high purchasing power and standard of living.

DRINKING WATER

- 8.13 One of the critical areas of concern in the islands is the depleting ground water sources and their quality. Some of the islands like Kavaratti, Minicoy, Agatti and Ameni are already in the deficit group. Moreover, due to continuous drawing of water the quality has been deteriorated. Even some of the other inhabited islands are likely to become deficit in a few years time.
- 8.14 Extensive rainwater harvesting may have to be resorted to, to solve the situation to the extent possible. Awareness campaign among the local residents on the judicious use of water can be introduced as an ongoing programme. It may be noted here in this context that more than the efforts taken by the Administration, **community participation** is essential in the success of these measures. The role of Administration is that of a regulator.

SEWAGE DISPOSAL

- 8.15 In the absence of conventional sewer systems, the potable water table is continuously affected due to contamination. The outflow from the septic tanks also spills over to the lagoon causing weeds growth.
- 8.16 The concept of **eco toilets**, which have become relatively popular in China, can be taken up in the island. It is learnt that bio toilets already introduced on an experimental basis were found to be showing satisfactory results. Introduction of such toilets on an extensive scale in the island, would of course require the participation of the public in terms of modifications required on the existing system.

SOLID WASTE MANAGEMENT

- 8.17 Non biodegradable wastes like plastic and glass materials are definitely posing severe problems in the islands. Some of the lagoons are choked with plastic bags. Certain measures were taken in Kavaratti island to provide garbage bins and an NGO has been entrusted with the task of emptying the

bins and transporting to the mainland. Still, there is lot more to be achieved in this direction. Once similar procedures are introduced in other islands also, effective improvements can be realised. Installation of incinerators can be yet another method of mitigating this problem. The Dweep Panchayats may be advised to take effective measures in this respect.

- 8.18 Biodegradable waste can be converted into compost and efforts in this direction are yet to be evolved in the islands. This requires priority attention since such materials are getting accumulated in most of the islands. The Department of Environment and Forests have included appropriate schemes for the above in the 10th Plan proposals.

LAGOON AND CORALS

- 8.19 India has four major coral reefs (Gulf of Kachch, Lakshadweep, Gulf of Mannar, and Andaman & Nicobar Islands). Of the above the largest ones are Lakshadweep and Andaman & Nicobar Islands. A study conducted earlier in Lakshadweep, estimated that most of the corals are in damaged conditions due to chronic pollution problems coupled with harvesting of resources from the reefs beyond sustainable limits. In any case, in order to assess the present status and the extent of damage an **extensive scientific mapping of the corals, reefs and the lagoon** eco system need to be conducted immediately. Appropriate management action plan can be initiated based on the above.

WHAT NEEDS TO BE DONE

- 8.20 EIA is normally a pre runner to all development plans and in the case of Lakshadweep islands, it is eminently true due to the existing extremely low carrying capacities and resources position. **EIA studies** need to be made as an ongoing programme while implementing large projects and tourism related activities (Large influx of visitors can be expected in future years). Some of the steps to be taken in this direction are:

- Regular monitoring of all impacts,
- Continuous programme on increasing the vegetation,
- Selective restriction on new constructions by the islanders, and

- Most importantly, creation of the community awareness (It is suggested in this context to form a **Voluntary Action Group of Green Army** in each island).

8.21 Nevertheless, with all the ecological constraints prevailing, there is great potential that exists in Lakshadweep, to be recognized as one of the world's choicest tourist centres. Islands like Maldives, Singapore, Mauritius, etc. have done extremely well in this direction by sheer determination and compulsion to develop. **The Government policy should be to continue promotion of tourism to explore and enjoy its economic benefits but in a systematic manner, with strict environment controls put in place. Above all, there should be an administrative will to strictly manifest the implementation.**

8.22 E I A IN MALDIVES RESORTS

- ◆ Control of tree cutting so that natural appearance and facade of the island are maintained.
- ◆ Maximum area to be utilised by buildings is 20 percent with two storey buildings allowed, to conserve land area if there is sufficient vegetation to cover the buildings.
- ◆ All guest rooms should be facing the beach with a minimum of 5 meters of linear beach available in front of each room. 68 percent of the total beach length may be used for guestrooms and 20 percent for general resort facility frontage and remaining 12 percent left as open space.
- ◆ Architectural control of resort buildings so that they are well integrated into the island environment, tropical climate. Use of local building materials encouraged.
- ◆ Control on height of buildings and suitable landscaping to complement the natural vegetation that must be preserved.
- ◆ Design of boat piers in such a manner that they do not result in beach erosion.
- ◆ Requirement of adequate water supply – combination of restricted use of ground water, rainwater harvesting and desalination.

- ◆ Requirement of proper sewage disposal system that do not pollute ground water or lagoon waters.
- ◆ Requirement of proper solid waste disposal system, utilizing controlled incinerators, compaction and disposal in deep-water areas.
- ◆ Empty cans are to be compressed and plastic materials to be separately collected.
- ◆ Encouragement of underground electric, cable lines - overhead wires are discouraged.
- ◆ Strict control on collection of corals, sea shells, certain types of fish.

8.23 In order to respect local Islamic codes and customs following are enforced.

- ◆ Nude bathing is prohibited (Fine for the party as well as resort management).
- ◆ Locally accepted dress code must be accepted by tourists when they visit Male or other islands.
- ◆ Maldivian resort employees are not allowed to handle alcoholic beverages in the resorts – bar tenders are from Sri Lanka.
- ◆ Maldivian visitors to the resorts are not allowed to enter the bar.
- ◆ Import of pork is controlled by permits and is consumed only in resorts.
- ◆ Boat cruises for tourist are allowed only to designated islands.
- ◆ Public education programme to educate Maldivians about tourism emphasizing on its economic importance.
- ◆ Maldivians are encouraged to take up tourism related activities to reduce unemployment levels.
- ◆ Strict control of safety measures to the tourists engaged in adventure water sports activities.

EXHIBIT 8.3
ENVIRONMENT MATRIX - TOURISM

Sl. No.	Plan / Scheme	Environmental parameters										
		Air	Water	Soil	Noise vibration	Solid waste	Liquid waste	Land use	Landscape	Lagoon corals	Marine life	Social impact
1	Infrastructure and human resource development	*	*	*	*	*	*	*	*	*	*	S (+)
2	Information publicity and other promotion activities	*	*	*	*	*	*	*	*	*	*	S (+)
3	Ferry boat for tourists	*	*	*	*	*	*	*	*	*	*	S (+)
4	Opening of more islands	S (-)	S (--)	S (-)	S (-)	S (-)	S (--)	S (--)	S (-)	S (-)	*	L (++)
5	Financial aid to SPORTS	*	*	*	*	*	*	*	*	*	*	S (+)
6	Civil works under tourism	*	S (-)	*	*	S (-)	S (-)	S (-)	S (-)	S (-)	*	S (++)

LEGENDS:

Impact's Magnitude

S : Small, affecting a part of island

M : Medium, affecting one / two islands

L : Large, affecting a number of islands

Impact: Nil environment impact is shown as *

+ depicts beneficial effect of impact

- depicts adverse effect of impact

- a) Minor beneficial / adverse effect is shown as (+) / (-)
- b) Moderate beneficial / adverse effect is shown as (++) / (--)
- c) Major beneficial / adverse effect is shown as (+++) / (---)

CHAPTER IX

ECONOMIC BENEFITS

THE PERSPECTIVE

- 9.1 Tourism is a high growth industry globally. Roughly about 3 to 4 percent of the world's population travel internationally and this trend is showing a growth rate of about 7 to 8 percent per annum. Tourism activity at large, has become a real growth spinner for the economy as a whole, due to its **multiplier effect** on the generation of employment. According to international estimates, the labour to capital ratio in tourism sector is one of the highest such that each million-rupee investment creates jobs for 48 people as compared to 45 in agriculture or 13 in manufacturing. In the Indian context it is reported that the direct employment due to tourism is about 8 to 10 million and while including the multiplier effect of indirect employment the level rises to about 20 million. In the context of a labour surplus economy of India, we can ill afford to ignore these opportunities. Taken as a whole, the tourism industry in India is also the third largest foreign exchange earner next only to gems and jewellery and readymade garments.
- 9.2 The above scenario is no different, though on a lower scale even in the case of smaller economies like Lakshadweep islands.

ANALYSIS OF ECONOMIC BENEFITS

- 9.3 The total economic impact of tourism needs to be looked at in terms of direct, indirect and induced benefits.
- ◆ The **direct income and employment** refers to the **incremental income and employment** generated in different sectors of tourism industry directly as a result of tourist spending (Eg. Foreign exchange earnings, tax generation, employment and income in hotels, transport, entertainment and cultural events, etc.).
 - ◆ **Indirect benefits** are those incremental effects of income and employment generated in the input supplying industry / activity. A

large quantum of materials are required, for example in hotel industry, sports activity or transport and the suppliers of all these materials are benefited out of the added tourist influx. These input suppliers are largely middlemen / contractors who in turn procure the materials from the main producers. These productive sectors are agriculture, fisheries, construction and manufacturing (handicrafts). These segments which form the bottom tier of the chain are also benefited out of inter industry consumption and spending.

- ◆ **Induced impact** as the word denotes, represents the potential increase in income and consequent expenditure on the part of those to whom these incomes accrue. This in turn leads to increased output and employment in the sectors producing consumption goods.
- 9.4 The aggregate effect is the sum of all the **three** as above and is reflected as the **multiple of the direct effect**, which is termed as **multiplier**. At the local, regional and national levels the strategy is to integrate through such techniques like cross-sectoral linkages with all the associated sectors thus maximising employment and income.
- 9.5 The modern and sophisticated tool to study and analyse the multiplier effect is the **‘input - output analysis’**. At the world and national levels this is being used for estimating the tourism benefits and sectoral linkages.
- 9.6 Thus input – output analysis requires construction of a **transaction matrix** spreading over a large number of inter dependent sectors. At the national level to study the inter industry dependence, a 113 x 113 matrix was constructed. At state levels a relatively lesser table is being used.

THE LAKSHADWEEP EXPERIENCE

- 9.7 Although the theoretical assumption of multiplier effect of tourism holds good for Lakshadweep also, in reality the experience is different. As in the case of all island economies considerable amount of goods and services used in day to day life and in tourism are imported and hence the **‘leakage’** factor of money earned takes place. Thus optimum use of goods and services available (in the case of island, not available) within the region or locally does not take place. In the case of islands the **‘leakage’** factor is justified in terms of tourist earnings, which otherwise would not have happened. Moreover, in the case of Lakshadweep islands tourism activities are promoted in a controlled manner and hence the spread of benefits as

happening in the case of free tourism does not take place. Thus the income and employment multipliers are low in island economies. In the case of local units supplying a large quantum of inputs, the multipliers would be higher.

- 9.8 In a study conducted by TECS earlier, the composition of expenditures by tourists had shown the following pattern:

(Percentage share)

Sectors of expenditure	Foreign	Domestic
Hotel and food	45	48
Transport	35	30
Shopping	15	20
Entertainment	5	2

- 9.9 These sectors of expenditure are the sources of revenue and employment generation and in the case of Lakshadweep tourism, the above sources (multi choice facilities) are highly restricted or non-existent. In the case of hotel, food, transport and entertainment, the packages are arranged by SPORTS and the income generated is the direct revenue in this regard. In the case of employment also, it is limited only to the extent of those employed by SPORTS at various levels. There are no specific shopping or entertainment facilities available in the islands in an organized manner and absorbing large number of employees.
- 9.10 In the case of indirect benefits though on a lower scale, input suppliers for food preparations (mostly for day tourists and hence lunch) accrue some benefits. Most of these inputs like foodgrains, vegetables, dairy products, beverages and other items are brought from the mainland and hence benefits generated is restricted only to the middleman supplying these items.
- 9.11 Since the **backward linkages** of both direct and indirect benefits are highly restricted the ‘induced’ benefits would also consequently be low. The limited beneficiaries like contract suppliers and middlemen do not have

adequate facilities to induce their spending in the island. The induced effect if at all any, is transferred to the mainland.

- 9.12 In the tourism activities, the employment generation is mainly in the **hotel and restaurant sector**. In order to assess this the total number of hotels, bed capacity, existing employment, average length of stay of tourists, etc. are assessed to generate an average norm of employment per bed capacity. In the case of Lakshadweep, this also fails since hotel staying practice among tourists is non-existent or not encouraged in the present context.
- 9.13 This situation beckons change so that Lakshadweep also can be brought on par with other developed tourist centres or island nations. The crux of the matter in tourism development here is the **free accessibility** and **ease of transportation**. Once these two irritants are taken out of the tourist's mind, free market would evolve independently. Consequent upon this the private initiation mainly in the hotels and restaurant sector would commence. At this juncture what may be required is a positive support and policy directions by the Authorities. The Government's interference may be required only to ensure the environment protection and related aspects.
- 9.14 We have suggested as part of the **Perspective Plan** a few projects to be taken up in the inhabited islands. Establishment of class hotel and restaurant, yoga / ayurvedic centre, adventure sport, family entertainment centre, theme park, botanical garden, aquatic museum, etc. are some of these projects in different islands. These establishments would require specialized jobs in respective fields. Apart from these, in general assistance category qualified islanders can take advantage. The proposed HRD facilities would also provide opportunities in the hotel and restaurant sector. In the uninhabited island resorts sector, this specialised training will have adequate relevance in each and every respect of tourism activity.
- 9.15 The impression obtained during our interaction with the general public in different islands is that the tourism development is viewed positively albeit any socio-cultural conflict. The public especially the younger generation also views this as an opportunity to do something other than the traditional professions of fishing. New opportunities would emerge as part of the proposed developments in the tourism and support services sectors. Thus, the **intangible benefits** of quality improvements in the life style of local residents would prove to be of immense advantage and economic value in future years.

CHAPTER X

MARKET DEVELOPMENT STRATEGY

BACKGROUND

- 10.1 Constrained by numerous limitations arising out of its own weak resources position and the absence of a clear-cut development strategy, tourism products in the islands are virtually poorly developed. Whatever achieved so far was restricted to a low spending, domestic market with relatively low tourism expectations. International tourism is essentially a low profile activity in the islands.
- 10.2 As mentioned earlier, a plethora of reasons have contributed to this syndrome:
- ◆ Cumbersome transportation logistic to reach the destination and movement between the islands,
 - ◆ Procedural formalities of entry (entry passes, etc.),
 - ◆ Non availability of multi access entry points,
 - ◆ Low carrying capacity of the islands and the prime need for environment protection and preservation,
 - ◆ Very poor diversity of attractions, entertainment / shopping / spending opportunities within the island
 - ◆ Widespread dispersion of islands requiring long hours of journey, which are poorly connected
 - ◆ The protected status of the island and islanders historically, and making them alien to the external influences and culture.

PRESENT SYSTEM

- 10.3 As of now, tourism promotion is carried out in a controlled manner, mostly as **excursion type** where tourists stay and food are taken care of by the package promoter. Thus, Kavaratti island, the headquarters of Lakshadweep has become the focal point and the excursion journeys arranged from this island are of limited importance (Nothing unique or different) to the main stream international tourist market. This is more or less true in the case of domestic tourist also whose travel needs are satisfied only by a **variety of experiences and encounters**. These do not happen now in the islands in the present context.

THE FUTURE THEME

- 10.4 It is well recognized and established that the corals, the reefs and the lagoon are the life line of these islands, and their already decaying position due to external stress, endanger the life of the island itself. Keeping this as the cardinal theme, an **eco friendly development strategy** with adequate care and protection can only be envisaged in these islands in future years. No doubt, tourism has proved to be of great revenue earner to the exchequer in other island countries, and the available natural assets of these islands are properly appreciated and utilised with productive objectives.
- 10.5 These limitations and the future theme explained as above bring into focus the concept of **high value, low volume** market promotion. This is applicable to both international and domestic tourists.

THE MARKET REQUIREMENTS

- 10.6 Tourism as an engine of growth has helped immensely the economies of Asian countries. The seven Asian giants are amongst the top twenty tourist destinations of the world.
- ◆ The Island City of Singapore is the world's best and **Asia's number one convention city** with varied attractions. 365 days and 4000 events make the city one of the best-desired tourist destinations.
 - ◆ The small island chain of Maldives attracted about **4.67 lakhs international visitors** in the year 2000, with an average length of stay

8.4 days. The island had shown a growth rate of 16 percent in tourism over the years. The emphasis here is undoubtedly on eco tourism.

- ◆ In Malaysia, the tourist arrivals reached about 12 million in the year 2000. Malaysian Government has allotted an amount close to US \$ 350 million for expansion of the **physical and social infrastructure** to promote tourism through country's rich natural attractions. Here also **eco tourism** is given high importance.
- ◆ Indonesia could attract 5 million international visitors in a year and the focus here is on the **yield per visitor** than the actual number. Relaxation of entry restrictions (Citizens from 26 countries can enter Indonesia without visa), opening of as many as 23 entry points, were important landmarks in tourism promotion.
- ◆ Thailand expected about **10 million visitors** in the year 2000. Focus here is also on eco tourism.

10.7 These are all success stories of tourism in smaller island nations. It may not be possible or even practicable to exactly replicate the same experiences here in Lakshadweep, but with a little vision and a **'must do'** attitude collectively by all those in the tourism and related activities, appreciable success levels can be a reality. **Of course, there are constraints and the markets are imperfect, but the efforts should be to look through these conditions and achieve the best possible.**

10.8 As mentioned earlier **accommodation and access** are the central theme of tourism and their inadequacies would prove to be detrimental to any promotional plan. If the islands are to be really promoted as high class tourist spots, accessibility through air is a critical factor. Aviation and tourism are interdependent in resort based promotion and their relationship is symbiotic. As a long-term strategy of tourism promotion, the Administration may have to visualise the possibilities of an **international airport in the island**. Perhaps one of the uninhabited islands could be fully earmarked for this purpose. At least in the short run, expansion of the Agatti airport to the maximum extent is an **immediate necessity**.

THE GROWTH STRATEGY

- 10.9 If the potential of a **new market of high spenders** is to be exploited, there must be radical changes in the existing standards of every aspect of tourism activity in the islands. The existing attractions and transportation facilities (air transport and existing helipads) must be upgraded and made more presentable and accessible by improvements. **Restrictions on entry and movements are to be relaxed. Exclusive resorts in uninhabited islands as suggested earlier must be promoted without any loss of time.**
- 10.10 Since these developments may take considerably longer period to accomplish, it is advised marketing of the islands among international customers may be subdued at present till arrangements are ready. Domestic tourists including high spenders can be brought through various packages designed in such a way that the repetition of the same experience is avoided to the extent possible.

MARKETING STRATEGY

- 10.11 The two market segments to be focussed in the promotional campaign are a) international high spenders and b) domestic tourists of mixed variety. The former category of arrivals, in the first phase would be mostly for enjoying the water sports / scuba diving facilities being upgraded and promoted at various islands. This is a particular segment of tourists largely from North America, Europe (UK, Italy, Germany) and the Pacific area including the main cities of Singapore, Hong Kong, Kuala Lumpur. Japan and Australian visitors may also be interested in such activities. There could also be Indian visitors who are interested in water sports and scuba diving. Once the arrangements and facilities for these are put in place, an international marketing campaign focussed towards this will have to be initiated. **Kadmat** as a scuba diving centre with international / modern facilities can be projected through large hotel chains abroad.
- 10.12 The promotion of beach resort based holiday makers will be greatly influenced by the quality and management style of the resort promoters. While the existing resorts are to be spruced up and improved in terms of facilities and content, a greater **propaganda campaign** can be arranged through large hotels and medium hotel chains initially. Separate island based promotional literatures can be made in this regard. Once the proposed resorts in uninhabited islands are ready, the resort managers

themselves will have to device their own channels of marketing. In any case by that time, awareness base among international tourists about the islands and their facilities needs to be created and the tourist inflow is well established.

10.13 Presently, the tour packages are marketed by SPORTS through its appointed sales agents (Travel agents) located in various cities. A **focussed promotional agenda** of tour packages do not exist now. Awareness among travelling public in the domestic sector about Lakshadweep Islands is extremely poor. Print as well as visual media campaign is very rarely attempted. This needs to be changed and improved further through:

- ◆ Setting up of sales as well as **liaison offices** in a few more towns like Hyderabad, Ahmedabad, Jaipur, etc. Initially, these facilities can be attached with Kerala tourism promotion offices.
- ◆ Organizing promotional campaigns like **road shows** in each of these cities / towns, just before the start of the fair weather season. Visitors in northern and western states do not have adequate exposure to Lakshadweep Islands.
- ◆ Promotion and marketing campaign be organized through **professional advertising and publicity agencies**.
- ◆ Large tourist operators like Cox & Kings, SOTC, Raj Travels, Thomas Cook, etc. may be engaged to promote the facilities internationally. (Registration with **Travel Agents Association of India (TAAI)** and **Pacific Area Travel Association (PATA)** would be helpful.)
- ◆ Arrange a '**Lakshadweep Tourism logo and slogan contest**' through large newspaper media so that the word is spread among the youth.
- ◆ Participate closely (**by presenting seminar papers**) in international exhibitions, seminars, tourism fairs, etc. (International Tourism Borse – largest tourism fair usually held in March every year, Arabian Travel Mart, etc.)

IMAGE DEVELOPMENT

10.14 A new **image of the island**, which is far different from what it was known to the outside world, would need to be framed and projected. The process of change that had happened over the years and the extent of development that had been proposed and brought about have to be vividly campaigned to create a special attraction which was absent in earlier years. A **documentary film** of one-hour duration can be prepared projecting the attractions and the process of change, which the island undergoes.

10.15 These efforts should be directed towards:

- **International markets** to place Lakshadweep islands on the tourist map, and
- Developing a **positive image** of an attractive tourist destination offering quality recreation and holidays among the domestic market segment.

10.16 A **professional creative team** of an advertising agency should be engaged to focus on various aspects of quality tourism in Lakshadweep. The **logo and effective slogan** (mentioned earlier) should awaken interest among the potential tourists. Close co-ordination with Government of India Tourism Offices abroad (Dubai, Buenos Aires, Frankfurt, Johannesburg, London, Los Angeles, Madrid, Milan, New York, Paris, Singapore, Sydney, Stockholm, Tel Aviv, Tokyo) would be of great advantage in promoting island as a tourist destination.

10.17 A continuous public relations campaign to be arranged through:

- ❖ **Travel writers** who supply materials to tourism magazines, national dailies, etc. (Pacific Area Travel Writers Association),
- ❖ **Media coverage** by films and TV documentaries on Lakshadweep tourism,
- ❖ Engaging **marketing executives** of large tour operators in major markets, and

- ❖ Close liaisoning with **travel industry press** both nationally and internationally (South Asian Tourism and Travel Exchange).

10.18 The general promotional campaign as well as product specific promotions are intended to provide an excellent exposure of the islands. This will be a continuous programme through short, medium and long-term spans, as may be necessary in the tourism industry. On the face of competition arising out of similar developments in tourism products in different countries, constant upgrading and modernizing of the facilities are essential to keep the interest growing. Alongwith the expansion in tourism products and the increase in the turnover, the **budget for promotional campaign** will have to be augmented commensurately. **A well researched and executed promotional campaign encompassing all aspects mentioned as above and focussing on respective islands and activities would bring about substantial rewards in tourism promotion and its sustainability.**

CHAPTER XI

FINANCIAL IMPLICATIONS

BACKGROUND

- 11.1 Lakshadweep Islands have total financial outlay of Rs. 86449.86 lakhs during the 10th Plan (Draft) period of which Rs. 5015.4 lakhs have been earmarked for tourism sector alone. A substantial portion of the total allocation in the islands is earmarked for the transport sector, which by itself is the most crucial necessity for all developmental activities. Of the above Rs. 5015.4 lakhs allotted for tourism, as much as 4320.89 lakhs (86 percent) is earmarked for the acquisition of a new ship and speed vessels for tourism purpose alone. Consequently only Rs. 694.51 lakhs (14 percent) are available for all other developmental priorities in the next five years.
- 11.2 The Central assistance for improvement of tourism facilities is channelised through respective State Governments / Union Territories based on a cost-sharing basis. The cost of land and its development is borne by the State Government while the construction related cost is provided by the central assistance. The above funds are released in three to four installments based on the progress made in implementation of the project. The various schemes under which the central assistance given are the following:
- ◆ Budget accommodation including tourist complexes, tourist bungalows, tourist lodges
 - ◆ Upgrading of existing accommodation
 - ◆ Wayside amenities (cafeteria, restaurants, fast food joints)
 - ◆ Tourist reception centres
 - ◆ Health resorts / beach resorts
 - ◆ Monuments and heritage refurbishment
 - ◆ Development of pilgrim centres
 - ◆ Light and sound programmes
 - ◆ Adventure sports
 - ◆ Fairs and festivals

- ◆ Production of publicity materials
- ◆ Computerisation

11.3 Apart from the above, a **new scheme of assistance** is also in vogue shared by Central Government (28 percent), State Government (12 percent) and balance by financial institutions and banks (60 percent). Projects which require large investments are financed by this route.

11.4 During the past three years the total amount of funds **sanctioned and released** by centre for different states is as given below:

(Rs. Lakhs)

	No. of projects sanctioned	Amount sanctioned	Amount released	Amount released as % of amount sanctioned
1997 – 98	259	5044.00	2234.56	44.30
1998 – 99	365	8967.97	3935.60	43.89
1999 – 2000	397	9221.37	3094.99	33.56
2000-2001	337	7748.36	2433.89	31.41
Annual Growth	9.2	15.4	10.1	—

Source: Tourism statistics – 2000, Government of India

11.5 The above data is indicative of the tardy progress made by the State Governments / Union Territories in implementation of the projects taken up. The percentage share of **amount released** over the amount sanctioned has been showing a decreasing trend.

11.6 Lakshadweep Island is also no exception to this. During 1997 – 98 out of sanctioned amount of Rs. 5.00 lakhs only Rs. 2.50 lakhs were released. During 1998 – 99, out of Rs. 29.00 lakhs sanctioned, the amount released was only Rs. 13.80 lakhs (47.5 percent).

PROJECT COST ESTIMATES

11.7 Based on our own in-house experience and information available we have estimated the broad levels of financial commitments that would be required for each project proposal made as part of this Plan. **It may be noted here that these estimates are only very indicative in nature.** Separate cost estimates may have to be worked out at the time of implementation to account for the cost escalation and the **actual additional cost involved for projects executed in the islands.**

11.8 The estimated investment requirements for different projects in the islands are given below: (Indicates only broad guidelines)

Rs. Lakhs

Sectors	Short term (Upto 2006 – 07)		Medium term (2007 – 08 to 2013 – 14)		Long term (Beyond 2014 – 15)	
	GOVT	PRIVATE	GOVT	PRIVATE	GOVT	PRIVATE
1. Tourist / visitor accommodation – class hotel (Private sector)	–	800 (4 islands)	–	600 (3 islands)	–	–
2. Tourist attractions, assets, facilities, etc in inhabited islands and policy related issues	925	650	350	5000 (Cheriyam island)	500 / annum (Maintenance expenditure) (Total:3500)	
3. Resort building in Uninhabited islands (private sector)	–	4500 (3 islands)	–	7500 (5 islands)	–	Resort expansion, if necessary
4. Tourism HRD	260 (Initial cost)	–	100 / annum (Total: 700)	–	150 / annum (Total: 1050)	–
5. Tourism publicity / promotion and marketing	100 / annum (Total:500)	–	150 / annum (Total: 1050)	–	170 / annum (Total:1190)	–
6. Tourism institutional requirements (SPORTS equity & other facilities)	1100	–	100 / annum (Total: 700)	–	150 / annum (Total:1050)	–
7. Environmental impact assessment and related works	50 / annum (Total:250)	–	70 / annum (Total : 490)	–	100 / annum (Total: 700)	–

8. Tourist Transport / infrastructure building	2040	–	40000 (Additional ship + break water jetty)	–	20000 (International	130000 airport)
9. Water supply and solid waste management	220 / annum (Total: 1100)	–	250 / annum (Total: 1750)	–	300 / annum (Total: 2100)	–
Total for the whole term	6175	5950	45040	13100	29590	130000
	(5 year period)		(7 year period)		(7 year period)	
(On annualized basis Rs Lakhs)	1235	1190	6434	1871	4227	18571

Note : Govt expenditure would be largely related to institutional building and for maintenance of the existing as well as new assets created. The above expenditure is in addition to the 10th plan outlays.

11.9 It may be noted here that the **short term proposals** in the immediate future are of great importance to tourism promotion. Most of these proposals relate to initiatives to be taken by the Administration towards corrective measures and improvement in the existing practices. With a dedicated teamwork and co-ordination among all departments these could be made effective by the end of current plan period. Once these measures are completed it would pave sound footing for the projects and schemes to be taken up in the next phase.

11.10 In the medium term, expansion of the resort complex in a few more uninhabited islands could be pursued. Another major project proposal in this phase is the development of Cheriya Island into an exclusive entertainment fun city. Provision for an additional ship for tourism purpose beyond 2010 and breakwater jetty at Minicoy are included in the **medium term** plan. The expansion of the existing airport at Agatti needs to be pursued vigorously as a medium term strategy to meet the travel requirements.

11.11 Apart from proposed expansion plans of the helipad areas in different islands, the ultimate success of tourism promotion in the island would depend on a **large airport**. This can be established only in an uninhabited island and the need for such facility would become clear once the resort complexes in uninhabited islands are ready for occupation. As a major investment, this proposal is suggested as a **long-term** strategy beyond the year 2015.

11.12 SOURCES OF FUNDS

◆ **Central sector assistance on a cost sharing basis with the States / Union Territories for development projects**

The project proposals by the State / Union Territory are to be forwarded in prescribed 'Form – C' alongwith supporting documents. Based on the approval, the financial assistance is sanctioned and disbursed in 3 or 4 installments. Efficiency of the State / Union Territory in executing the project is extremely important in releasing the second or third installment. Developmental projects not involving heavy investments can be taken up under this scheme.

◆ **Tourism Finance Corporation of India (TFCI)**

TFCI functions as a specialised agency for providing assistance for tourism projects and related activities. TFCI can be approached for large project investments and the norms of assistance would be based on a debt equity ratio of 1.5 : 1 or separately assessed as the case may be.

◆ **Multilateral agencies**

Organizations like JBIC, ADB provide long term loans to Government institutions for implementation of large projects. Both physical (road, electric power, transport) and social (health, water supply, education, tourism) infrastructure projects are eligible for such funding. The most important aspect of this funding is its low interest rate. These funds were earlier released directly to Government of India and then to respective State Governments under central assistance scheme. Of late, these funds are released directly to individual states.

◆ **Private sector participation**

There are number of areas in which the private sector participation can be brought about effectively in project implementation. Projects relating to accommodation, transport, tourism promotion, etc. (amusement parks, fun cities, resort complex, water sports) can be promoted with private sector participation. **Commercial viability** in terms of return on investment would be the prime criteria for such participation.

Construction of quality hotels / restaurants in different islands, inter island transport, promotion of resort complexes in uninhabited islands, family entertainment centre, ayurvedic centres, house boat luxury boat, fun city island development are some of the areas in which private promoters can effectively participate in the promotional activities of Lakshadweep Islands.

CHAPTER XII

PROJECT BRIEFS

[The descriptive notes for various projects presented in the following pages are intended only to provide a better understanding of the project concept. Investment levels indicated are very broad and would vary widely based on the scale of operations proposed at the time of implementation]

- * **HIGH CLASS HOTEL AND RESTAURANT**

- * **AYURVEDIC TREATMENT / REJUVENATION CENTRE**

- * **CHERIYAM ISLAND DEVELOPMENT**

- * **BOTANICAL GARDEN**

- * **FAMILY ENTERTAINMENT CENTRE**

- * **LIGHT AND SOUND PROGRAMME**

- * **THEME PARK AT JETTY AREA**

- * **CONVENTION HALL BASED CORPORATE RETREAT**

HIGH CLASS HOTEL AND RESTAURANT

1. Project Description

The project envisages setting up a **high class hotel** providing comfortable stay and clean food (both vegetarian and non vegetarian). Initially these facilities will be established in four islands Viz Kavaratti, Minicoy, Agatti and Kadmat. Depending on the emerging demand and visitor patronage it can be extended to other islands like Andrott and Kalpeni. The proposed hotel is expected to cater to the requirements of visitors to the islands for official purposes as well as sight seeing (on relaxation of permit system). The demand for such requirements is likely to increase in future years as economic and tourism related activities pick up. Presently such facilities are not available in any of the islands. Kavaratti being the capital, a number of visitors arrive here on official duties and for business purpose. Non availability of quality food and stay detracts visitors to the island and consequently deprives income generation to the economy.

2. Project Parameters

- High class category hotel (no star category) with neat and clean environment providing comfortable stay and food
- 50 beds capacity initially with provision for expansion, if need be
- Will have both single occupancy (30 Rooms) and double occupancy (10 Rooms) and partially air conditioned.
- Ground +2 construction with ground floor to accommodate a few rooms, other common facilities like reception, travel desk, shopping mall, restaurant (60 seats capacity) and other utility services.

Total built up area requirement	(Sq.ft)
30 Single rooms @ 120 Sq.ft. each	3600
10 Double rooms @ 150 Sq.ft. each	1500
Restaurant (60 seats capacity)	1000
Kitchen, Store rooms, Staff rest room, common toilets and other facilities	1500
Reception lounge, shopping area and other facilities	1000
Total	8600 (800Sq.mtr)

➤ **Land area requirement**

The above built up area alone will require about 18 cents of land and including open space, parking area, etc. a total land area of 50 cents (1/2 acre) would be required for the complex.

3. Room facilities / equipments

- Room air conditioners for 10 rooms, furniture & fixtures for all rooms.
- Telephone, fax, email facilities
- One passenger car
- Refrigerators, coolers, kitchen equipments, utensils, etc,
- Restaurant tables, chairs and other furniture
- Laundry equipment
- Stand by generator (100 KVA)

4. Man Power Requirements

Manager / Overall incharge	1
Reception desk assistant	2
Office assistant (Purchase & Accounts)	1
Peons and Cleaning boys	3
Restaurant supervisor	1
Restaurant staff	4
Chief cook and other Kitchen assistants	5
Driver	1
Total	18

Total monthly salary of the above is estimated at about Rs 85,000 /-

5. Rooms occupancy

The occupancy rate depends on the arrival of visitors on business and official purposes. If the permit system of entry is relaxed there would be a number of stray visitors coming to the island. It is assumed that the hotel will have

minimum occupancy level of 50 percent in the initial years which will be increasing later.

6. Fixed capital

Land cost :	On lease basis (owner of the land can promote / participate in the project)
Building cost :	8600 Sq.ft area @ Rs. 800 per Sq.ft = Rs. 68.80 lakhs. (As far as possible eco friendly and locally available materials are to be used in the construction)
Cost of other Fixed assets :	Rs. 75.00 lakhs (furniture, fixtures, other facilities and restaurant item)
Total Fixed Cost :	Rs. 143.80 lakhs (excluding land cost)

7. Working capital requirements

This includes cost of raw materials for the restaurant, beverages, requirement of bed linen, curtain, etc. for the rooms, water, power and manpower costs. The total cost in this regard is estimated at Rs.60.00 lakhs per annum. The management of the restaurant can be given on annual contract basis.

8. Project cost Estimate

	Rs. Lakhs
Fixed capital (Building and other miscellaneous assets)	143.80
Preliminary and pre operative expenses	10.00
Contingency expenses (10%)	15.00
Margin money on working capital (25%)	12.00
Total	180.80

9. Annual sales turnover

The revenue stream would include income from lodging, other services and restaurant. It is expected that on the basis of 50 percent room occupancy during fair weather season (220 days) and 30 percent capacity utilisation during remaining days (110 days), a total income of Rs 75.00 lakhs would be generated in the initial years. **Customer satisfaction** in terms of room service, clean food and other facilities is the key factor leading to the success and profitable operations of the establishment.

10. Project promotion

Setting up a high class hotel in the island is proposed exclusively as a **private sector project**. The government's role is only regulatory in nature in preserving the ecological aspects and safeguarding the interest of the visitors.

AYURVEDIC TREATMENT / REJUVENATION CENTRE

1. Project Description

It is proposed to set up an ayurvedic treatment / rejuvenation centre providing facilities such as:

- ▶ □Ayurvedic treatment - herbal and oil based
- ▶ □Rejuvenation therapy (preventive)
- ▶ □Meditation and yoga

2. **Spa and ayurveda** have become the catchwords of tourism in the present context. Kerala had identified and promoted ayurveda as a unique and potent tourism product for a number of years and now ayurveda is projected as its strong selling proposition. Both international and domestic tourists are attracted to ayurvedic therapies on a regular basis. Large hotel groups in the country like Oberois, Taj, etc have embarked upon expansion plan to include ayurvedic treatment based packages focussing on international passengers. It has been reported that the global spending on natural oils and medicines during the year 2000 was US \$ 15 billion (Rs. 72, 000 crores). India produces about Rs. 1000 crores worth ayurvedic medicines per annum. Dabur Healthcare, Zandu Pharmaceuticals, Himalaya Drug Co, Charak Pharmaceuticals are the leading manufactures of ayurvedic preparations in the country today.

3. It is in this context that ayurvedic therapy / rejuvenation centre is suggested in Minicoy and Kadmat islands. These two islands are promoted as aqua / adventure sports centres and a number of international visitors are likely to be attracted to these islands in future years. Such professionally managed fitness and health centres would help bringing a large number of repeat visitors to these spots.

4. Ayurvedic treatment consists of various types of ‘**chikiltsas**’, specifically directed to different systems of the body. The treatment is highly individualistic in nature based on specific body conditions. Depending on the time and money availability the duration of treatment can be extended up to

30 days. The rejuvenation course is generally repetitive in nature and performed at regular intervals. The greatest advantage of ayurvedic treatment is that it does not contain any chemicals and hence there are no side effects. Even World Health Organisation (WHO) appreciates the fact that a large section of the world population depends on traditional medicine for primary healthcare and the medicinal plants form important part of this treatment. Ayurvedic and other plant based drugs used in Indian system of medicine are essentially derived from various parts of the plant viz. root, stem, bark, leaf, flower, fruit and / or the plant as a whole. All these basic raw materials derived from herbs and flowers are converted into various edible forms like powder (choornam), tablet (gulika), liquid (kashayam) and semi solid (lehyam).

5. Treatment in ayurveda has two components viz. **preventive and curative**. The preventive aspect consists of personal hygiene, regular daily routine, use of rejuvenative materials / food and rasayana drugs. The curative aspect is based on three categories viz. Aushadhi (drugs), Anna (diet) and Vihara (exercise). The rejuvenation treatment of '**panchakarma**' and various types of massages are quite popular among the international visitors coming to health resorts in Kerala. A limited scale ayurvedic centre is attached to Bangaram Health Resorts. 'Somatheeram' Ayurvedic Beach Resort located 15 Kms away from Thiruvnanthapuram in Kerala, specialises in ayurvedic and rejuvenation treatment to the tourists. About 90 percent of its visitors are from Switzerland and Germany and are reported to be repeat visitors. There are a number of such ayurvedic centres attached to resort hotels and other hotel chains presently in Kerala. Ayurveda has also become a significant money spinner in the tourism development programme of Kerala as much as the attraction of back waters. Ayurvedic tourism is now projected as a success story in Kerala.
6. The proposed ayurvedic centre in the island can have tie up with well known ayurvedic treatment units like **Coimbatore Aryavaidya Pharmacy, Coimbatore; Kottakkal Aryavaidyasala, Kottakkal; Kerala Dhanvanthari Aryavaidya Pharmacy, Kerala; Kerala Ayurvedic Pharmacy, Kerala.**

7. Project concept

The ayurvedic centre proposed as part of the **Perspective Plan** in Minicoy and Kadmat islands is on a smaller scale to start with. Under the supervision of a well qualified and experienced doctor a string of massages like General Body massage, Face massage, Sirodhara, Nasyam, Rejuvenation therapy, Hard massage and other treatments are given to the interested tourists. Yet another area that would be of interest to the foreign tourists is meditation and yoga practices which can also be provided at this centre.

8. Project Cost Estimate

Land requirement may be of the order of 25 to 30 cents and can be attached to the existing cottages. At both Minicoy and Kadmat, Government land would be available or can be taken on lease basis. (The owner of the land can participate in the venture).

9. Building cost

Built up area to the tune of 5000 sq.ft. which can accommodate 10 clients at a time may be required. This would also include space requirement for consultation, treatment, store, medicine preparation, rest / relaxation, etc.

	Rs Lakhs
At the rate of Rs.500/- per sq. ft., the total cost of building is estimated at Rs.25.00 lakhs. The building materials used can be eco friendly type that are available in the island (thatched roofs, bamboo partitions, etc).	25.00
Large utensils and vessels, medical equipments and instruments.	25.00
Other miscellaneous assets (furniture, cooking range).	15.00
Other preliminary and pre operative expenses.	10.00
Contingencies	7.00
Working capital margin money	10.00
Total project cost (Excluding land cost)	Rs 92.00 lakhs

10. Working capital requirements

Various types of oils, herbs (powders, extracts) constitute the bulk requirements of materials at the centre. These items may have to be brought from outside initially. A botanical garden has been suggested at Androth and part of this garden can be utilized for growing medicinal herbs, flowers, etc. Patchouli, Geranium, Ashwagandha, Aloo Vera, Lemongrass, Guggal, Shankupushi, are some of the common herbs and flowers used in ayurvedic preparations.

11. The demand for oils and herbs for the above depends on the number of people being treated at the centre. At the rate of 10 people being treated for an average duration of 10 days, the requirement of the above raw materials would be of the order of Rs.25 lakhs per annum. Normally the monsoon season (June to September) is off period for tourists in Lakshadweep. On the contrary, this season is considered to be ideal for ayurvedic treatment. Hence adequate transport facilities (helicopter services from main land) may have to be arranged to bring the group of visitors to these centres.
12. Large quantities of water is required on a regular basis and hence provision for soft water needs to be ensured at the centre.

13. Manpower Requirements

Apart from various raw material requirements and other support facilities, availability of qualified and experienced manpower is an important aspect for running the centre. Oil based treatment and massages need to be done by professional hands under the constant supervision of a qualified doctor. Since these treatments are based on personal care and individual attention, dedication of the staff to extend their best services will only lead to the success of the enterprise. It is estimated that the following personnel would be required at the centre.

1	Qualified Ayurvedic Doctor (Overall supervision)	1
2	Assistant Doctor (Ayurvedic)	1
3	Yoga / Meditation teacher	1
4	Qualified attendants	5
5	Material purchase and accounts keeping	2
6	Other support staff	2
	Total	12

(The total monthly salary bill for the above would be about Rs.1,20,000/-.
All staff members should have fairly good speaking knowledge of English)

14. Revenue stream

The revenue for the ayurvedic centre would depend on the number of people being treated for various ailments and for rejuvenation. Rates can be prescribed for each treatment under different courses. The initial efforts should be to give wide publicity and to create an image of dependable service.

15. Project promotion

The proposed ayurvedic treatment centre can be promoted in the **private sector** and the government's role would be regulatory in nature to prevent undesirable practices .

CHERIYAM ISLAND DEVELOPMENT

1. Project Description

It has been recommended as part of the Perspective Plan to develop 'Cheriyam' island into a self contained recreation and entertainment centre. Cheriyam island is presently uninhabited and lies closer to Kalpeni which is already being developed as a tourist resort. There is also a proposal to connect Kalpeni and Cheriyam by a narrow bridge (walking as well as facilitating auto rickshaw movement). Being uninhabited, Cheriyam could be developed into an **exclusive holiday resort** for tourists as well as for local visitors. The model here is the 'SENTOSA' island in Singapore.

2. SENTOSA – back ground

The word 'Sentosa' means peace and tranquility in Malay. **Sentosa Development Corporation (SDC)** was set up in 1972 to develop, manage and promote the island as Singapore's favourite play and recreation ground. SDC, a statutory body reports to the Ministry of Trade and Industry. SDC is organised into **five divisions**, looking after Marketing, Corporate Services, Real Estate and Property, Strategic Development, and Event Planning.

3. Over the years, Sentosa has become a '**must see**' location with both Singaporeans and international visitors. Due to promotion of new events and entertainments regularly, locals visit this island repeatedly. More than half of the visitors to Sentosa constitutes local Singaporeans.
4. Sentosa lies half a kilometer away from mainland Singapore and can be accessed by air (cable car), sea (ferry service) and land (road link). Buses regularly ply between main land and the island and the bus charges include the entry fee into the island.
5. There are a number of attractions, events and exhibitions that are programmed on a daily basis. These events include both 'free' as well as 'payable'. Bird

show, Monkey show, Musical fountain, Art exhibitions are some of the free events. Butterfly park / Insect kingdom, Cinemania, Fort Siloso, Horse carriage ride, Pony ride, Images of Singapore, the Under water world, the Merlion, Dolphin lagoon, Volcano land are some of the paid attractions. There are large shopping malls, holiday resorts, hotels, tourist lodges, youth hostels, cottages, etc. to suit the requirements of all classes of visitors. Siloso beach in the island is the finest beach in Singapore with golden sands and crystal clear blue waters.

6. Snack bars and restaurants are available serving different types of foods. Sports activities like beach football, volleyball, etc are being played by visitors and **‘value for money’** is the catchword in all activities provided. A visitor will never have to leave the island for want of activities and entertainment.

7. The proposed concept plan

Although what we find in ‘Sentosa’ island is highly sophisticated and technology driven, the concept that needs to be recognized here is that the Cheriyam island may be developed as a self contained recreational centre for local islanders as well as visitors.

8. Kalpeni is already being developed as a resort island and tourist packages to this island can be modified accordingly to improve the staying tour practices. In staying tour packages, one full day can be devoted to Cheriyam island with various attractions. The duration can be increased over the years.
9. Initially to start with, a few entertainment avenues like circular railway, musical fountain, sea bathing, beach sports, skill games / indoor games, well maintained flower garden, three dimensional entertainment with state-of-the-art visual and audio impact, etc. can be initiated. Over the years depending on the popularity and arrival of tourists the entertainment and recreation avenues can be improved upon and made sophisticated. Technology upgradation and electronically operated entertainment would call for higher dose of investment.

10. Broad Plan of Action

◆ Land acquisition

Presently the entire island is owned by different individuals living in other islands. The Administration / Department of Tourism has to create an awareness among the owners about the need for development of the island for tourism related activities. The government can acquire the land from the owners on long term lease basis. The private sector participation may be essential for the project since the investment would be relatively large. Large international investors having experience in entertainment development activities may be invited to participate in the project. (Global tender may have to be floated to invite large international investors).

◆ Preparation and land development

Leveling the contours, construction of roads and pathways, cleaning and preparation of the beach in a usable manner, clearing and removal of unwanted shrubs and trees (care needs to be taken for minimum destruction of trees) is included in this phase. At the end of this phase the entire land in the island is ready for further ground level construction activities. Once the layout plan is drawn up, a systematic tree planting and greening campaign can be under taken.

◆ Architectural design and layout plan

Preparation of architectural design, layout plan, land utilization chart, landscaping, etc constitutes the next phase. The land utilization is an important aspect of the project since it has to be used very judiciously leaving enough space for future expansion plans, improvements etc. The entire schedule of island development would evolve only in stages and hence careful land utilization plan needs to be prepared initially. Since private sector participation is expected for various games and activities, coordination among these units will have to be done by a government agency, viz. Island Development Authority.(Tourism, PWD, Environment)

◆ **Construction schedule**

Construction of roads, buildings and other structures, which are required to carry out commercial business and other activities in a smooth manner, are to be followed next. Apart from common utility buildings, all other constructions would be based on individual projects, as the case may be. Embarkation / disembarkation points, fee collection centres, common public utility areas, rest centres, vending kiosks are required to be built initially.

◆ **Provision for utilities**

Provision for utilities like water and power is to be planned also considering the likely future expansion plans. The island does not have potable water and hence RO desalination plants will have to be installed at suitable locations. The total requirement of water can be decided only based on the scale of various activities and the number of visitors likely to visit the island on a daily basis. Apart from direct drinking needs (tourists would prefer to drink bottled mineral water and sufficient supply needs to be ensured) common utility areas like, toilets, restaurants, lodging / hotels, swimming pool, etc. will require large quantities of water. The requirement of soft water would be showing increasing rate over the years as the number of visitors and entertainment avenues increase.

Continuous power supply with reasonably good voltage stability needs to be ensured since a number of electronic games, entertainment equipments, and other systems operations would depend on this critical input. It may be necessary to install independent diesel power generation facilities at the island. This can be supported, augmented by other non conventional energy sources like solar power, wind energy, etc. Although the total requirement of power for various operations would depend on the extent of developmental activities it may be required to initially install a generating capacity base of 1000 Kw diesel power. This can be expanded based on the subsequent developmental plans in later years.

11. Administrative controls

The entire operational aspects of the island and its ongoing activities are to be properly monitored and controlled under stipulated timings. Entry and departure timings, timings of each show / activity / game, admission and entry fees, safety aspects for both adults and children, reservation and booking details, prohibited areas and items, etc., are to be notified to the tourists through literatures while booking or at the time of entry. Usage of plastic items may have to be restricted and eco friendly and biodegradable materials may be encouraged as packing materials and for other storing purposes. The management and regulatory aspects of the island would rest with Island Development Authority. (Its MoA can be formulated on par with Sentosa Development Corporation).

12. Revenue Streams

The promoters (private) of the island and its various income generating schemes / activities will have the revenues by way of entry fee, utilization fee etc on a time-spent basis. Patronage of visitors to the island as well as to each entertainment / game will influence the income generated.

13. The revenue streams to the government would include sources like :

- ♦ Lease rent per annum for a period of years and renewable on case to case basis.
- ♦ Part of the entry fee to the island fixed from time to time
- ♦ Turnover tax for each commercial activity as fixed by the government.
- ♦ Charges for utilities like power, water, communication, etc on a user basis.

14. Although government may not have large direct income, having created an island with recreation facilities, the inflow of tourists and spending habits of local islanders would increase considerably thereby improving the total revenue earned. It also creates employment opportunities for islanders. Due to the consumption and requirement of large amount of materials (food items, vegetables, fruits, mineral water, soft drinks, chocolates / toffees, etc) opportunities arise for the suppliers of such items. Hence rather than direct

generation of funds to the government, the island development needs to be considered from the social and economic benefits point of view. Improvement in the quality of life of those who are involved in the development process could be the ultimate reality.

15. Project Cost Estimate

It is estimated based on rough calculations that the total initial project cost would be in the region of Rs. 50.00 crores (excluding the cost of land). A very large part of this investment would be diverted to the creation of basic infrastructure (water and power) and development of the island (land preparation, fencing, road network, cleaning, etc).

16. Project Promotion

Government, being the initiator of the project will have to take the lead in creating the necessary ambience and setting up a statutory body, Viz Island Development Authority. The necessary rules and regulations and the entire programme of planned development in future years will have to be drawn up by this Authority. This Authority can initiate creation of basic infrastructure and land development with layout plans so that better revenue stream can be expected from other investors. Participation of the **private promoters** may be invited for creation of entertainment and other facilities within the island.

BOTANICAL GARDEN

Project Description

1. The objective of establishing a botanical garden is to preserve a strong base for plants, trees, flowers, etc, of horticultural interest and can be conserved as a rich heritage. Earlier years the botanical gardens were used mainly for conducting experiments for establishing adaptability of many plants and trees under different climates and soils. Such gardens provide an excellent environment for nature lovers, students, researchers, etc apart from being a place for relaxation for casual visitors.
2. Besides ornamental and aesthetic aspects of botanical gardens, medicinal plants, herbs and flowers can also be grown in such gardens. Medicinal plants and flowers are used in a large way (80%) in the preparation of ayurvedic drugs, cosmetics items, etc. Reportedly, the export trade of medicinal plants from India is of the order of Rs. 5500 crores and is also growing at a fast pace. Ayurvedic medicines, health supplements, herbal cosmetics and toiletry preparations together, the world market is estimated at US \$ 62 billion (EXIM Bank Report). Traditionally such plants and herbs were obtained from forests and valleys and no systematic effort was carried out in earlier years for developing agro techniques for cultivation of such plants. Of late, due to the growing importance of Indian system of medicine in the preventive and curative aspects of diseases, many organisations and corporate companies have taken keen interest in growing such plants. For example, the **Reliance Group**, the Petrochemical giant, has taken keen interest in cultivating aromatic and medicinal plants. The company has already formed a new division, Viz **Reliance Life Sciences** (RLS) to streamline the diversification programme. Tissue culture method is proposed by the company to propagate this business venture. The domestic market for such plants alone according to the company is estimated at Rs.500 crores.

3. The **Medicinal Plants Board** has been established by the Government of India, to formulate a policy on the cultivation and usage of medicinal plants in the country. The Board has already identified 28 medicinal plants which are in great demand both in domestic and international markets. Some of the plants are Isabgol, Long Pepper, Senna, Ashwagandha, Kalmegh, Safed Musli, Liquorice, Bhumi Amla, Ashoka, Guggal, Sandal Wood, Gilol, Medhunsaini, Satavari, etc. Due to excessive demand there is shortage of such fresh herbs / plants presently in the country. Systematic planting efforts were not taken up in earlier years more due to lack of steady offtake by the manufacturing sector. Yet another supply side constraint operating in this sector is the lack of proper standardisation.

Proposed project

4. The middle portion, low lying area of Androth Island is quite fertile which currently is utilized for cultivating vegetables and horticultural products. The Departments of Horticulture and Forest in consultation with Tourism Department will take the initial efforts in establishing this project. It is proposed to develop the botanical garden in a suitable land area with appropriate soil conditions that can be selected for this purpose. Numerous varieties of Roses, Hibiscus, Bougainvilleas, Crossandras, Chrysanthemum and other perennial flowering shrubs will add to the natural beauty of the garden. The ornamental plant nursery sales will cater to the demand from the public. Apart from ornamental flowers and trees, a portion of the garden can be devoted for growing medicinal herbs and flowers. The garden will have facilities like lawns, conservatory, green house, glass house, fountain, aquarium, landscaped garden, cascades, etc. These facilities will add to the tourist's attractions.
5. The proposed garden would help attracting the visiting tourists as well as group tourists undertaking educational tours. The garden would serve as one of the avenues for the visitors to the island to spend time productively. Once the garden is developed fully, group educational tours can be organized to this place. Such group tourism packages would necessitate development of various other economic activities in and around the region.

Land requirement

6. The most important requirement for the development of the botanical garden is the land area. Conditions of soil including salinity and other fertility related characteristics would have to be checked before actually selecting the land. Climatic conditions also play an important role in the cultivation practices.
7. Although large land area can be utilized for such purposes, due to the paucity of vacant land in the island, it is suggested that the garden may be developed in a restricted area of **FIVE** acres. It may be difficult to acquire the above stretch of land from a single party. Landowners of contiguous plots of land can be requested to join together and participate in the venture on mutually agreed terms and conditions. An awareness campaign among the landowners / farmers can be created to prepare proper framework of appreciation of the project.
8. Some of the organizations that are specialized and can be contacted for directions and guidance while setting up the botanical garden are :
 - ♦ Tropical Botanical Garden and Research Institute, Thiruvananthapuram
 - ♦ Medicinal Plants Board, New Delhi (Government of India)
 - ♦ National Institute of Naturopathy, Pune
 - ♦ Botanical Survey of India, Kolkatta
 - ♦ Central Research Institute, Kottayam (Ayurvedic Medicine Research)
 - ♦ The Botanical Garden, Ooty
 - ♦ The Lalbaugh Gardens, Bangalore
 - ♦ The Botanical Garden, Pondicherry.

Government assistance

9. Developmental assistance is provided by Central Government for the cultivation and development of new herbs and plants. These schemes of assistance provided to government / semi government – organisations for setting up gardens and growing identified medicinal plants. (28 medicinal plants were identified by the Department of Indian Systems of Medicine under the Ministry of Health and Family Welfare for priority cultivation).

Raw materials

10. Plant seeds and seedlings are the important items that are required at the initial stages. Once the soil is prepared as per the plant requirements, the seeds and seedlings are planted in a scientific manner. Sufficient space needs to be allotted for internal roads, pathways, small buildings, irrigation channels, etc based on a well designed lay out plan.
11. Green house, glass house, aquarium are some of the other requirements in the botanical garden. Landscaping / flower arrangement etc would increase the aesthetic appeal of the garden to the visitors. Adequate arrangement has to be made for water availability (bore well) on a continuous basis. Farm implements and arrangement for water distribution through drip irrigation are other areas of expenditure.

Manpower requirement

12. One of the important operational aspects of the botanical garden is its continuous maintenance and the intensive plant care. Experienced plant breeders, botanists, soil scientists are required at the garden to constantly monitor the plant growth factors. The following staff members would be required initially.

Chief Plant Breeder / Geneticist	1
Botanist / Agronomist	2
Soil Scientist	1
Purchase of materials / Accounts keeping, etc	1
Garden Assistants (with plant care experience)	5
Maintenance shed workers	2
Farm Workers (Labourers)	10
Total	22

(Total Monthly salary of the above is estimated at Rs 1,40,000/-. Farm workers can be taken on contract basis, if necessary)

Civil construction

13. The civil construction required will be limited to the extent of about 3000 sq.ft. area (single storey building). This will accommodate a small office and space to take care of the administrative aspects. Some portion of the building is to be utilized as storeroom for farm implements and other equipments. Manure and pesticide storage is yet another area of requirement of built up space. Repair and maintenance of the farm implements may be done in an adjoining thatched shed constructed for this purpose. The civil construction at Rs. 600/- Sq.ft would cost about Rs.20.00 lakhs including Rs. 2.00 lakhs for maintenance shed.

Project Cost Estimate

14. It is estimated that an initial project investment of Rs. 50.00 lakhs would be required (Excluding the land cost) for establishing the botanical garden. Cost of land leveling, fencing, construction of pathways / mini-roads, farm implements, etc would constitute the above apart from civil construction.

Revenue stream

15. The botanical garden is proposed in the island mainly to create land based divergent avenues for the tourists as well as locals to spend time gainfully. It may be noted in this context that the botanical garden may not be fully self-sustaining, although some income can be generated through the following sources.

- ☒ Income from the sale of medicinal plants, herbs, flowers and other parts to the ayurveda centres. (This could be an important source of income if developed and taken advantage fully).
- ☒ Entrance fee for visitors
- ☒ Retail sale of ornamental flowers and plants.

Project promotions

16. Although the Government has to take the lead in initiating the project through appropriate policy framework, the actual operations and maintenance can be done by the private promoters investing in the project. These promoters can explore the possibilities of increasing the viability of the venture by identifying export markets and their requirements.

FAMILY ENTERTAINMENT CENTRE

Project Description

1. **Family Entertainment Centre (FEC)** is a relatively new concept in the Indian context and such facilities are being established in urban centres as one of the recreational avenues for the family as a whole. A host of entertainment options like bowling alley, pool parlours, virtual reality games, motion simulators, go-karting, etc are now available under this concept. The sheer variety of entertainment it offers to the entire family is its greatest attraction.
2. Unlike clubs, discotheques, etc, these centres offer clean and wholesome entertainment for entire family in a healthy environment. More importantly, all entertainment options are provided under one roof, providing opportunities for togetherness and social interaction among different families. The success of FEC depends on the socio economic status and income levels of the population in the locality. (Since the total area of the island itself being small, the entire island can be taken as the target segment.)
3. Such a project has been suggested to be set up in Minicoy Island wherein the inhabitants have fairly high disposable income. Moreover avenues for recreation and entertainment are non existent in the island. This centre would also provide opportunities for spare time interest for various visitors to the islands.

4. Proposed Facilities at FEC

- ♦ 5 - Lane bowling alley
- ♦ Board games (Billiards, Snooker/ pool / Carroms)
- ♦ Video interactive games / Laser games / Cyber cafe
- ♦ Skill games (whac-a-mouse, ball & belly, mad monkey, speed ball, hungry frog, bouncee, basket ball, crazy hen, dart game, bowling game, air shooting, steer-a-ball, belly bomb, etc.
- ♦ Video based games (Dance mania, car race, speed champ, gun shooting, air hockey.

- ♦ Giant screen television.
- ♦ Ice skating rink equipment, go-karts,
- ♦ Multicuisine restaurant

Further addition of entertainment items can be decided based on the acceptance among the customers and their preferences.

5. Land Requirement

50 cents (1/2 acre) of land will be required to establish the above facilities in a ground +1 structure.

6. Built up area

A total built up area of 10,000 Sq.ft will be required to accommodate the various activities proposed. Built up area needs to be carefully apportioned and utilized so that spaces wastage is reduced.

7. Project Cost Estimates

	(Rs. Lakhs)
Land area (50 cents) on lease	-
Building & civil works (10,000 Sq.ft. @ Rs.800/ Sq.ft)	80.00
Equipment, Machinery, etc for various activities	150.00
Other miscellaneous equipment	50.00
Preliminary & pre operative expenses	20.00
Contingencies – 10% of the above	30.00
Working capital margin	20.00
Total project cost	350.00

8. Revenue Sources

Items	Percentage share
Membership fee	10
Games-user payment	50
Food / beverages sale	20
Ad space, contest	10
Others (gate collection / entry fee)	10

The charges for different games and other facilities may be fixed based on the actual expenditure incurred on running the outfit.

9. Man power requirements

Since the Family Entertainment Centre provides facilities for a number of games, the requirement of skilled manpower would be one of the essential components. Such manpower would be related to depending on the number of games / machines installed. Refreshment and restaurant sector would require relatively large number of employees. Once the FEC is established, the restaurant activities can be run on contract basis.

10. Project Promotion

This project is essentially conceived as a private sector investment venture. The government's role will be limited to the extent of formulating the appropriate policy format to regulate activities.

LIGHT AND SOUND PROGRAMME

1. Project description

Light and Sound Programme is generally linked to the historical / heritage importance of a place, building or an event. The audio and visual programme narrated and presented in a pleasing manner and with changing colour sequence provides the entire spectrum of the development and happenings. Such shows are presently conducted at Taj Mahal in Agra, Red Fort in Delhi, Meenakshi Temple in Madurai for the benefit of visitors. The light and sound blending of the presentation leaves a memorable image in the minds of the viewers.

2. The proposed project

The history of Lakshadweep dates back to 7th century and revolves around Saint Ubaidullah. It is believed that by the order of Prophet Mohammed, Saint Ubaidullah was able to spread Islam in Ameni and later in Androth Islands. (Originally the inhabitants practiced Hinduism). Although there were initial strong objections, he was able to succeed in propagating Islam in various islands. He visited different islands in stages, thus propagating Allah's mission and finally returned to Androth. He died in Androth and was buried there. The grave of Saint Ubaidullah is now kept as a sacred place where a 'Masjid' has been built in his memory.

3. This entire story of Saint Ubaidullah, his arrival in islands, propagation of Islam, the objections of the inhabitants, the interference of the local Chieftain etc. can be put narrated in a descriptive manner and translated into light and sound programme. Although documentary evidences may not be fully available, the entire sequence can be developed only on the basis of imagination of the story teller with graphic representation. The programme can be shown in a time span of 45 minutes to one hour. The existing Masjid can also be renovated, painted and pictures are drawn on the wall. Comfortable seating arrangements need to be made for the visitors to sit and enjoy the programme.

4. Project requirements

The initial requirements of the project would be to put together and create the historical events in a narrative manner with stories and anecdotes. The stories need to be retold in a manner that captivates the interest of the viewer. This aspect may have to be assigned to a popular historian who can retell the story in a sequential order. Assistance from Indian Historical Research Institute can be solicited in this respect.

5. The video, audio, colour blending and the audio impact are the important aspects involved in the preparation of the programme. The sound and light sequence needs to be made in a captivating manner so that the interest of the spectators is retained throughout the programme. An experienced and imaginative story teller can create a number of anecdotes and side stories suiting the occasions.

6. Project Cost Estimates

It is estimated that the total cost involved in implementing the project would be of the order of Rs.30 lakhs. A major part of the expenditure will go for renovation / remodeling of the existing Juma Masjid area and for providing the required lighting and seating arrangements. The Departments of Art and Culture, Information & Publicity of the Administration are to take active interest in the implementation of the project.

7. Revenue sources

The only source of revenue under this venture would be the entrance fee collection [The manpower requirement for the operation may be only one or two persons]

8. Project Promotion

This project is recommended to be set up in Andrott island purely to create an additional source of diversion for the visiting tourists. Since the project does not involve any commercial value, involvement of private sector may not be expected.

THEME PARK AT JETTY AREA (ANDROTH)

1. Project Description

Theme park as it is now conceived includes different types of activities, (water and land based), rides, indoor games, electronic games (cyber space, video games), etc. Locational importance and hence the land cost is the significant element in the project. Normally such parks are located closer to main highways, motorable roads, etc to attract large crowds both local and visitors, especially during holidays. This can also be promoted as a multipurpose entertainment opportunity avenue for the whole family.

2. The proposed project

The beach area available next to the jetty at Androth is presently used for a variety of purposes like drying fish, copra, dumping goods, etc. It is recommended that this location can be improved upon by development of the area and can be converted into an entertainment park for children as well as elders. Being beach area, the entire frontage can be used for **sea based sports and games**. Since land area is limited large giant wheel based rides are not proposed in this park. This park will have the following areas of entertainment.

- ♦ Indoor games for children / adults
- ♦ Cyber games / video games / interactive games
- ♦ Reading room cum library
- ♦ Musical fountain
- ♦ Outside flower garden
- ♦ Science museum
- ♦ Circular mini train
- ♦ Cafeteria

3. While making the required civil construction the sandy beach area is to be left untouched for the visitors to play and enjoy aqua sports activities. Eco friendly materials are to be used for civil construction.

4. Project Cost Estimates

Apart from the land cost, various electronic equipments, civil construction, etc. will take substantial portion of the project cost. It is estimated that excluding the cost of land, the project would require about Rs.100 lakhs of investment.

5. Revenue stream

The revenue sources would include admission fee, fees for indoor and outdoor games, computer games, etc. Although the target segment is the younger generation, the overall socio economic blend of the population in the locality would influence the success of the project. Depending on the success of the project it can be replicated in other islands like Kavaratti, Ameni, Agatti, etc.

6. Project Promotion

The project can be promoted with **private sector participation** and the role of the government would be that of a regulator and facilitator.

CONVENTION HALL BASED CORPORATE RETREAT

1. Project Description

Under the MPLAD scheme, a convention hall is getting ready at Andrott island. This is proposed to be used for conducting various social gatherings like marriages, meetings, cultural programmes, etc. It is also felt in this context that, if properly furnished and equipped with the necessary arrangements, a portion of the hall can be used for conducting mini conferences, board meetings by various corporate companies from the mainland. The proposed project is intended to productively utilize the existing hall facility by the corporates in combination with enjoying the tourism advantages and facilities.

2. While the hall can be used mainly for conducting meetings and discussions in a quiet and comfortable environment, the accommodation for the participants will have to be arranged in the proposed Moolah beach resort centre in the island. The idea here is that while carrying out business related activities, the top executives of the companies can also indulge and enjoy the beach related activities (swimming, aqua sports etc) during spare time. The average length of stay of these executives at the resort could be thus extended up to four to five days or as required. Normally, such meetings are conducted in company's own corporate headquarters or at star category hotels. However, of late a trend is observed in conducting such meetings at beach resorts, tourist centres, etc in order to avail the dual advantage.

3. PROJECT REQUIREMENTS

- ∪ Air-conditioned room of about 600 Sq.ft area which can accommodate about 20 participants.
- ∪ Oval shaped conference table and comfortable seating arrangement
- ∪ Public address system
- ∪ Facilities for power point presentation
- ∪ Comfortable lighting arrangements
- ∪ Other facilities for serving tea / coffee / snacks / cold beverages

4. **Civil construction**

The convention hall is already available in the island and a part of the hall space can be earmarked and equipped for this purpose. The partitions of the conference hall can be made with collapsible shutters so that the working area of the entire hall can be utilized at times when large area is required for conducting other functions.

5. The proposed conference area will have to be fully carpeted. Wall paneling and aesthetic decoration with art paintings need to be provided, to impart the necessary corporate appeal and ambience.

6. **Manpower Requirement**

Overall hall incharge for organizing various requirements	1
Hall attendants (Knowledge of English)	3
Peons	2
Electrician (skilled assistant)	1

(Apart from normal staff available at the hall, all others can be on contract basis. At the time of the meetings / conferences being held, efficient support services should be available)

7. **Project Cost Estimate**

	(Rs. Lakhs)
Interior decoration / partition and other requirements, Air conditioning	8.00
Furniture (Table, Chair)	6.00
Electrical equipments (PA System, PC, CTV etc) / Communication Facilities (Direct STD with mainland)	10.00
Other requirements (cups, saucers, glasses) (Vehicles can be availed on contract basis)	1.00
Total	25.00

8. **Publicity campaign**

One of the important requirements of the project is to give adequate publicity about the facilities that are available in the island to conduct such meetings. The combination of tourism advantages and sea based attractions of the island are also to be specifically projected and focussed. Apart from visual and newspaper media coverage, direct communications can be sent to various corporate companies like TATA, BIRLA, L&T, Reliance, Mahindra, BPL, Hindustan Lever, Colgate, ICICI, HDFC, etc to avail the package. This promotional campaign needs to be sustained on a long term basis with emphasis on special packages.

9. Yet another pre requisite of the venture would be adequate direct transport service to the location. It is suggested in this context that the proposed expansion of the existing helipad needs to be taken up first, before commencing this venture. Alternatively, until such facilities are created, transportation by helicopter from Agatti to Andrott may be explored for the convenience of the corporate executives.

10. **Revenue stream**

The direct revenue sources would be the following:

- ◆ Resort charges including food, drinks, etc
- ◆ Rental for the convention hall

11. Apart from the above there would be indirect revenue generation by way of supplying food materials, beverages, etc.

12. **Project promotion**

This project has to be entirely promoted by the Tourism Department / SPORTS as an activity supporting tourism promotion in the island.