



**20 YEAR PERSPECTIVE PLAN FOR  
TOURISM IN UNION TERRITORY OF  
PONDICHERRY**

**\* FINAL REPORT \***

**MARCH 2003**

**TATA ECONOMIC CONSULTANCY SERVICES**



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*Prepared for*

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

**MARCH 2003**

**TATA ECONOMIC CONSULTANCY SERVICES  
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## EXECUTIVE SUMMARY

### INTRODUCTION

1. The Department of Tourism, Government of India has commissioned various professional agencies to prepare study reports on **‘20 Year Perspective Plan for Tourism Development’** for all the States and Union Territories of India. Tata Economic Consultancy Services was commissioned to prepare the study report for the Union Territory of Pondicherry.

### METHODOLOGY OF REPORT PREPARATION

2. After completing the ground work involved in this task, such as intensive desk research on the subject scope, followed by field visits to Union Territory regions for discussions, data collection and location surveys for project identification, compilation and analysis of data generated from desk research and field visits, this Report on ‘20 Year Perspective Plan for Tourism in the Union Territory of Pondicherry’ has been prepared. In the preparation of this report, TECS has broadly adhered to the terms and scope of coverage of various aspects that are required in the study report.

### TOURISM SCENARIO IN PONDICHERRY UT

3. Among the four regions of Pondicherry, Karaikal, Mahe and Yanam in this Union Territory, only Pondicherry and Karaikal regions have experienced steady and sustained tourist traffic in the past decade and more. The tourist inflow is predominantly domestic, with foreign tourists accounting for about five percent in the total number of tourists visiting these two centres. Although there is believed to be a modest inflow of domestic tourists to the other two regions, viz. Mahe and Yanam, there is hardly any patronising of these two places by foreign tourists on a regular basis.
4. Taking into account only the estimated tourist traffic in Pondicherry and Karaikal regions, for which recorded figures are available from the Union Territory’s Directorate of Tourism office, the growth rates recorded during the period 1992 to 2001 are worked out as follows :



**TABLE 1: GROWTH IN TOURIST TRAFFIC IN PONDICHERRY UT**

Year	Pondicherry			Karaikal		
	Domestic	Foreign	Total*	Domestic	Foreign	Total*
1992-1996	5.61	2.54	5.5	0.5	97.4	0.6
1996-2001	4.42	13.04	4.8	7.7	-3.0	7.7
<b>1992-2001</b>	<b>4.95</b>	<b>8.25</b>	<b>5.1</b>	<b>4.4</b>	<b>33.0</b>	<b>4.5</b>

(\* Indicates growth rates for total tourist traffic in the region)

### **TOURISM ATTRACTIONS**

5. Among the four regions of this Union Territory, Pondicherry Town attracts the maximum number of foreign and domestic tourists primarily due to the presence here of the 'Aurobindo Ashram', and 'Auroville' in the nearby area of Tamil Nadu. They are attracted to these two institutions for the enshrined 'Spiritualism' and the 'Way of life' practised there. It is felt that the tourist traffic to these two places will be stable or grow at a slow pace in future years.
6. Pondicherry Town's historic French connections, the Heritage buildings and French cultural linkages permeating the town atmosphere are the other major draw for foreign tourists, as also the Pondicherry -born French nationals living abroad at present. For the latter group, it is home coming once in a few years.
7. Besides these, all the other publicised tourist attractions and places of interest serve more to attract the domestic tourists than the foreign tourists for whom the other attractions are less interesting. This is perhaps reflected in the falling figures of 'average number of bed nights' spent in Pondicherry by the foreign tourists during the periods 1992 – 94 (4.035 nights), 1995 – 98 (4.554 nights) and 1999 – 2001 (1.521 nights).
8. The domestic tourists to Pondicherry are mainly made up of spiritual tourists, commercial / business visitors, fun / leisure tourists, and the honeymooning couples. Besides their visits to Ashram and Auroville, or after attending to their other work, the domestic tourists spend just about a day or more in Pondicherry to have a conducted sight tour of Pondicherry.
9. Foreign tourists visit to Karaikal is to a large extent due to the French linkages with the town and also as a pass - through halt on the way to or return from



Velankanni visit. Other places are of marginal or little interest to them. Domestic tourists to Karaikal are made up of temple / religious tourists and commercial travellers visiting the town on business.

10. Mahe and Yanam are still in the outbacks of tourism activity. With practically no item to attract / retain leisure / adventure tourists or nature lovers, there is hardly any foreign tourists flow to these two places. The tourists, we gather, are mostly the commercial travellers visiting on industry – business linked work, leisure tourists passing through this place as transit centre, and government officers visiting on official work. No reliable estimates on their number are available from recognised sources.

### **PROJECTIONS OF TOURIST INFLOW**

11. It is seen from the figures in **Table 1** above that there have been substantial variations in the growth of foreign and domestic tourist inflow during the periods 1992-96 and 1996-2001. Any major fluctuations due to a variety of reasons get reflected only in the short-term growth rates and get evened out over a longer term, thus giving a more balanced trend in the growth rates. Keeping this in view, we have taken the 1992-2001 longer-term growth rate as the basis for assuming the likely growth rates of tourist inflow in future years.
12. As per our estimates, if there are no significant changes in the tourism asset composition and / or town development of these places, the tourist inflow may continue to grow at the same level as in recent years or increase moderately in future years. On the contrary, if more and diversified tourism attractions are developed along with improved town environment to create and sustain the interest of potential tourists, then these places could witness increased tourist activity in the post 2006 period. For, the creation of well thought out and executed / implemented tourism attractions might be in place by around 2005-6 or thereabouts. These include beautification and putting in place a few other projects and / or schemes which may have no direct relation to tourism, but are essentially conducive to improving the overall acceptability and appeal of the town / region as a place to visit and stay as a tourist. These projects are adjuncts or infrastructure amenities to tourism.
13. Our projections of the likely inflow of tourists into Pondicherry and Karaikal regions under three different scenarios are as presented in **Exhibit 1.5** in **Chapter I**. The highlights of the Exhibit are as given below in **Table 2**.





**TABLE 2 : PROJECTIONS OF TOURIST TRAFFIC-  
PONDICHERRY AND KARAIKAL**

	Scenario A	Scenario B	Scenario C
2001	4,98,919	4,98,919	4,98,919
2011	9,01,600	10,77,100	12,94,100
2021	19,46,500	27,73,000	33,56,500

14. Our projections of the likely inflow of tourists into Mahe and Yanam regions under three similar scenarios are given in **Exhibit 1.6** of Chapter I. The highlights of the Exhibit are as given below.

**TABLE 3 : PROJECTIONS OF TOURIST TRAFFIC- MAHE AND YANAM**

	Scenario A	Scenario B	Scenario C
2001	22670	22670	22670
2011	29600	29600	31700
2021	38700	38700	44600

15. From the above two tables, we calculate that the total inflow of tourists into the UT of Pondicherry would be around 11,07,000 by 2011 and 28,12,000 by 2021 as per Scenario B (**Probable Scenario**).

### **RECOMMENDED PROJECTS**

16. While attempting to evaluate the relevance, merit and sustainability of the projects and schemes which the TECS team had identified as prima facie suitable for setting up in the various regions, we have given considerable weightage to the following factors:
- The composition of available tourist attractions, and the types and significance of places of interest for the tourists
  - The region's locational and environmental factors
  - The current and likely future pattern of socio economic activities
  - The likely developments in educational, healthcare and sports facilities in the region
  - Power, water, transportation and other infrastructure facilities
  - The existing / emergence of competing tourist attractions in the nearby places



17. Discussions were held with officials in various government departments and other knowledgeable local sources to gather information which was used for selection of location specific tourism projects and schemes.
18. The list of projects and other developmental / supporting activities suggested for each region, along with indicative figures of outlay / investment on these projects, the time span during which these recommended assets may be established, as also the government agencies which may be involved in execution of these projects are furnished in **Exhibits A and B** at the end of this Executive Summary.
19. The total investment on the recommended projects would be around Rs 33 crores which would be mostly from the private sector. Depending on the priorities envisaged by Pondicherry Government and the private initiative for setting up the recommended projects / schemes, the actual implementation period could stretch up to year 2010, but may not be over by 2007.
20. It may be noted that except in Karaikal and Yanam regions, and Oussudu Lake Resort ( Spa Resort ) Project in Pondicherry, no new major tourism projects have been suggested by the consultants. In our view, with the projects and schemes being planned by the UT's Tourism Department for the 10<sup>th</sup> Five Year Plan Period (2002-07) in the different regions of UT, and setting up of projects recommended by TECS, adequate tourist attractions would be in place and any significant additional investments on creation of new tourism assets may not be required. Greater thrust would be warranted on improvement / beautification of the already existing and planned to be set up projects up to the year 2021 / 22.
21. Moreover, as a majority of the existing tourism projects seem to be adequately served at present with infrastructure facilities like road access to the sites, power and water availability, additional investments would have to be on strengthening and augmentation of these existing facilities to cope with anticipated larger tourist traffic to these centres. Priority needs to be given for providing better in-house infrastructure facilities like modern telecommunication and office equipment systems, modern first aid facilities, training in risk / disaster management, life saving practices and emergency aid etc. to the staff and workers in these hotels / restaurants / tourist offices in the UT regions.



22. Investments on such infrastructural facilities, both for in-house operation and external to the project sites, will be on-going and continuous upto 2021. An annual budget of about Rs 400-500 lakhs may be adequate for this purpose.

### **FINANCING OF THE PROJECTS**

23. Except for major investments on creation / augmentation of requisite infrastructure facilities for enabling smooth / successful commissioning and operation of recommended projects, minimal participation / involvement of the UT Government or government agencies is envisaged in implementation and or operation of tourism related projects of purely commercial nature.

### **CARRYING CAPACITY OF THE REGIONS**

24. While considering the suitability of various identified / recommended projects, the carrying capacity of the particular region has also been given due weightage. The carrying capacity encompasses aspects like the present and likely future availability of essentials like water, electricity, other physical and social infrastructure, effluent and sewage disposal systems, and any other strengths and weaknesses in the region to absorb the additional tourist inflow into the region without serious or adverse impact on the living conditions and life style of the local population.

#### **a) Water**

25. Limited availability of fresh water, and limitations on augmenting the fresh water potential in the regions from its own sources have made the Union Territory dependent on the neighbouring states of Tamil Nadu, Andhra Pradesh and Kerala for obtaining its requirements of water for various uses. At present the per capita supply of water is about 135 litres per day in Pondicherry and 70 litres per day in the other three regions. This is as against the suggested / required norm of 160 litres per day per capita in the country.
26. The State's Public Works Department, which is in charge of Water Augmentation Projects and Schemes in the Union Territory, has plans on the anvil, and is implementing various projects to enhance the water supply situation in the various regions. The completion of these various schemes is expected to take care of the additional water requirements in the four regions upto 2011/16.



27. However, the additions to the population in the four regions by natural growth, as well as the anticipated increase in tourist inflow into these four regions, are sure to exert pressure on the water supply system.

**b) Power**

28. The Union Territory is dependent on the neighbouring states for meeting its electricity requirement too. Captive generation of 32.5 MW of power by the gas based unit in Karaikal, even providing for enhanced capacity of 132.5 MW or so from 2006 – 07, will be only partly sufficient. A 500 MW or 1000 MW coal based project, if all approvals are obtained, could become operational by 2010 – 11. Reduced generation of hydel power, and inefficiencies in the existing power generation / transmission / distribution systems of the electricity authorities in the three neighbouring states of the Union Territory regions, leave a poser on the likely uninterrupted supply of power from these states to Pondicherry in future years. In view of the rising demand for power in the Union Territory, and possible increase in power supply charges from the supplying states, the present comfortable situation on the power front in the four regions may witness some set backs in future years. This is another possible limitation on the carrying capacity of the regions.

**c) Other Civic Facilities**

29. With rising population and urbanisation in the various regions, there exist and will be on enhanced scale, civic problems like inadequate roads and road spaces, traffic congestion and transport bottlenecks, insanitary and unhygienic conditions in the sewage and garbage disposal systems, and so on. These are essentially civic infrastructure irritants but could be improved to the required levels or manageable levels.

**d) Environment**

30. With industrial and economic development comes environmental degradation. Appropriate pollution control policies and their proper implementation could take care of any adverse impact which increased population and tourist traffic may cause on the environment in the coming years.



## **HOTEL BEDS**

31. Our calculations show that there were a total of 5120 beds available per day in Pondicherry and Karaikal regions during 2001. As the ratio of domestic and foreign tourists visiting these centres is approximately 95:5, appropriate weighted averages have been used for determining the average bed-night spent per tourist. The bed occupancy level during 2001 is calculated as about 31% in the total number of available beds.
32. For determining the total number of beds and rooms required for the 11,06,700 tourists and 28,11,700 tourists estimated to visit these two centres during 2011 and 2021 respectively, we have assumed the number of bed nights spent by a tourist as 2 as against 1.14 during 2001 and the likely occupancy level as 60 percent of total number of beds. We derive the bed requirement as about 9840 numbers by 2011 and 25325 numbers by 2021. On the other hand, if we assume the occupancy level at 50 %, then the requirement would be at about 11800 beds and 30400 beds during these two reference years.

## **ECONOMIC BENEFIT ANALYSIS**

33. All tourism related projects are designed to obtain / maximise certain tangible economic benefits like direct and indirect employment and income for the local population. Besides these tangible economic benefits, there would be spin off benefits on the social side too.
34. While the former are quantifiable to a near – accurate level using accepted methods of calculation, it may not be easily done for the latter. It can only be mentioned with certainty that these would have positive and beneficial impact (both direct and indirect) on the social systems and practices of the local / regional population in the longer term.
35. Appropriate methods of calculation have been employed to determine the likely economic benefits to the Union Territory from tourism during the period 2001 – 2021. The details are presented in **Chapter VI**. A summary picture of this is shown below:



**TABLE 4 : LIKELY ECONOMIC BENEFITS FROM TOURISM**

	<b>2001</b>	<b>2011</b>	<b>2021</b>
Income generation (in Rs. Million)	165	920	6600
Employment generation (in nos.)	2450	13900	99500

36. In the Union Territory as a whole, incremental addition to employment is seen to increase to 13900 persons by 2011 and to a much higher 99500 persons by 2021. On the other hand, income increase is from Rs. 920 million in 2011 to a substantially higher Rs. 6600 million in 2021.
37. Pondicherry and Karaikal will continue to be the major draw for tourists. Mahe and Yanam may remain more in the shadows in terms of the total number of tourists to Pondicherry Union Territory. If indeed there should be larger tourist traffic to these two places, the economic benefits thereto will be correspondingly higher.

#### **ENVIRONMENTAL IMPACT ANALYSIS**

38. Although conceptualised with concern and implemented with efficiency, both in the short to medium terms as well as the longer term, there could be some adverse impact of the projects established on the local environment. Hence, oftentimes, a thorough analysis is made so as to identify the likely adverse impact of the projects under consideration. TECS has also attempted an Environmental Impact Analysis of the recommended projects / activities in each of the four regions.
39. Great importance has been attached by the UT Government to the concept of promoting eco-tourism in Yanam region. We believe that Mahe in particular, and the other regions to some extent, are also vulnerable to ecological deterioration if there is a mindless exploitation of resources and developmental thrust so as to increase inflow of tourists into these regions. Although it might be argued that one has to pay a price for faster or higher economic development and derive attended benefits, it need not be at the cost of causing irreparable damage to the environment and ecological system.



40. The projects and schemes we have recommended are likely to bring about greater economic and social benefits to the regions in the medium to longer term, and cause, hopefully, very little disturbance to the economic, social or environmental systems / conditions in the four regions. These are also of such nature and form that, even if there should be some unforeseen negative impact of one or more of these projects some time during their operation, with carefully directed efforts these could be rectified at modest cost to the system. Details of this Environmental Impact Analysis of various recommended projects are given in matrix form in **Chapter X**.
41. In sum, the recommended projects and schemes are expected to contribute to the varietal richness, and the quality of economic and social lives of the Union Territory's population in the coming years.

#### **HERITAGE BUILDINGS AND TOURISM**

42. According to the survey estimates by the Pondicherry office of INTACH, the number of heritage buildings in the French Quarter and Indian Quarter of the Boulevard Area in Pondicherry Town has fallen to around 1100 in 2001-02 from 1800 buildings five years earlier. It has expressed its anxiety that unless effective measures are taken by the government authorities, there may be further reduction in their numbers in future years due to the reason that the owners of these buildings would sell them for commercial / monetary gains.
43. The Union Territory Government has to consider taking suitable policy measures and investment decisions to ensure preservation / conservation of these remaining heritage buildings in the town. Our views on this scheme are elaborated in **Chapter I** under the section 'Heritage Buildings and Tourism'.

#### **NAMES FOR YANAM ISLANDS**

44. Instead of referring to the five uninhabited islands in Yanam region of the Union Territory of Pondicherry as Island No. 1, Island No. 2, Island No. 3, Island No. 4, and Island No. 5, we believe that the islands could be given some romantic sounding / attractive names. Besides the novelty aspect of specifying the islands by names, it would help for easier identification, both by the foreign and the domestic visitors to these islands or Yanam town.



45. In this connection, we have furnished a list of names from which selection could be made by appropriate Government authority for re-christening these five islands.

1. Zoo Island
2. Games Island
3. Trekking Island
4. Adventure Island
5. Inspiration Island
6. Rejuvenation Island
7. Bird Island or Bird Watch Island
8. Pleasure Island / Recreation Island
9. Cinema Island (If used regularly for film shooting).

#### **REPORT STRUCTURE**

46. This study report is presented in ten chapters as shown below:

- |                     |   |
|---------------------|---|
| <b>Chapter I</b>    | <b>: Union Territory Of Pondicherry – An Overview</b>     |
| <b>Chapter II</b>   | <b>: Pondicherry Region – A Profile</b>                   |
| <b>Chapter III</b>  | <b>: Karaikal Region – A Profile</b>                      |
| <b>Chapter IV</b>   | <b>: Mahe Region – A Profile</b>                          |
| <b>Chapter V</b>    | <b>: Yanam Region – A Profile</b>                         |
| <b>Chapter VI</b>   | <b>: Recommended Projects and Their Economic Benefits</b> |
| <b>Chapter VII</b>  | <b>: Financing The Tourism Promotion Projects</b>         |
| <b>Chapter VIII</b> | <b>: Infrastructure Development</b>                       |
| <b>Chapter IX</b>   | <b>: Privatisation of Tourism Assets</b>                  |
| <b>Chapter X</b>    | <b>: Environmental Impact Assessment</b>                  |





## **CONSULTANTS' PERSPECTIVE**

47. Pondicherry, Karaikal, Mahe and Yanam will continue to derive benefits of increased tourism inflows into Tamil Nadu, Kerala and Andhra Pradesh. In other words, as part of a travel circuit of tourists to the bigger adjacent states, the UT will benefit, though some niche / specialty interest tourists may still consider Pondicherry Town itself as a destination tourist attraction. This could happen in the case of Yanam too. Therefore the UT will not only have to compete for the attention of tourists visiting South India, but also to cooperate with the other Southern states in coordinating tourism development in the region.
48. What is not captured in the tourism statistics is the significant number of day visitors who come to these places from nearby areas falling in the adjacent states. The main category of day visitors could be for livelihood / employment. A portion of the day visitors is also for sight seeing, pilgrimage, shopping, recreation, etc. They also contribute substantially to the direct and indirect economic benefits derived from tourists. The challenge before the Pondicherry Administration would be to bring in more and more of the high spending / premium quality tourists and at the same time ensuring that the low spending day visitors or mass tourists cause minimal disruption to the quality of the tourism ambience in the Union Territory.



## EXHIBIT A

### LIST OF RECOMMENDED TOURISM PROJECTS\* FOR UNION TERRITORY OF PONDICHERRY

Sl. No.	Type of project	Likely investment (Rs. Lakhs) (Excludes land cost)	Suggested implementation period
A	<b>Project Investments</b>		
	<b><u>Pondicherry Region</u></b>		
1	Lakeside Spa Resort – Oussudu Lake	350	2006-09
2	Boat Club – Chunnambar	50	2006-08
	<b>Project investments (2002 – 2010)</b>	<b>400</b>	
3	Investment on infrastructure facilities (fresh, augmentation and improvement)	150-250 lakhs per year	On-going upto 2021
	<b><u>Karaikal Region</u></b>		
1	Amusement Park	90	2003-09
2	Gardens / Parks	30	2004-06
3	Budget Hotel	90	2004-06
4	Mini Zoo (Animal Park)	50	2006-07
5	Riverside Bar / Restaurant	40	2005-09
6	Indoor Sports Complex	700	2007-11
7	Planetarium	800	2009-12
	<b>Project investment (2002 – 2010)</b>	<b>1800</b>	
8	Investment on creation / strengthening, improvement of various infrastructure facilities, Directly and indirectly linked to projects / sites	150-250 lakhs per year	On-going upto 2021
	<b><u>Mahe Region</u></b>		
1	River Side Park	30	2003-05
2	Manjakkal Recreation Park	70	2004-07
3	Mahe Indoor Sports Complex	400	2006-10
	<b>Project investment (2002 – 2010)</b>	<b>500</b>	
4	Addition / strengthening / improvement of various infrastructure facilities directly / indirectly linked to tourism development projects.	30-40 lakhs per year	On-going upto 2021



### EXHIBIT A Contd

	<b><u>Yanam Region</u></b>		
1	Amusement Park	80	2004-07
2	Mini Zoo (Animal Park)	50	2005-09
3	Trekking Island	20	2007-10
4	Star Hotel	220	2003-08
5	Budget Hotel	200	2003-06
6	House Boat & Water Sports	30	2004-07
	<b>Project investments (2002 – 2010)</b>	<b>600</b>	
7	Investment on Infrastructure facility (fresh, augmentation and improvement)	50-60 Lakhs per year	On going upto 2021
	<b>Total Project investments (2002 –2010)</b>	<b>3300</b>	
B	<b>Additions / strengthening / improvement of various infrastructure facilities directly / indirectly linked to tourism development projects.</b> <ul style="list-style-type: none"> <li>• Pondicherry</li> <li>• Karaikal</li> <li>• Mahe</li> <li>• Yanam</li> </ul>	150-250 150-250 30-40 50-60	On going upto 2021
	<b>Total</b>	<b>380-600</b>	
	<b>Say, about</b>	<b>Rs 500 lakhs per year</b>	<b>On going upto 2021</b>

\* Direct revenue-earning projects.

Non direct revenue earning tourism projects could be infrastructure improvements such as roads, water, sewage, power, traffic, hygienic civic facilities, etc.



## EXHIBIT B

### RECOMMENDATIONS FOR TOURISM PROMOTION POLICY MEASURES

Sl No	Policy Schemes	Agencies to be Involved	Likely Investment	Suggested Implementation Period
1.	Awareness creation among the public about economic importance and ecological sensitivity of tourism promotion activities.	Departments of Tourism & Environment, NGOs	Rs 40-50 Lakhs per annum	From 2003 on continuous basis with periodic intense publicity programmes
2.	Relaxation of entry procedures for vehicles & tourist vans entering the four regions from adjacent states	Local / Municipal authorities	--	From 2003. Require periodic review of procedures and their actual enforcement
3.	Policy on Privatization of Tourism Assets.	Tourism Department	Rs. 10 Lakhs on processes involved	2003-05
4.	Coastal Regulation Zone Rules – Selective approach	Departments of Environment, PWD & Tourism	--	2003 onwards on continuous basis
5.	Development of Green belt areas, road side tree planting including on beach road, conservation of trees and environment	Conservator of Forests, Local Municipalities, NGOs, Dept of Horticulture	Rs 50-80 lakhs / per year	2003 – 2021 after detailed planning
6.	Protection of beaches from encroachment by strict laws.	Local Municipalities PWD, CRZ Authorities, NGOs	Rs 50 lakhs / per year	On a continuous basis from 2003 onwards



## CHAPTER I

### UNION TERRITORY OF PONDICHERRY – AN OVERVIEW

#### LOCATION & TOPOGRAPHY

- 1.1 The Union Territory of Pondicherry consists of four regions, namely Pondicherry Region, Karaikal Region, Mahe Region and Yanam Region. All the four regions are at different locations, geographically separated from each other. **Map 1** shows the geographic location and position of these four regions.
- 1.2 Among these four regions, except Mahe, the other three regions are on the eastern coast of India. Pondicherry and Karaikal are on the east coast of Tamil Nadu, while Yanam is on the east coast in Andhra Pradesh. Mahe is located on the Malabar stretch of the west coast in Kerala State.
- 1.3 Although not a contiguous stretch of land, the topography of these four separately located regions are all coastal plains with semi arid climate. Except in Mahe, there are no hilly areas in other regions. There are no forest areas at all in any of the four regions.

#### TEMPERATURE AND CLIMATE

- 1.4 The mean maximum temperature in all the four regions are at about 34° C. The mean minimum temperature is around 24° C. However, during peak summer periods of May – June, the maximum day temperature goes upto 38° - 40° C in Pondicherry / Karaikal and 45° - 47° C in Yanam.
- 1.5 All the four regions experience relatively high humidity throughout the year. During day time humidity is in the range of 80 – 85 percent, coming down to 75 – 80 percent in the evenings. December and January are the coolest months in all four regions.
- 1.6 The table below presents temperature and relative humidity conditions in Pondicherry for a ten-year period. This is broadly representative of the conditions obtaining in all the four regions.



**TABLE 1.1: TEMPERATURE AND RELATIVE HUMIDITY  
AT PONDICHERRY**

Period	Temperature						Relative Humidity	
	Mean Maximum		Mean Minimum		Pooled Mean		08.30 Hrs	17.30 Hrs.
	°C	°F	°C	°F	°C	°F		
1991	32.7	90.8	24.7	76.5	28.7	83.6	78.9	76.9
1992	33.2	91.7	24.4	76.0	28.8	83.9	77.3	75.7
1993	30.4	86.7	24.4	75.9	27.4	81.3	78.0	76.8
1994	32.2	89.9	24.5	76.1	28.4	83.1	78.6	75.2
1995	33.2	91.7	24.6	76.2	28.9	84.0	76.6	75.7
1996	32.3	90.2	23.6	74.5	28.0	82.4	84.6	80.5
1997	32.8	91.0	24.0	75.4	28.4	83.1	84.3	79.5
1998	33.4	92.1	24.5	76.2	29.0	84.2	82.6	78.8
1999	33.1	91.6	23.8	74.8	28.5	83.2	83.5	77.9
2000	33.2	91.7	24.0	75.1	28.5	83.4	82.8	76.9

## RAINFALL

- 1.7 All the four regions of the Union Territory get rainfall benefit from both southwest monsoon (June – September months) and northeast monsoon (October – December months). The annual average rainfall in the Union Territory was as shown below:

**TABLE 1.2 : RAINFALL IN UNION TERRITORY**

Region	Actual rainfall in mm (June to May)				
	1997-98	1998-99	1999-2000	2000-01	<b>Normal Rainfall</b>
Pondicherry	2212	1968	1674	865	<b>1338</b>
Karaikal	2005	1523	1306	961	<b>1382</b>
Mahe	4052	3174	2780	3261	<b>3387</b>
Yanam	1347	1913	1272	794	<b>1227</b>

**Note:** Normal rainfall is the simple arithmetic average of data for 30 years from 1970 – 71 to 1999 – 2000 (June to May).



## SOIL

- 1.8 Red loam, coastal deltaic alluvium and red laterite are the major types of soil in all the four regions of this Union Territory.

## AREA

- 1.9 The Union Territory of Pondicherry has a total area of 480 sq. km. Among its four regions, Pondicherry Region is the largest occupying 60.42 percent of the total area. Mahe is the smallest region, covering less than 2 percent of the Union Territory area.
- 1.10 The geographical area covered by each of the four regions and the percentage share in the total area of the Union Territory are as given below in **Table 1.3**.

**TABLE 1.3 : REGION WISE GEOGRAPHICAL AREA**

Region	Geographical area (in sq. km.)	Percentage area in total
Pondicherry	290	60.42
Karaikal	161	33.54
Mahe	9	1.87
Yanam	20	4.17
<b>Union Territory Total</b>	<b>480</b>	<b>100.00</b>

## REVENUE ADMINISTRATION

- 1.11 The Union Territory constitutes a single district consisting of 11 towns, 264 census villages, 129 revenue villages, two taluks and four sub taluks.



## LOCAL ADMINISTRATION

- 1.12 There are five municipalities in the Union Territory namely, Pondicherry, Oulgaret, Karaikal, Mahe and Yanam. There are also five Commune Panchayats each in the Pondicherry and Karaikal regions. The other two regions do not have Commune Panchayats.

## POPULATION

- 1.13 Figures of total population and growth in population in the Union Territory of Pondicherry are given in **Table 1.4**. As per the 2001 Census, the Union Territory's population constituted a little less than 0.095 percent of the all India population of 102,70,15247 persons. The Union Territory's decadal growth of 20.56 percent compares favourably against the all India growth rate of 21.34 percent, both during 1991 – 2001. It is also seen that the decadal growth rate during 1991-2001 has registered a substantial decrease compared to the earlier decades of 1971 to 1991.

**TABLE 1.4 : UNION TERRITORY'S POPULATION**

Census Year	Total Population	Decadal Growth (%)	Annual Average Growth Rate (%)
1961	369079	—	—
1971	471707	27.81	2.48
1981	604471	28.15	2.51
1991	807785	33.64	2.94
2001	973829	20.56	1.89

## REGION WISE POPULATION

- 1.14 Data on the trends in region wise share in the total population of Pondicherry UT are given in **Table 1.5**. It is seen from the figures that among the four regions, Pondicherry region alone registered a steady increase during the period 1961 to 2001. Whereas there was a steady decline in the shares of Karaikal and Mahe regions during the period 1961 to 2001, in Yanam region the trend took a reversal during 1981 onwards, and in the subsequent two decades the population share showed an increase.





**TABLE 1.5 : REGION WISE SHARE IN POPULATION**

(In Percentages)

Census Year	UT Population	Region wise shares in total population			
		Pondicherry	Karaikal	Mahe	Yanam
1961	100.00	70.05	22.76	5.28	1.91
1971	100.00	72.13	21.21	4.90	1.76
1981	100.00	73.52	19.86	4.70	1.92
1991	100.00	75.31	18.04	4.14	2.51
2001	100.00	75.48	17.52	3.78	3.22

## DENSITY OF POPULATION

- 1.15 Figures of population density on a regionwise basis in the UT are presented in **Table 1.6**. As per 2001 Census estimates, against the all India population density figure of 324 persons per sq. km., the Union Territory shows a high density level of 2029 persons per sq. km. This is indicative of the population pressure on the urban areas of the UT.

**TABLE 1.6 : REGION WISE POPULATION DENSITY**

(persons per Sq. Km.)

Census Year	Pondicherry	Karaikal	Mahe	Yanam	<b>Pondicherry UT</b>
1961	892	522	2165	352	<b>769</b>
1971	1173	621	2570	415	<b>983</b>
1981	1517	750	3157	582	<b>1229</b>
1991	2076	911	3716	1015	<b>1642</b>
2001	2534	1060	4091	1568	<b>2029</b>

## SEX RATIO

- 1.16 As per 2001 Census, the sex ratio in the population of the four regions depicted a healthy sign. See figures in **Table 1.7** At 1001 females per 1000 males, the sex ratio in the Union Territory population was better than the 933 females per 1000 males at all India level. The sex ratio is indeed far higher in Karaikal and Yanam regions.

**Table 1.7 : Sex Ratio in UT Population**

Region	Females per 1000 Males
Pondicherry	996
Karaikal	1022
Mahe	975
Yanam	1148
<b>Pondicherry UT</b>	<b>1001</b>

## LITERACY RATE

- 1.17 As can be seen from the figures below, the Union Territory made considerable progress in the last two decades in levels of literacy among both male and female population as also in the total population. The literacy level in the Union Territory is found to be considerably higher than the all India averages during 2001.

**TABLE 1.8 : LITERACY IN POPULATION**

(in percentages)

	Pondicherry UT			All India (2001)
	1981	1991	2001	
Persons	55.85	74.74	81.49	65.38
▪ Males	65.84	83.68	88.89	75.85
▪ Females	45.71	65.53	74.13	54.16

## URBAN RURAL POPULATION

- 1.18 The shares of urban and rural population in the total population of Pondicherry UT as per the 1991 and 2001 Census estimates show that there has been a steady but modest increase in the levels of urban population in this union territory during the reference period. See **Table 1.9**.

**TABLE 1.9 : URBAN RURAL POPULATION**  
( in numbers & percentages)

	2001 Census	1991 Census
<b>Total Population</b>	<b>973829 (100.0%)</b>	<b>807785 (100.0%)</b>
- Urban Population	648233 (66.56%)	576985 (64.0%)
- Rural Population	325969 (33.44%)	290800 (36.0%)

## POPULATION BY RELIGION

- 1.19 As per the 1991 census, Hindus formed the largest size in the total population of these four regions. Christians and Muslims formed the next two largest groups. **Table 1.10** shows the religious composition of population in the four regions as well as Pondicherry Union Territory as a whole.

**TABLE 1.10 : RELIGIOUS COMPOSITION OF POPULATION**

	Pondi-cherry	Karaikal	Mahe	Yanam	Pondicherry UT	
					Nos.	(%)
Hindus	543108	110666	22714	19493	<b>695981</b>	<b>86.16</b>
Christians	43040	14391	717	184	<b>58362</b>	<b>7.22</b>
Muslims	21636	20639	9974	618	<b>52867</b>	<b>6.54</b>
Jains	465				<b>575</b>	<b>0.08</b>
Buddhists	38					
Sikhs	25			2		
Others	26	7	12			
Total	608338	145703	33447	20297	<b>807785</b>	<b>100.0</b>

## POPULATION BY OCCUPATION

- 1.20 As per the 1991 Census, main workers and marginal workers constituted 32.41% and 0.67% in the total population of Pondicherry UT. Non workers accounted for 66.92% of the population.
- 1.21 Agriculture and industrial labour were found to constitute the two major occupations. Among various main workers, those engaged in agriculture occupations and 'other than household industry' (mainly industrial workers) accounted for 36.31% and 14.94% respectively.
- 1.22 For the Union Territory as a whole, the ratios of main workers, marginal workers and non-workers in the total population according to the 1991 Census were as follows. It is seen from **Table 1.11** figures that non-workers constituted about 67% of the total population in all regions except Mahe where non-workers formed 78% of the total population.

**TABLE 1.11 : WORKERS AND NON WORKERS IN POPULATION  
(1991 Census estimates)**

	Union Territory	Pondicherry	Karaikal	Mahe	Yanam
Main workers	261800	202565	45453	7051	6731
- Males	204500	156385	36946	5860	5309
- Females	57300	46180	8507	1191	1422
Marginal workers	5414	3778	1183	341	112
- Males	1803	1365	169	244	25
- Females	3611	2413	1014	97	87
Non workers	540571	401995	99067	26055	13454
- Males	201778	151951	35442	9412	4973
- Females	338793	250044	63625	16643	8481
Total population	807785	608338	145703	33447	20297
- Males	408081	309701	72557	15516	10307
- Females	399704	298637	73146	17931	9990

## PROJECTIONS OF POPULATION

- 1.23 During the period 1981-2001, there have been variations in the decadal and annual growth rates in population in each of the four regions of this UT. Using the past trends in absolute growth of the Union Territory's population, and the declines in the growth rates thereto during the period 1981 to 2001, as guidelines for their future growth, we have fixed appropriate annual growth rates in population for future years and projected the likely levels of population in Union Territory during the decennial periods ending 2011 and 2021. These projections are shown in **Table 1.12**. A region wise picture of our projections of likely population is shown in **Exhibit 1.1**.

**TABLE 1.12 : PROJECTIONS OF LIKELY POPULATION IN PONDICHERRY UNION TERRITORY**

Census year	Total population	Population		
		Decadal growth (%)	Annual growth rate (%)	Density Persons / sq.km
1981	604471	-	-	1259
1991	807785	33.63	2.94	1683
2001	973829	20.56	1.89	2029
2011	1100200	12.97	1.22	2292
2021	1194000	8.52	0.82	2487

- 1.24 It is seen that the total population may increase from 973829 persons in 2001 to about 1100200 persons in 2011 and further to 1194000 persons by 2021. The annual average growth rates in population are taken as 1.22 percent and 0.82 percent during 2001 to 2011 and 2011 to 2021 respectively.

## PHYSICAL INFRASTRUCTURE

### a) Railways

- 1.25 Pondicherry is connected with Chennai and Renigunta via Villupuram through a broad gauge railway line. Karaikal is linked to Peralam in Tamil Nadu through the Mayiladuthurai – Karaikal meter gauge line. Broad gauge line connectivity is available to Mahe from Chennai and Thiruvananthapuram / Ernakulam. Yanam has no railway facility, but the



nearest railway stations are Samalkot (25 kms.) and Kakinada (26 kms.) from Yanam. Yanam is thus easily accessible from Chennai, Vijayawada, etc. by train link to Kakinada.

### ***Future Plan***

- 1.26 The Government of Pondicherry has shown interest in developing a rail link between Pondicherry and Cuddalore Railway Stations so as to provide better rail connectivity from Chennai to Cuddalore via Pondicherry

### **b) Roadways**

- 1.27 All the four regions in the Union Territory have well developed, all weather roads providing easy road access to state highways and / or national highways passing through the nearby states. Even the rural roads are bitumenised and are as per IRC Standards. As of 31.3.2001 the total road length in Union Territory was about 2522 kms. The road length per lakh of population was 258.98 km and, for 100 sq. km. area the road length was 525.42 kms.
- 1.28 As on 31.3.2001, the total length of roads in the Union Territory was as follows:

**TABLE 1.13 : ROAD LENGTH IN UNION TERRITORY**

(In kms.)

Operating Agency	Surfaced Roads			Unsurfaced Roads			Total		
	1996	1998	2001	1996	1998	2001	1996	1998	2001
State PWD	557	598	608	3	-	-	560	598	608
Municipalities	453	485	660	42	39	51	495	524	711
Commune Panchayats	431	746	828	439	421	375	870	1168	1203
<b>Total</b>	<b>1441</b>	<b>1829</b>	<b>2096</b>	<b>484</b>	<b>460</b>	<b>426</b>	<b>1925</b>	<b>2290</b>	<b>2522</b>



1.29 The road infrastructure available in the different regions of the Union Territory as on 31.3.2001 were as follows

**TABLE 1.14 : ROAD INFRASTRUCTURE IN PONDICHERRY UT  
( length in Kms )**

Region	Surfaced Roads	Unsurfaced Roads	Total
Pondicherry	1368	350	1718
Karaikal	597	50	647
Mahe	72	26	98
Yanam	59	Neg	59
<b>Total for UT</b>	<b>2096</b>	<b>426</b>	<b>2522</b>

**c) Communication Facilities**

1.30 The growth in post and telecomm facilities achieved in this UT over the last five years is recorded below in **Table 1.15**

**TABLE 1.15 : POST AND TELECOM FACILITIES**

	1996	1998	2001	1996-2001 (CAGR %)
Post offices	100	100	101	0
Telegraph offices	28	30	43	9.0
Telephone exchanges	18	21	31	11.5
Public call offices	370	661	1731	36.0
Telephone connections	23188	36552	92730	32.0



- 1.31 The communication infrastructure available region wise in Pondicherry UT as of March 2001 is shown in **Table 1.16**

**TABLE 1.16 : COMMUNICATION INFRASTRUCTURE**

	Pondicherry	Karaikal	Mahe	Yanam	<b>Pondicherry UT</b>
Post Offices	68	28	4	1	<b>101</b>
Telegraph Offices	21	17	4	1	<b>43</b>
Telephone Exchanges	20	9	1	1	<b>31</b>
Public call offices	1240	387	68	36	<b>1731</b>
Telephone Connections	70750	14431	5804	1745	<b>92730</b>

**d) Power**

- 1.32 Although the Union Territory is dependent to a large extent on power supply from the neighbouring states, and power projects like Neyveli Lignite Corporation which are in the central sector, on power purchase basis, it has made considerable progress in electrification in all its four regions. It has in operation from January 2000, a 32.5 MW gas based power plant at T.R Pattinam in Karaikal.
- 1.33 There are also plans to augment the Karaikal power plant capacity by additional 100 MW, and establish a 500 or 1000 MW coal based power project in Karaikal, for both of which feasibility reports have been prepared.
- 1.34 Details of progress made so far in electrification in this Union Territory are presented in **Tables 1.17 and 1.18.**





**TABLE 1.17 : PROGRESS IN ELECTRIFICATION**

Item	Unit	1996	1998	2001	1996-2001 (CAGR%)
1. H.T. Lines	Km	864.24	916.95	989.16	2.7
2. L.T. Lines	Km	3225.93	3356.00	3561.91	2.0
3. Towns electrified	Nos.	11	11	11	-
4. Villages and hamlets electrified	Nos.	264	263	263	-
5. Domestic connections		131319	148412	143169	1.8
➤ Light, fan and small power	Nos.	105839	120441	143169	6.3
➤ Hut services	Nos.	25480	27971	NA	-
6. Commercial connections	Nos.	22661	24689	27988	4.3
7. Agricultural connections	Nos.	9972	10158	10318	Neg
8. Industrial connections	Nos.	4024	4395	4848	3.8
➤ H.T. Lines	Nos.	186	221	286	9.0
➤ L.T. Lines	Nos.	3838	4175	4562	3.5
9. Street lights	Nos.	29229	31057	34179	3.2
10. Maximum demand	KW	191911	191310	267494	6.9
11. Gap in power supply		Nil	Nil	Nil	

**TABLE 1.18 : ELECTRICITY PURCHASED AND SOLD**

Item	Unit	1996	1998	2001	1996-2001 (CAGR%)
Electricity purchased	Lac KWH	9818.65	10879.93	16085.13	10.4
Electricity sold	”	8396.9	9378.90	14024.60	10.8



**e) Port**

- 1.35 Although all the four regions of this UT are coast based, at present only Pondicherry region has a sea port. Pondicherry Port is classified as a Minor Port. It has a two part anchorage port, viz. an old port and new port. The old port is an alongside port having a 286 meter long jetty for berthing of vessels. The new port located on the backwaters of Ariyankuppam river has a 150 meter long quay to berth vessels for loading / unloading operations.
- 1.36 The old port which was dormant for some years has been reactivated with the creation of a liquid cargo handling capacity. This facility has created considerable employment opportunity to the locals, besides providing revenue to the Pondicherry Government. After some interruption in its activities, the port operations have resumed on a steady course from April 2001. After necessary dredging operations at the mouth of the port channel, it has been made navigable for both fishing crafts and cargo vessels. The dredged soil is also being used for nourishing the beach as well as to prevent shore erosion from the sea. Although considered as a maritime state, the port operations in Pondicherry are on a modest scale only.

**SEA BORNE TRADE**

- 1.37 The volume and value of sea borne trade through the Union Territory is quite small. Although Pondicherry has a sea port, there were virtually no exports from this port during 1990 – 1999. however the volume of cargo exported during the two years ending March 2000 and 2001 were respectively at 75500 tonnes and 92450 tonnes.
- 1.38 There are regular imports of food articles and other products, the import value having risen from Rs. 30 lakhs in 1991 to Rs.1788 lakhs in 1999 – 2000.
- 1.39 To facilitate shipment of cargo in container loads, an inland container depot has been set up in the port premises by the Container Corporation of India. This depot will also generate further employment and revenue.

## SOCIAL INFRASTRUCTURE

### a) Education

- 1.40 At Peria Kalapet area on the East Coast Road, connecting Chennai to Pondicherry, the Pondicherry Central University is located. The University offers a number of courses for study, both for classroom teaching and for distance education students. It has link up with the Chennai based Loyola College for offering classroom training at the College for the University's distance education students from Chennai.
- 1.41 **Table 1.19** are given details about the progress in the number of general and professional / technical / special category educational institutions, the total number of students and the total number of teachers in these institutions operating in the Union Territory of Pondicherry.

**TABLE 1.19 : PROGRESS IN ACADEMIC EDUCATION**

Particular	No. of institutions		No. of students		No. of teachers	
	1995-96	2000-01	1995-96	2000-01	1995-96	2000-01
General education (Pre-primary school to university level)	779	864	228254	237411	7977	8568
Professional, technical and special education	21	37	5683	18022	570	1651
Total	800	901	233937	255433	8547	10219

- 1.42 *The Consultants are of the view that the steady and considerable increases in the population of both students and teachers from professional / technical / special educational institutions, as well as increases in their numbers from the general educational institutions, resulting in steadily rising population of better educated persons, would create demand for more modern and diversified forms of entertainment and avenues for development of hobbies among*



*these sections of population. Creation of assets such as amusement parks, nimal parks, planetarium, sports stadia, water sports systems and the like could meet the anticipated entertainment and hobby requirements of this educated population in the coming years. This will also indirectly help in bringing in more tourists and increasing the number of days stay of tourists in Pondicherry.*

#### **b) Public Health**

- 1.43 Key statistics on the health care institutions functioning in the Union Territory are presented in **Table 1.20**.

**TABLE 1.20 : NUMBER OF MEDICAL INSTITUTIONS AND BEDS**

Item	1995-96	2000-01
<u>Institutions</u>		
1. Hospitals (Urban)	8	8
2. Chest Clinic (Urban)	3	3
3. Community Health Centres	4	4
4. Primary Health Centres	39	39
5. Sub Centres	80	75
- Urban	20	23
- Rural	60	52
6. E.S.I. Dispensaries	12	12
- Urban	8	10
- Rural	4	2
<u>Beds in</u>		
7. Hospital (incl. Chest Clinic)	1777	1759
8. Primary Health Centres	126	192
9. Sub Centres	180	75
10. Community Health Centres	4	120

**Note:** Medical institutions run by Central Government and private sector are not included.



## **MAJOR ECONOMIC ACTIVITIES**

- 1.44 Agriculture and fisheries constitute two major occupations in all the four regions of the Union Territory. The importance of agriculture is more pronounced in Pondicherry and Karaikal.
- 1.45 Industrial development and industrial employment is more pronounced in Pondicherry and Karaikal regions than in the other two regions.

## **AGRICULTURE**

- 1.46 Between the periods 1995 – 96 and 2000-01, in the Union Territory as a whole, there has been a progressive decline in agricultural operations. The land areas classified as ‘not available for cultivation’, ‘other uncultivated land’, and ‘fallow land’ registered increases during the period, in the process making less land available for cultivation. Thus, as against 26041 hectares of net area sown in 1995 – 96 in the Union Territory, only 24330 hectares were available for sowing operations in 2000-2001. The total cropped area declined from 44474 in 1995 – 96 to 43277 hectares in 2000-01.

## **IRRIGATION**

- 1.47 Canals and tube wells have continued to be major sources of irrigation during 1996 - 2001. Due to fall in water availability the net area irrigated fell from 22480 hectares in the former to 21390 hectares in the latter.
- 1.48 Food crops continued to have the maximum area under irrigation during this period. The gross irrigated area for both food crops and non-food crops decreased from 35180 hectares in 1996 to 34146 hectares in 2001.

## **FISHERIES**

- 1.49 As all four regions in Pondicherry UT are coast based and also have considerable stretches of rivers and / or back waters, fishing is one of the major occupations in the state. The figures in **Table 1.21** portray the trends in fish production in the Union Territory. During the five year period 1996 – 2001 there were only small increases in the total production of marine and inland fish varieties in the Union Territory.

**TABLE 1.21 : FISH PRODUCTION IN THE UT**

Year	Quantity (In tonnes)		Value (in Rs. Lakhs)	
	Marine	Inland	Marine	Inland
1995 – 96	36820	4002	NA	NA
1997 – 98	38420	4104	7684	632
1998 – 99	38595	4108	7673	637
1999 – 00	38620	4210	4532	NA
2000 -- 01	38950	4350	7673	681

## INDUSTRY

- 1.50 On the industrial front, the Union Territory has made steady progress in recent years. Some key aspects of industrial activity in the UT are provided in **Table 1.22**. It is seen that the total investment on industries increased from Rs. 959.04 crores in 1997 – 98 to Rs. 1429.51crores in 2000-2001, registering an increase of about 49 percent during this three year period. Total industrial employment increased by about 15 percent in the same period.
- 1.51 The products manufactured by the industrial units in the Union Territory include, among others, food products, edible oils, cotton textiles and textile products, wooden and steel furniture and fixtures, paper and paper products, leather and leather products, chemicals and chemical items, non metallic mineral products, various types of electrical and other machinery, transport equipment and parts and so on.
- 1.52 Rice and wheat milling, publication of books and periodicals, manufacture of household consumer products, glass products, servicing of automobiles, electrical, electronic and communication equipment, etc. also form important segments of industrial activity in the Union Territory.
- 1.53 However, due to the implementation of uniform commercial tax policy on an all India basis from 2001, and withdrawal / reduction in select incentives offered by the UT Government for promotion of industries, there are signs of slack in industrial investment in the Union Territory. There are also apprehensions that in the coming years, the Union Territory may not continue to be the place of choice or sought after place as in earlier years for industrial investors from other states in the country.

**TABLE 1.22 : PRODUCTION AND EMPLOYMENT IN INDUSTRIES**

Items	1995-96	1997-98	2000-01	1995-96 to 2000-01 (CAGR%)
Number of units	5502	5846	6606	3.7
➤ Large & Medium	102	120	168	10.6
➤ Small scale	5400	5726	6438	3.5
Total employment	62459	67072	77341	4.4
Total investment (Rs. Lakhs)	81151	95904	142951	12.0
Total Production (Rs. Lakhs)	197717	327917	767091	31.2

## EMPLOYMENT

- 1.54 As on 31.3.2001, there were a total of 38 Central Government organisations / Departments functioning in the four regions of the Union Territory. A total of 5494 persons were employed in all these organisations. The major organisations and the number employed in them were JIPMER (2510), Pondicherry University (682), Post and Telecom Department (1013), Vector Control Research Centre (216), CPWD (174), Jawahar Navodayas and Kendriya Vidyalayas (183), and Customs & Central Excise (13).
- 1.55 According to the NSS data on employment in India, the pattern of employment in principal occupations in the Union Territory of Pondicherry is as shown in **Table 1.23**.
- 1.56 *The high growth rates observed in manufacturing as also in sectors like trade, hotel and restaurant, transport, and construction sectors could be read as reflecting somewhat partially the more than satisfactory trends in tertiary sector activities which includes tourism.*



**TABLE 1.23 : NO. OF USUALLY WORKING PERSONS IN THE  
PRINCIPAL STATUS**

Industry Division	1993-94	1999-2000	Percentage Growth (1994-2000)
Agriculture	99177	94910	-4.3
Mining & Quarrying	—	—	—
Manufacturing	53508	95202	77.9
Electricity	4450	4172	-6.2
Construction	24782	38245	54.3
Trade, Hotel &	34621	70304	103.1
Transport, etc.	9081	14181	56.2
Finance, International business, etc.	6409	7137	11.4
Public administration, Education, Commercial service, etc.	62480	43290	-30.7

### COMMERCIAL BANKS

- 1.57 As on 31.12.2001 there was a total of 84 commercial bank branches operating in the Union Territory, having increased from 69 in 1990 and 72 in 1995. The total deposit amount with these branches as on that date was about Rs.1783 crores.

### NET DOMESTIC PRODUCT

- 1.58 Details of sector wise Net Domestic Product and Per capita Income in the Union Territory are given in **Table 1.24** below:



**TABLE 1.24 : ESTIMATES OF STATE INCOME AND PER CAPITA INCOME  
(AT CURRENT PRICES & CONSTANT PRICES)**

(Value in Rs. Lakhs)

Items	At Current Prices			At Constant Prices		
	1995-96	1997-98	2000-01	1995-96	1997-98	2000-01
Primary Sub Total	17626	15823	21583	14713	12267	15753
Manufacturing Sub Total	20478	107274	135358	17035	82126	107408
Secondary Sub Total	25796	114396	144953	20122	85140	110306
Tertiary Sub Total	63944	104731	161134	51767	61466	75691
Estimated Population (In '00) (as on 1 <sup>st</sup> October)	8800	9136	9663	8800	9136	9663
<b>Per capita Income (in Rs.)</b>	<b>12201</b>	<b>25717</b>	<b>33910</b>	<b>9841</b>	<b>17390</b>	<b>20877</b>

1.59 *Table 1.25 presents a comparative picture of per capita income (at constant prices) in the four southern states and UT of Pondicherry. It is seen from the figures that during the five-year reference period, the UT of Pondicherry had a much higher level of per capita income than the neighbouring southern states. Its per capita income is almost twice that of AP and Kerala and about 61 % more than that of Tamil Nadu.*

**TABLE 1.25 : PER CAPITA INCOME IN SOUTHERN STATES AND  
PONDICHERRY UT**

(Rs. at constant prices)

Year	<b>Pondicherry UT</b>	Andhra Pradesh	Karnataka	Kerala	Tamil Nadu
1996-97	<b>13468</b>	8531	9919	8987	11320
1997-98	<b>17390</b>	8214	10200	9068	11897
1998-99	<b>19300</b>	9018	11153	9446	12287
1999-00	<b>19895</b>	9318	11139*	10107	12504
2000-01	<b>20879</b>	9697	N.A	10712	12954

\* Provisional estimates



## **A COMPOSITE STATE PROFILE**

- 1.60 Key aspects of the geographic, demographic, economic, social and infrastructure situation obtaining in the Union Territory of Pondicherry are presented in **Exhibit 1.2**. The figures therein provide a regionwise picture in the Union Territory on the one hand, and the Union Territory's overall position in various aspects of the socio economic spectrum on the other hand.

## **TOURISM SCENARIO IN PONDICHERRY UNION TERRITORY**

- 1.61 Among the four regions constituting the Union Territory of Pondicherry, only the larger two regions namely Pondicherry and Karaikal receive regularly both foreign and domestic tourists. Tourist traffic in the other two regions, viz. Mahe and Yanam, is understandably quite small. Although no records or reliable estimates of tourist inflow into these two regions are available, due mainly to absence of any data collection by official or tourism related private agencies, it is learnt that the number of foreign tourists visiting Mahe and Yanam would be around 20 – 30 per year. Here again these tourists are more often those visiting and staying as guests of the India born French nationals settled in Mahe or Yanam.
- 1.62 As for the domestic tourists to these two centres, they are believed to be predominantly commercial travellers, with the balance being made up of a mix of various other groups including various government officials. The number of leisure tourists or tourists visiting Mahe or Yanam for sight seeing is very few.

## **TRENDS IN TOURIST TRAFFIC**

- 1.63 **Exhibits 1.3, 2.1 and 3.1** show the trends in year-wise inflow of domestic and foreign tourists into Pondicherry and Karaikal, the number of bed-nights spent by the tourist at each centre, and the aggregate picture of tourist traffic in the UT of Pondicherry, all during the period 1992-2001. Analysis of the Exhibit data provides the following key inferences.
1. Both Pondicherry and Karaikal have experienced a sizeable increase in tourist traffic, both domestic and foreign, during the period 1992 – 2001.
  2. The tourist inflow into Pondicherry registered sharp increases, from 1996 onwards in the case of domestic tourists, and from 1997 in the case



of foreign tourists. On the other hand, in Karaikal whereas the domestic tourists increased handsomely after 1998, the inflow of foreign tourists alternated between high increases and sharp drops from 1999 onwards.

3. For the entire decade, the annual average compound growth in the tourist arrival in Pondicherry works out to 4.9% for domestic tourists and 8.2% for foreign tourists.
4. The foreign tourist tended to stay for slightly over four days in Pondicherry during the period 1992 - 98. Thereafter there has been a sharp fall in the stay period to an average of 1.52 days.
5. For the foreign tourists the stay duration in Karaikal has been brief at about 1 to 1.15 days, but quite consistent over the decade under reference.
6. For the domestic tourists, average stay at both the places was around 1.0 to 1.5 days only.
7. Ratios derived from three year averages (1999-2001) of tourists to the four regions, assuming that the number of tourists to Mahe and Yanam as same for all three years, and the aggregate for UT as a whole, show that Pondicherry and Karaikal have shares of about 76% and 20 % respectively in the total tourist inflow into Pondicherry UT.

#### **PLACES OF TOURIST INTEREST**

- 1.64 For a sizeable section of the foreign and domestic tourists, the Aurobindo Ashram, French heritage buildings and the beach in Pondicherry, and Auroville center in Tamil Nadu, are the major places of attraction. Repeat visits by some of them, once in 3 – 4 years or so are not uncommon. Other places like the different museums, temples, botanical garden, Pondicherry town itself with its French linkages, lifestyles and lingering customs also draw tourists to Pondicherry.
- 1.65 An increasing number of educational institutions offering technology, medical and other professional education courses, and newer hospitals providing better health care and treatment facilities, have also been contributing to the increasing tourist traffic to this place in recent years. But these are almost wholly domestic tourists.



- 1.66 Karaikal has practically no place of historic or heritage attraction for the foreign tourists. It is a blend of curiosity and the willingness to seek out the tourist attraction that brings a couple of hundred foreigners to this town. Domestic tourists comprise a mix of business travellers, pilgrims and the like.

### **CONDUCTED TOURS**

- 1.67 As part of its tourism promotion drive, The Pondicherry Tourism & Transport Development Corporation organizes a number of conducted tours for the tourists staying at Pondicherry as well as tourists from other centers like Bangalore, Chennai, etc in southern region. Invitingly titled as '**Pondy Packages**', such tours include :

- One-day sight seeing trips of major tourists attractions within Pondicherry and Pondy-Karaikal-Pondy,
- Two -day tours of Bangalore-Pondy-Bangalore, Chennai-Pondy-Chennai, Pondy-Karaikal-Pondy, Bangalore-Pondy-Karaikal-Bangalore, and Chennai-Pondy-Karaikal-Chennai,
- Navagraha tours covering temples of nine planets located at various places within about 10 to 90 Kms distance from Karaikal.
- A seven day package tour covering various tourist centers in South India.

- 1.68 Besides these conducted tours, the PT & TDC also organizes adventure tourism activities like Sea Cruise, Deep Sea Fishing, Arikamedu Cruise, Bi-cycle Tours, Heritage walks, and Yoga session in Pondicherry, as well as trekking and bi-cycle journeys within Pondicherry and Karaikal covering important landmarks respectively in these two towns.

- 1.69 As per available information, these conducted tours and adventure tourism activities are quite popular and well patronized by the tourists as also the local population from nearby centers of Pondicherry. It is quite likely that in the coming years, in tune with the trends in tourists arrival and market requirement, the PT & TDC will introduce innovations in the existing tour programmes and also make additions to them.



- 1.70 *In this connection, the consultants are of the view that the two day conducted tours, especially the Bangalore-Pondy-Karaikal-Bangalore and Chennai-Pondy-Karaikal-Chennai tours, could be clubbed with the Navagraha tours to make them three-day or four-day tours involving overnight / a day's stay at Karaikal. Similarly package tours could be organized for bringing tourists to Velankanni during the three-day annual Velankanni Church Festival from major centers like Bangalore, Kerala, Chennai and taking them back to their respective destination, with provision for a day's halt at Karaikal or Pondicherry. Such package tours involving the Karaikal / Pondicherry stay would mean additional income for the lodges / restaurants at Karaikal / Pondicherry, and may be for the traders too when the tourists make some purchases in these trade outlets.*

#### **GOVERNMENT'S PLAN FOR TOURISM DEVELOPMENT**

- 1.71 With encouragement and part financial assistance from the Central Government, the Government of the Union Territory has also been planning for and / or putting through a few projects for attracting more tourists. Such projects include the creation of new tourism assets as well as improvement to the existing places of tourist interest by way of beautification, facility augmentation and so on.
- 1.72 As per the Draft 10<sup>th</sup> Five Year Plan for 2002 – 07 and the Annual Plan for 2002 – 03 of the Pondicherry Union Territory Government, the outlays proposed for tourism development in the Union Territory of Pondicherry are as follows:

Period	Rs. Lakhs
10 <sup>th</sup> Five Year Plan (2002 – 07)	7000
Annual Plan (2002 – 03)	1088

- 1.73 A detailed picture of the various activities taken up during 2001 – 02 and those proposed to be undertaken during 2002 – 03 and 2002 - 07, along with the budgeted outlays on these activities, is presented below:



**TABLE 1.26 : PLAN OUTLAY FOR TOURISM DEVELOPMENT IN  
PONDICHERRY UNION TERRITORY**

**(Amount in Rs. Lakhs)**

Name of the Scheme	2001 – 2002		2002 – 2003		2002 – 2007	
	Appr. outlay	Revised outlay	Prop. outlay	Of which Capital content	Prop. outlay	Of which Capital content
Creation and maintenance of Tourism Products	61.82	54.50	125.00	—	800.00	—
Construction and maintenance of Tourist Home, Guest Houses and Yatrinivas	138.54	140.00	78.14	—	750.00	—
Share capital contribution to PT & TDC	200.00	200.00	200.00	200.00	600.00	600.00
Joint Venture	—	—	200.00	200.00	1000.00	1000.00
Strengthening of Directorate	5.14	6.00	25.00	—	210.00	—
Tourism promotional activities	90.00	95.00	250.00	—	2350.00	—
Grant in aid to Pondicherry Institute of Hotel Management & Regional Tourism Councils	121.50	350.00	150.00	—	740.00	—
Grant of incentives to Tourism Industries	1.00	1.00	5.00	—	100.00	—
Creation and maintenance of Tourism infrastructure	—	—	50.00	—	250.00	—
Preservation of Heritage	—	—	5.00	—	200.00	—
<b>Total</b>	<b>618.00</b>	<b>846.50</b>	<b>1088.14</b>	<b>400.00</b>	<b>7000.00</b>	<b>1600.00</b>

1.74 Details on the Tourism Department's envisaged programme for implementation of tourism projects on a regionwise basis during the periods 2002 – 07 and 2002 – 03 are presented in **Exhibit 1.4**.



## LIKELY FUTURE TOURIST TRAFFIC

- 1.75 Using factors like the past growth in tourist inflow into the Union Territory areas, likely increases due to various positive and attractive tourism promotional measures of the Government, as well as other interactive influences, we have estimated the likely increase in the inflow of tourists to the Union Territory regions. Separate estimates have been made for each of the four regions of this UT, and have been added together to arrive at the aggregate estimates.
- 1.76 We have estimated the likely future inflow of tourists into Pondicherry and Karaikal, as well as Mahe and Yanam regions, under three different scenarios. Past trends in tourist inflow into Pondicherry and Karaikal, interviews with select foreign and domestic tourists to these two centres, and our own judgement have formed the basis of our projections. These projections are made for two broad time periods viz. 2001 to 2011 and 2011 to 2021. These are **Scenario A** (Conservative), **Scenario B** (Probable) and **Scenario C** (Optimistic). Corresponding to these three scenarios, different growth rates are assumed for the periods 2001 to 2011 and 2011 to 2021. The growth rates assumed under the three scenarios for the reference periods are as given in **Table 1.27**.
- 1.77 Projected tourist inflow in Scenario A may be taken as the likely situation even when there are no major additions or improvements to the places of tourist importance or tourist attractions as they are available at present in Pondicherry and Karaikal. Scenario C represents a situation when improvements to the existing tourist assets, as well as additions to available tourist attractions would have taken place or being put in place as per plan schemes. Scenario B represents an in-between position when some additions and improvements might have been effected.
- 1.78 Depending on the various factors governing tourist inflow into the country and then to the various centres in the country, there could be some variations in the actual foreign tourist inflow compared to our estimates. However in the case of domestic tourists it is felt that once the required tourist attractions are in place, there should be a definite gathering of momentum in the traffic flow into these places. Our projections of likely future tourist traffic in this Union Territory are presented in **Exhibits 1.5 and 1.6**.



**TABLE 1.27 : ASSUMED GROWTH RATES FOR PROJECTIONS  
OF TOURIST INFLOW**

**(in percentages)**

Period	Domestic				Foreign			
	Pondy	Karaikal	Mahe	Yanam	Pondy	Karaikal	Mahe	Yanam
	Conservative							
2001-11	6	6	2	3	8	8	-	-
2011-21	8	8	2	3	8	8	-	-
	Probable							
2001-11	8	8	2	3	8	8	-	-
2011-21	10	10	2	3	8	8	-	-
	Optimistic							
2001-11	10	10	2	4	10	10	-	-
2011-21	10	10	2	4	10	10	-	-

### **POPULATION, TOURIST INFLOW AND A COMPARISON**

1.79 Our projections of likely population in the four regions of Pondicherry UT and Karaikal and estimates of likely inflow of tourists into each of these four regions, all for the period 2001 to 2021, when seen in juxtaposition show the following:



**TABLE 1.28 : A COMPARATIVE PICTURE**

Scenario	Pondicherry		Karaikal		Mahe		Yanam	
	Popu- lation	Tourist inflow	Popu- lation	Toursist inflow	Popu- lation	Tourist inflow	Popu- lation	Tourist inflow
<b>2001</b>	<b>735004</b>	<b>401595</b>	<b>170640</b>	<b>97324</b>	<b>36823</b>	<b>7320</b>	<b>31362</b>	<b>15350</b>
<b>2011</b>	<b>823200</b>	<b>-</b>	<b>194000</b>	<b>-</b>	<b>39000</b>	<b>-</b>	<b>44000</b>	<b>-</b>
Scenario A	-	727300	-	174400	-	8900	-	20650
Scenario B	-	867000	-	210100	-	8900	-	20650
Scenario C	-	1041600	-	252400	-	8900	-	22750
<b>2021</b>	<b>881000</b>	<b>-</b>	<b>215300</b>	<b>-</b>	<b>40300</b>	<b>-</b>	<b>57400</b>	<b>-</b>
Scenario A	-	1570100	-	376500	-	10900	-	27800
Scenario B	-	2228300	-	543700	-	10900	-	27800
Scenario C	-	2701700	-	654800	-	10900	-	33800

### **CARRYING CAPACITY**

- 1.80 The carrying capacity of a region may be examined in terms of its present and likely future population, the present and future availability of essential resources like water, electricity, extent of open spaces and adequate living spaces, the vehicle population and traffic congestion on the roads, atmospheric and water pollution, potential for augmenting resources to sustain a reasonable standard of living and the like.
- 1.81 All the four regions of the Union Territory of Pondicherry are dependent on the neighbouring states like Tamil Nadu, Kerala and Andhra Pradesh for obtaining their requirements of water and power. With very limited potential to increase its own sources of water, its continued dependence on external sources for water is a certainty in future also. The dependence may vary only in terms of degree. There is unlikely to be self reliance on the water front.
- 1.82 Due to its special status as Union Territory, there could be a continuing comfortable arrangement for uninterrupted supply of power from Neyveli Lignite Corporation to Pondicherry and Karaikal regions. With additional power generation expected from gas based and coal based power generation stations in Karaikal, the captive generation facility could increase in post 2006 / 2011 periods. To that extent, power availability in Pondicherry and Karaikal may not pose any serious problem.



- 1.83 But dependence of Mahe and Yanam on power supply from Kerala and Andhra Pradesh will have to continue in future years too.
- 1.84 In terms of vehicle population, traffic congestion, living spaces, environmental conditions, etc., the situation is mixed in the four regions. Whereas Karaikal and Yanam seem to be better off at present, Pondicherry and Mahe do not enjoy the same status. With regular population increase adding to the density of population in these two regions, there will be considerable pressure on availability / supply of water, power, etc., as also deteriorating environmental conditions. Large increases in tourist inflow in these two regions are likely to affect the carrying capacity of the regions in the post 2011 period.
- 1.85 Karaikal to a larger extent and Yanam to a smaller extent are likely to experience pressure on resources situation perhaps after 2011.

#### **HERITAGE BUILDINGS AND TOURISM**

- 1.86 Heritage buildings / structures / institutions are generally major attractions for a majority of foreign tourists and the enlightened domestic tourists. Considerable importance is being given by the Pondicherry Government to the preservation / better upkeep of the heritage buildings and structures in the Union Territory, 95 to 98 percent of which are located in Pondicherry alone.
- 1.87 As per available reports, the Pondicherry Government has made representations to the Central Government to declare Pondicherry Town and treat it as a 'Heritage Town'. Doing so may help to get funding from the UN agencies for taking greater environment protection and better preservation measures in Pondicherry town by the UT Government.
- 1.88 According to survey findings by the Pondicherry office of INTACH (Indian National Trust for Architectural and Cultural Heritage,) an institution devoted to preservation / conservation of heritage buildings, the number of heritage buildings in the Boulevard Area of Pondicherry has decreased to around 1100 in 2001-02 from around 1800 buildings some five years ago. The reason for this large reduction in the number is attributed to the demolition of the old heritage buildings by their owners for construction of newer multi-storeyed commercial / residential buildings. This is reported to have occurred



predominantly in the Indian quarter of the Boulevard Area. Due to rising cost of living and maintenance of buildings, the need for income / money has made the owners of those buildings to convert the existing old buildings with low to nil returns into high income yielding real estate property.

1.89 In this connection it is felt that pressures of rising urbanization and cost of living, combined with greater inflow of tourists, will quite likely influence the owners of the heritage buildings to sell away their properties for consequent commercial / monetary benefits to them. And this phenomenon, prevalent in the Indian quarter at present, may extend to the French quarter too of the boulevard in future years. One possible way to prevent this would be for the Pondicherry Government to consider taking action on the following lines.

- a. Declare the entire French quarter of the boulevard / town area as Heritage Town with very strict enforcement of the rule banning demolition of these buildings.
- b. In situations where the owners of any heritage building wish to dispose off their buildings, the government can acquire these buildings for housing various government offices in them such as offices of tourism department, tourism promotion corporation, Directorate of Art and Culture, museum, Archeological Survey of India and so on. Such acquisition would also be a substitution for construction of new buildings for government offices
- c. Companies in France, especially those in the Information Technology, banking and insurance sectors, to name a few, may be encouraged to establish their India based back offices in these heritage buildings in Pondicherry. The revenue generated from renting of these buildings could go to meet the maintenance expenses, renovation, etc of these buildings.
- d. Some of these buildings could also be given for use as 'Guest Houses' of corporates, various state governments, and other types of institutions.
- e. One more option is to establish 'Heritage hotels' in some of these buildings. A recent case is the conversion of a heritage building on Romain Rolland Street into a niche hotel, where minimal alteration has been made to the façade and the interiors of the building. This new hotel is owned by a French citizen of Indian origin and is reportedly attracting good clientele and business.



### **ESTABLISHING A HERITAGE BUILDINGS FUND**

- 1.90 Considering the importance that Pondicherry Government attaches to the preservation and upkeep of the heritage buildings in Pondicherry, and suggestion to the Central Government to declare Pondicherry as a 'Heritage Town', it would be expected to earmark a meaningful yearly budget for expenditure on these buildings, some of which are in its occupation. But this does not seem to be so. For the 10<sup>th</sup> Five Year Plan Period of 2002-2007, the Government has provided an amount of Rs 200 lakhs for preservation of heritage buildings. The budgeted amount for the year 2002-2003 in this total is a mere Rs. 5 lakhs.
- 1.91 We recommend that the UT Government may establish a 'Heritage Building Fund' with a corpus of Rs 5 to 10 crores. It could also make efforts to obtain matching contribution(s) from the Central Government and / or UNESCO to build up a larger corpus amount of Rs 15-20 crores. This needs to be supplemented by an annual budget outlay of Rs 1-2 crores during the 20-year time frame upto 2021-22.
- 1.92 The interest earned from the corpus fund investment in appropriate channels, and the annual addition of a couple of crores rupees, as decided by the UT Administration, could be used for routine maintenance and capital expenditures on upkeep / preservation of the heritage buildings under the control of UT Government. Needless to say, the services of INTACH and other experts could also be utilised in such preservation work.
- 1.93 Once Pondicherry is declared as 'Heritage Town', the Government may empower itself to acquire the privately owned Heritage Buildings as and when their owners plan to sell or demolish them for construction of modern, storeyed buildings. Alternatively, a mutually satisfactory arrangement may be worked out under which the owner agrees to give the building for appropriate use by the authorities, against suitable monetary compensation to him for doing so. This monetary compensation could be on a lump sum basis or on a long term lease basis or a mutually acceptable combination of both.
- 1.94 The amounts required for such take over / purchase of Heritage Buildings and / or leasing them by the Government could be from the corpus fund. This fund would have to be periodically replenished by the Government and other agencies involved by fresh contributions so as to keep the corpus fund at around the same level.



- 1.95 We have only outlined the broad contours of the 'Heritage Buildings Fund' concept. The various operational details of establishing and administering the fund would have to be planned appropriately by the authorities concerned.

#### **A THOUGHT ON POLICY PRAGMATISM**

- 1.96 Due to limited avenues available to it for achieving further increases in employment and gainful activities, sustained economic growth and social progress for its people in the longer term, in recent times Pondicherry Government has been concentrating on tourism promotion as an enabling route to achieve its objectives.
- 1.97 Government policies designed to increase income and employment generation in the region's / state's economy, by tourism promotion and other measures, should also have the objective of improving the standard of living of the local population. Improvement in the standard of living should be both from quantitative and qualitative aspects. Without qualitative aspects such as relatively easy availability of various essentials for living, clean and hygienic environment, conservation of nature and bio-diversity, good health, access to better education and healthcare, etc, for its citizens, mere additions to levels of employment and income would not contribute to rise in the 'Quality Index of Life' in a region / state. The tourism promotion policy and measures aiming at larger inflow of tourists into Pondicherry Union Territory in future years also need to factor in the concepts of '**Quality Index of Life**' for the citizens of this Union Territory and, importantly, '**Satisfaction Index of Stay**' for the visiting tourists.



# **EXHIBIT 1.1**

## **PROJECTIONS OF LIKELY FUTURE POPULATION IN PONDICHERY UT**

Year (1)	Pondicherry Region (2)	Karaikal Region (3)	Mahe region (4)	Yanam Region (5)	Pondicherry UT (6)
2001	735004	170640	36823	31362	973829
2006	777900	182000	37900	37200	1035000
2011	823200	194000	39000	44000	1100200
2016	851600	204400	39600	50200	1145800
2021	881000	215300	40300	57400	1194000

Notes: Figures have been rounded to nearest hundreds

: Figures in Col. (6) are the aggregate of figures in Cols. (2) to (5)

### **Growth rate assumptions (in percentages)**

2001-11	1.14	1.29	0.57	3.45	1.228
2011-21	0.68	1.05	0.33	2.68	0.82



# EXHIBIT 1.2

## UNION TERRITORY OF PONDICHERRY – A COMPOSITE STATE PROFILE

Particulars	Four Regions of Pondicherry Union Territory				Pondicherry UT (2000-01)
	Pondy	Karaikal	Mahe	Yanam	
Coastal length (km)	24	20	1	-	<b>45</b>
Continental shelf (sq. km.)	360	300	15	-	<b>675</b>
Normal Rainfall (in mm)	1338	1382	3387	1227	<b>--</b>
Area (in sq. km.)	290	161	9	20	<b>480</b>
No. of towns	5	1	4	1	<b>11</b>
Municipalities	1	1	1	1	<b>4</b>
Communes	5	5	-	-	<b>10</b>
No. of revenue villages					<b>129</b>
No. of inhabited villages	164	100	-	-	<b>264</b>
No. of houses (1991 Census)	110560	28230	4752	4119	<b>147661</b>
No. of households (1991 Census)	122706	30348	4873	4521	<b>162448</b>
Total population (2001 Census)	735004	170640	36823	31362	<b>973829</b>
Density of population (Persons per sq. km.)	2534	1060	4091	1568	<b>2029</b>
Decadal growth in population (2001 over 1991) (in %)	20.82	17.11	10.09	54.52	<b>20.56</b>
CAGR % (2001 / 1991)	1.91	1.59	0.97	4.45	<b>1.89</b>
Literacy level (in percentage)	80.9	82.24	95.78	74.18	<b>81.49</b>
• Males	86.72	89.69	97.54	79.11	<b>88.89</b>
• Females	73.04	74.99	94.23	69.07	<b>74.13</b>
Sex ratio . (females per 1000 males)	990	1023	1148	975	<b>1001</b>
<b>Agriculture land use (in ha)</b>					
• Geographical area	29377	16199	870	2396	<b>48842</b>
• Net area sown	14621	8379	636	694	<b>24330</b>
• Total cropped area	26399	14973	637	1268	<b>43277</b>
• Fallow land & land not available for agriculture	12650	5607	219	1109	<b>19585</b>
<b>Major Crop Area (in ha)</b>					
• Rice	16647	8795	5	690	<b>26137</b>
• All Foodgrains	17336	14188	5	865	<b>32394</b>
• Sugarcane	2437	27	-	-	<b>2464</b>
• Groundnut	1142	33	-	-	<b>1175</b>
• All food crops	22183	14355	148	778	<b>37564</b>
• All non-food crops	5358	651	489	390	<b>6888</b>

Particulars	Four Regions of Pondicherry Union Territory				Pondicherry UT 2000-01
	Pondy	Karaikal	Mahe	Yanam	
<b>Irrigated area (in ha)</b>					
• By canals	-	7770	-	363	<b>8133</b>
• By tube wells	13135	61	-	-	<b>13196</b>
• Net irrigated area	13135	7847	45	363	<b>21390</b>
• Gross irrigated area	24338	9025	47	736	<b>34146</b>
<b>Agricultural Production (MT)</b>					
• Rice	41121	17122	11	2758	<b>61012</b>
• Total food grains	42407	20673	11	2848	<b>65939</b>
• Total no-food crops	2402	193	-	1	<b>2596</b>
<b>Fisheries</b>					
• Inland water resources (ha.)	1199	200	-	36	<b>1435</b>
• Brackish water (ha)	136	175	-	500	<b>801</b>
• Marine Fish catch (MT)	18630	13630	3763	2927	<b>38950</b>
• Inland Fish catch (MT)	933	2207	-	1210	<b>4350</b>
• Marine Prawn (MT)	1448	2694	222	176	<b>4540</b>
• Inland Prawn (MT)	6	37	-	-	<b>43</b>
• Marine fish value (in Rs Lakhs)					<b>7673</b>
• Inland fish value (in Rs Lakhs)	6	37	-	-	<b>681</b>
<b>Educational Institutions</b>					
<b>A. General Education</b>					
• Central University	1	-	-	-	<b>1</b>
• Arts, Science & Commerce Colleges	4	2	1	1	<b>8</b>
• Higher Secondary Schools	49	12	4	1	<b>66</b>
• Secondary Schools	92	23	4	9	<b>128</b>
• Middle Schools	78	26	4	2	<b>110</b>
• Primary Schools	225	85	16	11	<b>337</b>
• Pre-primary Schools	175	37	7	4	<b>223</b>
• <b>Total</b>	<b>624</b>	<b>185</b>	<b>36</b>	<b>28</b>	<b>873</b>
<b>B. Professional Education</b>					
• Medical Colleges	2	1	-	-	<b>3</b>
• Engg & Tech. College	3	1	-	1	<b>4</b>
• Law College	1	-	-	-	<b>1</b>
• Agriculture College	-	1	-	-	<b>1</b>
• Veterinary College	1	-	-	-	<b>1</b>
• Teacher Training College	3	-	1	-	<b>4</b>



Particulars	Four Regions of Pondicherry Union Territory				Pondicherry UT (2000-01)
	Pondy	Karaikal	Mahe	Yanam	
<ul style="list-style-type: none"> <li>Teacher Training Institutes</li> <li>Polytechnics</li> <li>Music &amp; Fine Arts</li> <li>School of Nursing</li> <li>Catering Institute</li> <li>Special School</li> <li>Craft School</li> <li><b>Total</b></li> </ul>	2 2 1 1 1 5 1 <b>23</b>	1 1 - - - - - <b>5</b>	- 1 - - - - - <b>2</b>	- 1 - - - - - <b>2</b>	3 5 1 1 1 5 1 <b>31</b>
<b>C. Students &amp; Teachers</b>					
<ul style="list-style-type: none"> <li>No of school students (pre-primary to junior college)</li> <li>No of college students (arts &amp; science, professional colleges technical &amp; other professional courses)</li> <li>Total Number of students</li> <li>Total Number of Teachers (for school / college &amp; other professional course teaching)</li> </ul>	180442 13121 193563 7494	38031 3588 41619 1881	11066 786 11852 527	7872 527 8399 317	237411 18022 255433 10219
<b>Healthcare Facilities</b>					
<ul style="list-style-type: none"> <li>Hospitals &amp; Beds (Including Chest Clinic)</li> <li>CHCs &amp; Beds</li> <li>PHCs &amp; Beds</li> <li>Sub Centres &amp; Beds</li> <li>ESI Dispensaries (Nos)</li> <li>Bed to population ratio (2001)</li> <li>Doctor to population ratio (2001)</li> </ul>	6 / 1241 2 / 60 27/104 51/51 9 1:505 -	2 / 326 1/30 11/79 17/17 1 1:377 -	2 / 142 1/30 1/9 3/3 1 1:200 -	1 / 50 - - 1 / 4 1 1:580 -	<b>11 / 1759</b> <b>4 120</b> <b>39/192</b> <b>75/75</b> <b>12</b> <b>1:454</b> <b>1:2000</b>
<b>Roads &amp; Transport</b>					
<ul style="list-style-type: none"> <li>Total road length (kms.)</li> <li>Road length per lakh persons (km.)</li> <li>Road length per 100 sq. km.</li> </ul>	1718 233.74 592.41	647 379.16 401.86	98 266.14 1088.9	59 188.12 295	<b>2522</b> <b>258.98</b> <b>525.42</b>



• Registered motor vehicles per lakh of population	28265	19413	19664	9786	<b>25793</b>
<b>Communication</b>					
• Telegraph offices	21	17	4	1	<b>43</b>
• Post offices	68	28	4	1	<b>101</b>
• Telephone exchange	20	9	1	1	<b>31</b>
• Public call offices	1240	387	68	36	<b>1731</b>
• No. of phones	70750	14431	5804	1745	<b>92730</b>
• Telephones per lakh of population (Nos.)	9626	8457	15762	5564	<b>9522</b>
• Post office per lakh of population (Nos.)	9	16	11	3	<b>10</b>
<b>Industries</b>					
• Large & Medium scale					<b>168</b>
• Small scale					<b>6438</b>
• Total investment(Rs.Cr)					<b>1429.51</b>
• Total production (Rs. Cr)					<b>7670.91</b>
• No. of Workers					<b>77204</b>
<b>Power</b>					
• Electricity purchased (Lakh KWH)	11856	3401	237	591	<b>16085</b>
• Electricity consumption (Lakh KWH)	10370	3015	194	446	<b>14025</b>
<b>Financial institutions</b>					
• Bank Branches	60	17	5	2	<b>84</b>
• Total Deposits (Rs Cr)	1358.53	281.5	101.09	21.67	<b>1762.79</b>
• Per captia deposit (Rs)	18483	16497	27453	6910	<b>18102</b>
<b>Gross Domestic Product (Rs. Lakhs)</b>					
• At Current Prices					<b>363365</b>
• At Constant Prices					<b>228864</b>
<b>Net State Domestic Product (Rs. Lakhs)</b>					
• At Current Prices					<b>327670</b>
• At Constant Prices					<b>201751</b>
<b>Per Capita Income (Rs.)</b>					
• At Current Prices					<b>33910</b>
• At Constant Prices					<b>20877</b>
Per capita Plan Expenditure					<b>3292.27</b>



### EXHIBIT 1.3

#### TRENDS IN TOURIST INFLOW INTO UNION TERRITORY OF PONDICHERRY

Year	Pondy	Karaikal	Mahe	Yanam	Total**
1992	256617	65697	N.A	N.A	322314
1993	258515	57840	N.A	N.A	316355
1994	273810	61324	N.A	N.A	335134
1995	282815	64972	N.A	N.A	347787
1996	317750	67238	N.A	N.A	384988
1997	353256	68558	N.A	N.A	421814
1998	358395	67096	N.A	N.A	425491
1999	368878	103534	N.A	N.A	472412
2000	435176	115976	N.A	N.A	551152
2001	401595	97324	7320*	15350*	498919
<b>Growth rates (1992-2001)</b>	<b>5.1</b>	<b>4.5</b>			<b>5.0</b>
<b>(1992-1997)</b>	<b>6.6</b>	<b>0.9</b>			<b>5.5</b>
<b>(1997-2001)</b>	<b>3.3</b>	<b>9.2</b>			<b>4.3</b>

\* Estimates

\* \* Total for Pondicherry and Karaikal



## **EXHIBIT 1.4**

### **PLAN SCHEMES FOR DEVELOPMENT OF TOURISM PROJECTS (2002 – 07 / 2002 – 03)**

#### **PONDICHERRY REGION**

##### **SCHEME – 1**

- a) Beach Beautification Amenities.
- b) Development of Tourism Attraction products such as Oussudu lake, Bahour lake and Aricamedu area.
- c) Development of Water Sports Complex.

##### **SCHEME – 2**

- a) Expansion of Yatrivas.
- b) Expansion of Tourist Home.

##### **SCHEME – 3**

- a) Land acquisition for following:
  - Pondicherry Distilleries Ltd – Recreation Centre
  - Amusement Park
  - Heritage Village
  - Expansion of Chunnambar

##### **SCHEME – 6**

- a) Grant in aid to Pondicherry Institute of Hotel Management & Catering Technology for its operation. Land acquisition and construction of building for the Institute.
- b) Grant in aid to Regional Tourism Council to improve tourism activities in the Central Region.

##### **SCHEME – 8**

- a) Setting up of tourist information centre at Pondicherry, Pondicherry Bus stand and Pondicherry railway station.
- b) Create wayside amenities at Mahabalipuram and Sirkali.



**EXHIBIT 1.4 Contd.**

**SCHEME – 9**

- a) Preservation of Heritage Buildings.
- b) Flood Lighting of Heritage Buildings.
- c) Organizing Heritage Walk.
- d) Awards for Heritage Buildings.
- e) Video film relating information on Heritage activities.

**KARAIKAL REGION**

**SCHEME – 1**

- a) Beach Beautification Amenities.
- b) Development of Water Sports Complex.

**SCHEME – 2**

- a) Construction of Yatrivas at Thirunallar.
- b) Expansion of Tourist Home.

**SCHEME – 8**

- a) Create wayside amenities at Polagam, Karaikal.

**MAHE REGION**

**SCHEME – 1**

- a) Beach Beautification Amenities.
- b) Development of Water Sports Complex.

**SCHEME – 2**

- a) Expansion of Tourist Home.

**SCHEME – 8**

- a) Creation of wayside amenities.



**EXHIBIT 1.4 Contd.**

**YANAM REGION**

**SCHEME – 1**

- a) Beach Beautification Amenities.
- b) Development of Water Sports Complex.
- c) For promoting Eco Tourism in Yanam the following programmes may be implemented:
  - i) Nature parks in one island.
  - ii) Botanical garden in another island by planting trees brought from all over India.
  - iii) Nature camp in one island.
  - iv) Infrastructural facilities like low huts, swimming pool, restaurant in one island.

**SCHEME – 2**

- a) Expansion of Tourist Home.

**SCHEME – 8**

- a) Creation of wayside amenities.



#### **EXHIBIT 1.4 Contd.**

##### **COMMON PROJECTS FOR ALL FOUR REGIONS**

In addition to the above mentioned specific tourism projects for each of the four regions, there are a few other projects which will cover all the four regions. These are proposed to be executed under different schemes such as Scheme 5, Scheme 7, etc. These are as follows:

- a) Purchase of equipment, furniture, etc. for use in tourist homes / guest house, Yatrinivas.
- b) Development of infrastructure facilities in the existing cafeteria and water sports units.
- c) Conducting package tours to various tourist spots and pilgrimage places.
- d) Provision of a/c facilities to all commercial organisations so as to increase the tourist flow.
- e) Computerization of tourism data.
- f) Creation of CD ROMS, tourism information brochure and pamphlets for worldwide circulation.
- g) Erection of signage boards at prominent places of Pondicherry.
- h) Tourist Information based advertisement to be released in Media publications.
- i) Participation in various Travel and Trade Fairs in India and abroad every year.
- j) Celebration of festivals such as French festival, Food festival, Yoga festival, Shopping festival etc.
- k) Grant of incentives to Tourism Industries by means of giving awards for various categories of hotels, such as soft loan, subsidy on interest, subsidy on tax, etc.



# EXHIBIT 1.5

## ESTIMATES OF LIKELY TOURIST INFLOW IN FUTURE

Year	Pondicherry			Karaikal			Grand Total
	Domestic	Foreign	Total	Domesti	Foreign	Total	
<b>2001</b>	<b>379702</b>	<b>21893</b>	<b>401595</b>	<b>97102</b>	<b>222</b>	<b>97324</b>	<b>498919</b>
<b>SCENARIO A – CONSERVATIVE SCENARIO</b>							
2006	508127	32168	540295	129944	326	130271	670600
2011	679988	47265	727254	173895	479	174374	901600
2016	999126	69448	1068574	255509	704	256213	1324800
2021	1468044	102042	1570086	375426	1035	376461	1946500
<b>SCENARIO B – PROBABLE SCENARIO</b>							
<b>2006</b>	<b>557907</b>	<b>32168</b>	<b>590075</b>	<b>142675</b>	<b>326</b>	<b>143001</b>	<b>733100</b>
<b>2011</b>	<b>819748</b>	<b>47265</b>	<b>867013</b>	<b>209636</b>	<b>479</b>	<b>210115</b>	<b>1077100</b>
<b>2016</b>	<b>1320213</b>	<b>69448</b>	<b>1389661</b>	<b>337621</b>	<b>704</b>	<b>338325</b>	<b>1728000</b>
<b>2021</b>	<b>2126216</b>	<b>102042</b>	<b>2228258</b>	<b>543742</b>	<b>1035</b>	<b>544776</b>	<b>2773000</b>
<b>SCENARIO C – OPTIMISTIC SCENARIO</b>							
2006	611514	35259	646773	156384	358	156741	803500
2011	984849	56785	1041634	251858	576	252433	1294100
2016	1586109	91452	1677562	405619	927	406547	2084100
2021	2554445	147285	2701730	653254	1494	654747	3356500

**Notes 1:** Grand total figures have been rounded to the nearest hundreds.

**2:** Base year figures of 2001 are the same for all three scenarios





# **EXHIBIT 1.6**

## **ESTIMATES OF LIKELY TOURIST INFLOW IN FUTURE**

Year	Mahe			Yanam			Grand Total
	Domestic	Foreign	Total	Domestic	Foreign	Total	
<b>2001</b>	<b>7300</b>	<b>20</b>	<b>7320</b>	<b>15330</b>	<b>20</b>	<b>15350</b>	<b>22670</b>
<b>SCENARIO A – CONSERVATIVE SCENARIO</b>							
2006	8060	25	8085	17772	35	17807	25900
2011	8899	30	8929	20602	50	20652	29600
2016	9825	35	9860	23884	60	23944	33800
2021	10847	40	10887	27688	80	27768	38700
<b>SCENARIO B – PROBABLE SCENARIO</b>							
<b>2006</b>	<b>8060</b>	<b>25</b>	<b>8085</b>	<b>17772</b>	<b>35</b>	<b>17807</b>	<b>25900</b>
<b>2011</b>	<b>8899</b>	<b>30</b>	<b>8929</b>	<b>20602</b>	<b>50</b>	<b>20652</b>	<b>29600</b>
<b>2016</b>	<b>9825</b>	<b>35</b>	<b>9860</b>	<b>23884</b>	<b>60</b>	<b>23944</b>	<b>33800</b>
<b>2021</b>	<b>10847</b>	<b>40</b>	<b>10887</b>	<b>27688</b>	<b>80</b>	<b>27768</b>	<b>38700</b>
<b>SCENARIO C – OPTIMISTIC SCENARIO</b>							
2006	8060	25	8085	18651	45	18696	26800
2011	8899	30	8929	22692	60	22752	31700
2016	9825	35	9860	27608	90	27698	37600
2021	10847	40	10887	33590	120	33710	44600

**Notes 1:** Grand total figures have been rounded to the nearest hundreds.

**2:** Base year figures of 2001 are the same for all three scenarios



## CHAPTER II

### PONDICHERRY REGION – A PROFILE

#### LOCATION AND GEOGRAPHY

- 2.1 Pondicherry is the capital of the Union Territory of Pondicherry. It is located on the Coromandel coast of Bay of Bengal, at a distance of 162 km. from Chennai. It is situated between 11° 46' and 12° 30' of north latitude and between 71° 36' and 71° 52' of east longitude. It is bounded on the east by the Bay of Bengal, and on the other three sides by Cuddalore and Villupuram districts of Tamil Nadu.
- 2.2 **Map 2** shows the area map of Pondicherry region while **Map 3** shows the Boulevard Area of Pondicherry Town. Almost all the Heritage buildings in Pondicherry town are located in the Boulevard area.

#### CLIMATE AND TEMPERATURE

- 2.3 Pondicherry experiences high humidity throughout the year. The humidity levels are around 86% during the daytime and about 79% in the night periods.
- 2.4 The mean maximum temperature is around 34o C while the mean minimum temperature is nearabouts24oC. The pooled mean temperature is around 26oC. During peak summer the day temperature goes upto 38o C sometimes. Reference may be made to Table 1.1 showing the temperature conditions in Pondicherry in the last ten years.

#### TOPOGRAPHY

- 2.5 The region presents a more or less flat land, with no forests or hills. The main soil types in this region are red ferrallitic, black clay and coastal alluvial.

#### RAINFALL

- 2.6 The contributions of southwest and northeast monsoons in the region's total annual rainfall are at averages of 28 % and 63 % respectively. Rains between January and May of the year account for the balance. Table below shows the rainfall trend in Pondicherry region.



**TABLE 2.1: SEASON WISE RAINFALL IN PONDICHERRY**

1 Years (June to May)	2 South west monsoon period (June - Sept)	3 North east monsoon period (Oct- Dec)	4 Winter period (Jan- Feb)	5 Hot weather period (Mar- May)	6 Col. 4+5 (%share in rainfall)	7 Total	
						in mm	in inches
1991-92	433 (36)	731 (61)	6	20	(3)	1190	46.9
1992-93	308 (30)	624 (61)	8	77	(9)	1017	40.0
1993-94	416 (25)	1182 (71)	65	7	(4)	1670	65.7
1994-95	297 (21)	881 (63)	43	180	(16)	1401	55.2
1995-96	402 (51)	298 (38)	-	84	(11)	784	30.9
1996-97	734 (36)	1241 (61)	13	28	(3)	2016	79.4
1997-98	556 (25)	1521 (69)	-	135	(6)	2212	87.1
1998-99	423(22)	1485(75)		60	(3)	1968	77.5
1999-00	298(18)	1073(64)	261	52	(18)	1684	66.3
2000-01	327(38)	492(57)	6	40	(5)	865	34.0
<b>Normal rainfall</b>	<b>379(28)</b>	<b>849(63)</b>	<b>46</b>	<b>64</b>	<b>(8)</b>	<b>1338</b>	<b>53.0</b>

**Note:** Normal rainfall is the simple arithmetic average of data for 30 years from 1970 – 71 to 1999 – 2000 (June to May).

## AREA

- 2.7 Pondicherry region covers an area of 290 sq. km. and is the largest among the four regions constituting the Union Territory of Pondicherry. In the UT's total geographical area of 480 sq. km., Pondicherry forms 60.42 percent.

## REVENUE ADMINISTRATION

- 2.8 Pondicherry has a total of five towns, five Commune Panchayats and 164 inhabited villages in the region. Pondicherry, Arianakupam, Ozhukarai, Villianur and Kurumbapet form the five towns.
- 2.9 Pondicherry town is the only Municipality in the region.
- 2.10 The areas of five Commune Panchayats and two Town Panchayats in Pondicherry region and their respective population density in Pondicherry region are as shown below:



**TABLE 2.2 : COMMUNE PANCHAYATS IN PONDICHERRY REGION**

Commune	Approximate area (in sq. km.)	Population 2001 census	Density (persons / sq.km).
Pondicherry	19.54	220,749	11297
Ariankuppam	24.37	54754	2247
Ozhukarai	34.56	217,623	6297
Mannadipet	64.43	61452	954
Villianur	65.98	88812	1346
Bahour	51.82	54389	1050
Nettapakkam	30.20	37225	1233
<b>Regional total</b>	<b>290.0</b>	<b>735,004</b>	<b>2534</b>

- 2.11 The figures in the table reveal that in terms of physical area, Pondicherry Commune is the smallest, while Villianur Commune is the largest. Occupying about 22.75 percent of the region, Villianur Commune is about 3.38 times larger than Pondicherry Commune which accounts for only 6.74 percent of the region's total area.
- 2.12 However, the population density of 11297 persons per sq km in Pondicherry Commune makes it the largest among the Communes, strikingly some 8.40 times larger than Villianur Commune with its population density of only 1346 persons per sq. km.

#### **ACCESS**

- 2.13 Pondicherry has a railhead, which is being used for passenger and goods transportation to and from Pondicherry. Direct broad gauge rail connectivity is available from Chennai via Villupuram. Train links are also available from Bangalore, Tirupathi and Kolkata to facilitate easy access to the tourists from these centres to Pondicherry.
- 2.14 Pondicherry can also be easily reached by road from Chennai and southern districts of Tamil Nadu, and from other southern states.
- 2.15 Pondicherry at present has an air-strip with facilities for landing / take off of small aircrafts, mostly for VIP passengers. Commercial flight operations are not taking place.



## **LAKES, RIVERS AND CANALS**

- 2.16 There are two large lakes – cum – water reservoirs in Pondicherry. These are the Bahour and Oussudu lakes. The former reportedly covers an area of about 400 acres, and the latter around 440 acres. Rainwater flowing into these lakes thru canals as well as direct rainwater precipitation are the major sources of water supply to these lakes.
- 2.17 The For about four to five months in the year, particularly during the summer months, the water storage in these lakes is at quite a low level. For a few weeks during the peak summer period, the lakes even go almost totally dry. Pennaiyar and Sankaraparani are the major rivers in Pondicherry region. Guduvaaiyar, Malatar and Pambayar are the other waterways in the region.
- 2.18 Water from these sources, as well as ground water, is being used for irrigation and domestic water supply in Pondicherry region. At present water supply for the population in the region is reportedly being maintained at an average of 135 litres per capita per day.

## **A. THE DEMOGRAPHIC PROFILE**

### **TOTAL POPULATION**

- 2.19 Figures of total population and population growth in Pondicherry region are shown in **Table 2.3**. It is seen therein that after registering increase in growth rates during 1961 – 91, trend reversal and significant decline in the decadal growth had taken place only during 1991 – 2001.
- 2.20 The population of Pondicherry region increased from 75.31 percent of the Union Territory's total population as per 1991 Census to 75.47 percent in the 2001 Census.

**TABLE 2.3 : TOTAL POPULATION AND POPULATION GROWTH**

Census year	Total population	Growth in population (%)	
		Decennial growth	Compound annual
1961	258,561	—	—
1971	340,240	31.59	2.8
1981	444,417	30.62	2.7
1991	608,338	36.88	3.2
2001	735,004	20.82	1.9

### **SEX RATIO**

- 2.21 The number of females per 1000 male population, known as the sex ratio, was at 90 in Pondicherry as per the 2001 Census. In this aspect, Mahe and Karaikal showed better sex ratios than Pondicherry, the respective figures being 1148 and 1023 females.

### **URBAN RURAL POPULATION**

- 2.22 As per the 2001 Census, urban population of 505,715 in the region's total population of 735,004 constituted 68.8 percent. The other 229,289 persons formed the rural population (31.2 percent) of the region.
- 2.23 From the urban rural population ratios of 66 percent and 34 percent as per the 1991 census, the present ratio of 68.8 and 31.2 percent in the total population, reflects the trends in urbanization in Pondicherry region.

### **LITERACY LEVELS IN POPULATION**

- 2.24 As per the 2001 Census, in terms of overall literacy among the whole population, Pondicherry's 80.9 percent is better compared to Yanam, but it is below those of Karaikal (82.24%) and Mahe (95.78%). The region's literate population percentages were as shown in **Table 2.4**.



**TABLE 2.4 : LITERATE POPULATION**  
(in percentages)

	2001 Census	1991 Census
<b>Persons</b>	<b>80.90</b>	<b>73.35</b>
➤ Males	88.72	82.75
➤ Females	73.04	63.60

## POPULATION PROJECTIONS

- 2.25 Using the past trends in absolute growth of the region's population, and the declines in the growth rates thereto during the period 1981 to 2001, as guidelines for their future growth, we have fixed appropriate annual growth rates in population for future years and projected the likely levels of population in Pondicherry Region during the decennial periods ending 2011 and 2021. These projections are shown in Table 2.5.

**TABLE 2.5 : PROJECTIONS OF POPULATION IN PONDICHERRY REGION**

Census year	Total population	Population		
		Decadal growth (%)	Annual growth rate (%)	Density Persons / sqkm
1981	444417	-	-	1532
1991	608338	36.88	3.19	2098
2001	735004	20.82	1.91	2534
2011	823500*	12.04	1.14	2840
2021	881600*	7.06	0.68	3040

\* Figures have been rounded to nearest hundreds

- 2.26 It is seen that the total population may increase from 735004 persons in 2001 to about 823500 persons in 2011 and 881600 persons by 2021. The annual average growth rates in population are taken as 1.14 percent and 0.68 percent during 2001 to 2011 and 2011 to 2021 respectively.
- 2.27 These are necessarily indicative figures and the actual population size would depend on certain contributive factors like change in the sex ratio, the levels of literacy among females, changes in occupational pattern and income levels of the population and so on. However, there may not be too large a variation



between the projected and actual sizes of population in the region during the reference period.

## **B. ECONOMIC, SOCIAL AND INFRASTRUCTURE SCENARIO**

- 2.28 Agriculture, fishing, manufacturing and service industries all have important roles in the totality of economic activities in Pondicherry. However, over the years the shares of the last two sectors have been increasing vis a vis the first two sectors in the net domestic product of the region.

### **AGRICULTURE**

- 2.29 As of 31.3.2001, in the region's total land area of 29377 hectares, net area sown was at 14621 ha. This accounted for 49.77 of the land area. Including area sown more than once, the gross cropped area was 26399 ha.
- 2.30 The net area sown and gross cropped area in Pondicherry region formed 60.10 percent and 61.0 percent of these areas in this Union Territory as a whole.

### **IRRIGATION**

- 2.31 The total irrigated area was 13135 ha. Irrigation in the region is entirely by tube wells. The gross irrigated area was 24338 ha. showing that about 85 percent of the irrigated area is irrigated more than once.
- 2.32 Taking the Union Territory as a whole, the total irrigated area and gross irrigated area in Pondicherry region accounted for 61.40 percent and 71.28 percent respectively of such irrigated areas.

### **CROPS**

- 2.33 Paddy, pulses, sugarcane, plantain and tapioca are the major food crops in the region. Food crops covered a total irrigated area of 20393 ha. This formed about 68.25 percent in the Union Territory's area of 29980 under irrigated food crops.
- 2.34 Groundnut and cotton are the major non-food crops, the total irrigated area under non-food crops being 3945 hectares. This accounted for close to 95 percent of the irrigated area under non-food crops in the entire Union Territory.





- 2.35 At 20393 ha., the total area under all food grains in Pondicherry region worked out to 60.65 percent of the total area under all food crops in the Union Territory as a whole.
- 2.36 During 2000-01 food grains (cereals and pulses) production was at 38317 tonnes, while non-food crops output was at 2228 tonnes. These formed 63.4 percent and 88.3 percent of the production of food grains and non-food crops in the entire Union Territory.

### **FISHERIES**

- 2.37 Pondicherry region has the most number of mechanised boats, traditional crafts of motorised and non motorised varieties and has a dominant place in the fisheries operations in the Union Territory.
- 2.38 In the Union Territory's total production of marine fish and inland fish during 2000-01, the shares of Pondicherry region were about 48 percent and 21.45 percent respectively. In the case of marine prawn it had a share of about 32 percent in the Union Territory's total catch. Estimates of marine and inland fish production and marine and inland prawn production in the region during 2000-01 are as given below:

**TABLE 2.6 : FISH PRODUCTION IN PONDICHERRY**

	<b>In metric tonnes</b>	
	<b>1995-96</b>	<b>2000-01</b>
Marine fish	17610	18630
Inland fish	997	933
Marine prawn	871	1448
Inland prawn	26	6



## PHYSICAL INFRASTRUCTURE

### a) Roads and Transportation

2.39 Maintenance of roads in Pondicherry region is carried out by the State PWD, Municipality and Commune Panchayats on mutually agreed basis. Road lengths maintained by these separate bodies during 2000-01 are as given below:

**TABLE 2.7 : ROADS IN PONDICHERRY**

(in Kms)

	Surfaced roads	Unsurfaced roads	Total
PWD	394	-	394
Municipality	230	8	238
Commune Panchayats	567	326	893
<b>Total</b>	<b>1191</b>	<b>334</b>	<b>1525</b>

2.40 The type wise vehicle population in Pondicherry was as given in below:

**TABLE 2.8 : VEHICLE POPULATION**

	Nos. (as on 31.3.2001)
<b>Transport Vehicles (Public)</b>	
Special purpose vehicles	114
Trucks / Lorries	5669
Light motor vehicles	
- for passengers	3463
- for goods	1476
Passenger Buses & Other Buses	3415
Taxis	932
<b>Total</b>	<b>15069</b>
<b>Personal / Private Vehicles</b>	
Cars	41472
Jeeps	3501
Two – Wheelers	143417
Tractors	1637
Trailers	1124
Others	1526
<b>Total</b>	<b>207746</b>

**b) Communication**

- 2.41 The number of telephone exchanges, public calls offices and telephone connections in operation in Pondicherry showed increases as recorded below:

**TABLE 2.9 : PROGRESS IN COMMUNICATION FACILITIES**

	<b>1995-96</b>	<b>2000-01</b>
Post offices	67	68
Telegraph offices	19	21
Telephone exchanges	12	20
Public call offices	330	1240
Telephone connections	17787	70750

**c) Electricity**

- 2.42 The situation obtaining on the electricity front in this region during 1996 and 2001 was as follows:

**TABLE 2.10 : PROGRESS IN ELECTRICITY**

	<b>1995-96</b>	<b>2000-01</b>	<b>(CAGR %)</b>
Electricity purchased (in lakh KWHs)	8468.27	11855.84	7.0
Electricity sold (in lakh KWHs)	7232.77	10370.40	7.5

<b>Electrical connections</b>	<b>1995-96</b>	<b>2000-01</b>
♦ H.T. lines (km.)	864.24	705.68
♦ L.T. lines (km.)	3225.93	2620.29
♦ Transformers (nos.)	1116	1061
♦ Domestic connections (nos.)		
- Light, fan & small power	105839	108178
- Hut services	25480	-
♦ Industrial connections		
- HT	186	219
- LT	3838	3631
♦ Commercial connections	22661	20203
♦ Agricultural connections	9972	9643
♦ Towns electrified (nos.)	11	3



#### **d) Education**

- 2.43 Among the four regions of the Union Territory, Pondicherry region has the maximum number of educational institutions, from pre-primary to graduate, postgraduate and professional level education being offered in these institutions. Its educational infrastructure is quite well established. Details about education facilities, etc. are given in **Exhibit 1.2**

#### **e) Healthcare**

- 2.44 Pondicherry region has well established and reasonably well developed healthcare facilities from a number of hospitals, nursing homes, maternity homes, speciality clinics, etc. in both Government and private sectors. Details about available healthcare facilities are given in **Exhibit 1.2**

#### **f) Financial Services**

- 2.45 As on 31.3.2001, Pondicherry region had 60 commercial bank branches, with a total deposit amount of Rs. 1358.53 crores. The per capita deposit in banks was Rs. 18483.

### **C. TOURISM SCENARIO IN PONDICHERRY**

- 2.46 Besides the Aurobindo Ashram and Auroville, both of which could be called as 'Spiritual Sanctums' for a large number of tourists visiting Pondicherry, this region has a few other well-patronised tourist attractions. The major ones are, among others, heritage buildings of French architecture, the Raj Nivas, Pondicherry Musuem, select Hindu Temples and Churches, Water Sports Complex at Chunnambar, Promenade or the Beach, and the Botanical Garden which has a musical water fountain. There are also other places of particular interest to some tourists, both foreign and Indian. The French War Memorial and Joan of Arc Square, the Boulevard area of the town, Romain Rolland Library and the French Institute are the ones sought after by the foreign tourists, more particularly the French nationals. On the other hand, Bharati Memorial Museum, Ananda Rangapillai Museum, the Veerampattinam Temple and its car festival, Bharati Park and the Manakula Vinayakar Temple draw sizeable number of domestic tourists visiting Pondicherry from near and far.



### **i. Tourism Infrastructure**

- 2.47 In terms of hotel accommodation, good restaurants, roads, transport and communication systems like tourist taxis and luxury coaches, and availability of financial services like commercial banks and foreign exchange dealers, Pondicherry is relatively well developed to meet the requirements of various classes of tourists.
- 2.48 There are many boutique shops attached to leading hotels and / or functioning independently, offering a choice of products and specialities to the discerning tourists. The products sold here are various handicraft items and artefacts made from metals, stones, wood, etc., textile products, curio items like brass / bronze sculptures, images of deities and terracotta images.
- 2.49 For the leisure / adventure tourists, there are a variety of attractions at the Chunnambar Water Sports Complex, providing options like Tree House, Island with restaurant and relaxation facilities, rowing boats and pedal boats (Kayaks), bar, and room accommodation too. There is also a newly set up amusement park in the town, which however, is more likely to be an attraction for the local citizens and the domestic tourists.

### **ii. Tourist Inflow**

- 2.50 The spiritual, pilgrim, healthcare and leisure tourists form the major share of the tourist traffic in the region. There is also a considerable number among the domestic tourists from the adjacent areas of Pondicherry (who are habitual and regular consumers of alcoholic drinks), drawn to Pondicherry bars and lodges where drinks and lodging accommodation are available at substantially lower prices than in the adjacent Tamil Nadu State areas. Commercial travellers in increasing numbers over the years, having business linkages with industrial and trading firms in Pondicherry, have also been an important segment of the tourist traffic in Pondicherry.
- 2.51 Day visitors for livelihood / employment, sightseeing, shopping, etc. from adjacent Tamil Nadu areas are also significant in numbers. This is not reflected in tourist statistics.
- 2.52 Statistics of tourist traffic in Pondicherry during the decade 1992 to 2001, as presented in **Exhibit 2.1**, highlight the following:



- ◆ The inflow of foreign tourists grew at an annual average of 8.2 percent during the period.
- ◆ Foreign tourists visiting Pondicherry registered about 73% increase in 1997 and remained at that level upto 2001, compared to the previous five year period of 1992 – 96.
- ◆ On the contrary the number of bed nights spent in Pondicherry by the foreign tourists registered sharp decrease from 1999 onwards to about 1.54 (3 year average for 1999 to 2001) from the earlier levels of about 4.035 nights per person (3 year average for 1992 to 94), and 4.554 nights per person during the four years 1995 to 1998 (Average of 4 years).
- ◆ There was only a gradual and steady increase in domestic tourist inflow during the ten years, growing at an annual average of 4.9 percent in the same period.
- ◆ The number of bed nights spent by the domestic tourist saw only marginal changes during the entire decade. From about 1.438 nights (3 year average of 1992 to 94), and 1.68 nights (4 year average of 1995 to 98), it dropped to 1.197 nights (3 year average of 1999 to 2001).
- ◆ However, as against an annual average growth of 2.7 percent in the total number of bed nights spent by the domestic tourist in Pondicherry during the decade 1992 – 2001, there was negative growth in the total number of bed nights spent by the foreign tourists in Pondicherry during the same reference period.

## **INFLOW OF DAY VISITORS**

- 2.53 Besides the tourists who spend a minimum of one night at Pondicherry, the town attracts a large number of non-staying visitors. They are mostly commercial travellers, Tamil Nadu residents employed in Pondicherry, week-end and festival time shoppers from adjacent areas in Tamil Nadu, students and youth making weekend visits to Pondicherry, and groups from Chennai and other places travelling to Pondicherry as part of conducted tours. Such day visitors from Tamil Nadu areas also include habitual consumers of alcoholic drinks, patients seeking / undergoing medical treatment in Pondicherry hospitals, and the like. Although they spend the day hours in Pondicherry and on the local facilities like restaurants, transport, etc., they



are not considered as 'tourists'. There is no reliable estimate on the total annual inflow of such visitors.

- 2.54 According to estimates of Pondicherry Municipality, the daily inflow of non-staying visitors to Pondicherry town could be in the range of 50000 to 60000 persons. Some other estimates put it at around 40,000 to 50,000 persons per day. This large volume of floating population also exerts considerable demand on the infrastructure facilities in the town such as water and transportation, and contribute to the urban congestion. On the positive side these visitors add to the income levels of the local restaurants and a few other commercial undertakings, but on the negative side add to the congestion and environmental degradation of the town areas.

#### **D. FUTURE DEVELOPMENTS**

- 2.55 Plan schemes drawn up by the tourism authorities for implementation of tourism related projects during the 2002 – 03 Annual Plan as well as the 10<sup>th</sup> Five Year Plan periods (2002 – 07) include the following:

1. Beach beautification at Pondicherry
2. Augmentation of facilities and beautification of Chunnambar Water Sports Complex
3. Development of tourism aspects at Oussudu and Bahour Lake and Arikamedu archaeological site areas.
4. Expansion and improvements of Yatri Nivas and Tourism Homes at Pondicherry.
5. Providing additional furniture and other facilities for Tourist Homes and Yatri Nivas.
6. Establishing an Amusement Park.
7. Establishing a Heritage village.
8. Setting up a Recreation centre.
9. Additions and improvements to Heritage Buildings.
10. Provision of wayside amenities at select centres in Pondicherry, Mahabalipuram, etc.



## **E. PROJECTIONS OF LIKELY TOURIST TRAFFIC**

- 2.56 Our projections of likely tourist traffic in Pondicherry region for the period 2002 – 2021 are shown in **Exhibit 1.5**. It is seen from the Exhibit figures (under Probable Scenario) that from a total of 401595 tourists visiting Pondicherry in 2001, the number may increase to about 8,67,000 by 2011 and further to 22,28,300 by 2021.

## **POPULATION, TOURISTS AND CARRYING CAPACITY**

- 2.57 **Figures in Tables 1.28 and 2.5** show that the estimated population of 735004 persons as per 2001 Census, the population in Pondicherry Region is estimated to rise to about 825300 persons in 2011 and 881600 persons by 2021. the population density is estimated at levels of 2840 persons per sq.km and 3040 persons in those respective years.
- 2.58 Together with the estimated annual inflow of about 867000 tourists by 2011 and 2228300 tourists by 2021 ( both as per Scenario B projections), and the likely day-visitor population of about 80000 to 100,000 persons in the year 2011, Pondicherry Town and the region are expected to face tremendous pressures on the available resources and civic facilities, as well as on the ecological and environmental fronts. The carrying capacity of the region may then face severe strain.





## EXHIBIT 2.1: TOURIST TRAFFIC IN PONDICHERRY REGION

Year	No. of tourists checked in					No. of bed nights spent		Average no. of bed nights spent	
	Indian		Foreign		Total	Indian	Foreign	Indian	Foreign
	Nos.	% Share	Nos.	% Share					
1992	245890	95.82	10727	4.18	256617	352340	45656	1.433	4.256
1993	247650	95.80	10865	4.20	258515	357270	42360	1.443	3.899
1994	262860	96.00	10950	4.00	273810	378320	43250	1.439	3.950
1995	271340	95.94	11475	4.06	282815	433600	52506	1.598	4.576
1996	305890	96.27	11860	3.73	317750	522420	54120	1.708	4.563
1997	332720	94.19	20536	5.81	353256	568960	92930	1.710	4.525
1998	340150	94.91	18245	5.09	358395	581740	83035	1.710	4.551
1999	346178	93.85	22700	6.15	368878	393697	23137	1.137	1.019
2000	411703	94.61	23473	5.39	435176	525065	38936	1.275	1.659
2001	379702	94.55	21893	5.45	401595	447251	41244	1.178	1.884
CAGR % (1992-2001)	4.9	-	8.2	-	5.1	2.7	-1.1	-	-



## CHAPTER III

### KARAIKAL REGION – A PROFILE

#### LOCATION AND GEOGRAPHY

- 3.1 Second to Pondicherry Region in terms of size and economic importance, among the four disparate regions constituting the Union Territory of Pondicherry, Karaikal is located at a distance of 132 km south of Pondicherry, and about 300 km to the south of Chennai, on the eastern coast of India. It is located between 10° 49' and 11° 0' northern latitude, and between 79° 43' and 79° 52' eastern longitude.
- 3.2 It has as its boundaries the Bay of Bengal on its eastern side and Nagapattinam District on all other sides.
- 3.3 [Map 4](#) shows the major geographical areas in Karaikal region.
- 3.4 The physiographic map presents a more or less flat land, without any forests hills. The region lies in the cauvery delta and is irrigated by canal system. The main source of water is river water when there is release of water from Cauvery / Mettur reservoir in Tamil Nadu.

#### WINDS AND STORMS

- 3.5 The pattern of cloudiness in the sky and surface winds are same as in Pondicherry. Although there are variations in the periodic occurrence of depressions and storms, thunder- storms with strong winds generally occur during April to November, particularly during April, September and October.

#### CLIMATE AND TEMPERATURE

- 3.6 Being a coastal town, Karaikal tends to have relatively high humidity levels, the humidity ranging from 72 percent in June – July to around 82 percent in January – February.
- 3.7 The minimum temperature is around 22° C during November to February, while the maximum day temperature is 36° C during summer months of April



to June. December and January are the coolest months of the year with the maximum at 28° C and the minimum at 22° C in day temperature.

## RAINFALL

- 3.8 Karaikal has an annual average rainfall of about 1380 mm. In a year there are on an average 55 rainy days, that is, days with rainfall of 2.5 mm or more.
- 3.9 Data on the total and seasonwise rainfall in Karaikal in the last few years is shown in **Table 3.1**. The figures reveal that the north east monsoon which occurs during the months of October to December contributes around 72 percent in the region's total rainfall. The south west monsoon during June to September brings a rainfall of around 20 percent in the total.

**TABLE 3.1: SEASON WISE RAINFALL IN KARAIKAL**

1	2	3	4	5	6	7	
Years (June to May)	South west monsoon period (June to September)	North east monsoon period (October to December)	Winter period (January & February)	Hot weather period (March to May)	Col. 4+5 (% share in rainfall)	Total	
						in mm	n inches
1991-92	489 (27)	1270 (71)	4	25	(2)	1788	70.4
1992-93	166 (20)	619 (75)	11	31	(5)	827	32.6
1993-94	302 (16)	1459 (75)	131	45	(9)	1937	76.4
1994-95	35 (2)	1034 (76)	109	190	(22)	1368	53.9
1995-96	389 (28)	954 (68)	2	54	(4)	1399	55.1
1996-97	357 (21)	1267 (74)	39	54	(5)	1717	67.6
1997-98	250 (12)	1743 (87)	14	–	(Neg.)	2007	79.0
1998-99	430(26)	1085(67)	8	103	(7)	1626	65
1999-00	142(11)	789(60)	366	9	(29)	1307	52
2000-01	252(26)	613(64)	1	95	(10)	961	38
<b>Normal rainfall</b>	<b>259(19)</b>	<b>993(72)</b>	<b>66</b>	<b>63</b>	<b>(9)</b>	<b>1382</b>	<b>55.3</b>

**Note:** Normal rainfall is the simple arithmetic average of data for 30 years from 1970 – 71 to 2000-01 (June to May).



## **AREA**

- 3.10 Karaikal region covers an area of 161 sq. km. In the Union Territory's total geographical area of 480 sq. kms. it accounts for 33.54 percent. After Pondicherry it is the second largest region in this Union Territory.

## **REVENUE ADMINISTRATION**

- 3.11 Karaikal region is made up of one municipality and five Commune Panchayats. Karaikal town is the Municipality and covers an area of about 35.15 sq. km. The Commune Panchayats are Kottucherry, TR Pattinam, Thirunallar, Neravy and Nedungadu. Karaikal Municipal town is surrounded by Kottucherry on the north, Nedungadu on the northwest, Thirunallar on the west, Neravy on the southwest and TR Pattinam on the south. There are 29 revenue villages in the region. Among these, Thirunallar and TR Pattinam Communes have 11 and three revenue villages respectively, with the other three Communes having five revenue villages each.

## **A. DEMOGRAPHIC PROFILE**

### **TOTAL POPULATION**

- 3.12 The total population of Karaikal region increased from 145703 as per the 1991 Census to 170640 persons during the 2001 Census, showing a decadal growth of 17.11 percent during 1991 to 2001. Data on the region's total population as well as growth trends in population are shown in **Table 3.2**. The figures reveal that after continuous increase in the growth rates during 1961 – 1991, the 2001 Census estimates record a fall in decadal and annual growth rates in the region's population.
- 3.13 Karaikal region's population declined from 18.04 percent in 1991 to 17.52 percent in 2001, in the Union Territory's total population during these respective years.

**TABLE 3.2 : POPULATION GROWTH IN KARAIKAL**

Census Year	Total Population	Decadal Growth (%)	Compound annual growth rate (in %)
1961	84001	—	—
1971	100042	19.10	1.76
1981	120010	19.90	1.84
1991	145703	21.41	1.96
2001	170640	17.11	1.59

### URBAN AND RURAL POPULATION

- 3.14 As per the 2001 Census, the urban and rural population of the region were at 74333 and 96307 accounting for 43.56 percent and 56.44 percent respectively in the total population. This shows that the change in the urban rural composition in the total population of the region during the period 1991-2001 was not significant, as this ratio was at 42.42 percent and 57.58 percent according to 1991 Census.

### SEX RATIO

- 3.15 The sex ratio (number of females per 1000 males) in Karaikal population improved to 1023 as per the 2001 Census from 1008 in 1991 Census.

### LITERATE POPULATION

- 3.16 The levels of literacy in the population of the region as a whole, as well as among the male and female population, are as shown in **Table 3.3**.

**TABLE 3.3 : LITERACY AMONG THE POPULATION**

(In Percentages)

Population	2001 Census	1991 Census
Total population	82.24	75.78
➤ Males	89.69	85.05
➤ Females	74.99	66.65

## PROJECTIONS OF FUTURE POPULATION

- 3.17** Using the past trends in absolute growth of the region's population, and the changes in the growth rates thereto during the period 1981 to 2001, as guidelines for their future growth, we have fixed appropriate annual growth rates in population for future years and projected the likely levels of population in Karaikal Region during the decennial periods ending 2011 and 2021. These projections are shown in **Table 3.4**.

**TABLE 3.4 : PROJECTIONS OF LIKELY POPULATION IN KARAİKAL REGION**

Census year	Total population	Population		
		Decadal growth (%)	Annual growth rate (%)	Density Persons / sq.km.
1981	120010			745
1991	145703	21.41	1.96	905
2001	170640	17.11	1.59	1060
2011	194000	13.69	1.29	1205
2021	215300	11.08	1.05	1338

\* Figures have been rounded by nearest hundreds

- 3.18** It is seen from the figures above that the total population may increase from 170640 persons in 2001 to about 194000 persons in 2011 and 215000 persons by 2021. The annual average growth rates in population are taken as 1.29 percent and 1.05 percent during 2001 to 2011 and 2011 to 2021 respectively.
- 3.19** These are necessarily indicative figures and the actual population size would depend on certain contributive factors like change in the sex ratio, the levels of literacy among females, changes in occupational pattern and income levels of the population and so on. However, there may not be too large a variation between the projected and actual sizes of population in the region during the reference period.



## **B. ECONOMIC, SOCIAL AND INFRASTRUCTURE SITUATION**

### **AGRICULTURE**

- 3.20 As on 31.3.2001, in the total land area of 16199 ha. in the region, net area sown was 8379 ha. forming 51.7 percent of the total land area. The net sown area constituted about 55 percent of the gross cropped area of 14973 ha.
- 3.21 In the total sown area of 24330 ha. in the Union Territory as a whole, the net area sown in Karaikal formed 34.44 percent. The gross cropped area formed 60 percent in the gross cropped area of 43277 ha.

### **RIVERS AND IRRIGATION**

- 3.22 There are eight rivers in Karaikal region, feeding the irrigation requirements of the region's agricultural activities. These rivers are Arasalar, Mullaiyar, Nandalar, Nattar, Noolar, Piravidaiyanar, Thirumalairayanar and Vanjiyar. These rivers are indeed branches of the Cauvery river. The water flow in these rivers is dependent on the release of cauvery water by the Tamil Nadu Government. Karaikal being at the tail end of the Cauvery delta, a major portion of the flow of water from Tamil Nadu is drained into the sea through these rivers. In times of need, sufficient water is not available in the region for irrigation purposes.
- 3.23 The gross irrigated area in the region was 9025 ha. during 2000-01. Karaikal has about 26 percent of the total irrigated area in the Union Territory. Canal irrigation accounts for about 85 percent of the gross irrigated area in the region. The remaining areas are irrigated by tube wells and spring channels.

### **CROPS AND PRODUCTION**

- 3.24 Paddy is the major food crop in this region. Other food crops covered by irrigation in this region are sugarcane, plantains and tapioca. Cotton is the major non-food crop.
- 3.25 During 2000-01, food crops production consisted of 17122 MT of rice and 3551 MT of pulses. Sugarcane output was 2100 MT. After sugarcane, cotton occupies the prime place among non-food crops, groundnut coming next. In the total production of 193 tonnes during 2000-01, these two accounted for 144 tonnes and 33 tonnes respectively.



## FISHERIES

- 3.26 Karaikal region has a coastline of about 20 km in the Coromandel Zone and considerable inland and brackish water resources, which offer facilities for production of marine and inland water fish varieties. Fish production trends are as shown in **Table 3.5**.

**TABLE 3.5 : FISH PRODUCTION IN KARAIKAL**  
(In Tonnes)

	<b>1995-96</b>	<b>2000-01</b>
Marine fish	13405	13630
Inland fish	1753	2207
Marine prawn	3867	2694
Inland prawn	64	37

- 3.27 During 2000-01 marine fish production in Karaikal accounted for 35 percent of the total marine fish production in the Union Territory. In inland fish production it held the first place among all the four regions and had a share of 51 percent in the Union Territory's total production.
- 3.28 In marine prawn production also Karaikal remained the largest producer among the four regions, its share during 2000-01 being 59 percent of the total production in the Union Territory.

## INDUSTRIES

- 3.29 Besides the few large scale and medium scale industrial units in the region, there is also one industrial estate at Kottucherry for small scale units.
- 3.30 The Pondicherry Industrial Promotion Development and Investment Corporation Ltd (PIPDIC) has an area office in Karaikal to help in the industrial promotion and development activities in this region. It is at present setting up on 'Industrial Growth Centre' at Polagam, over an area of about 593 acres.
- 3.31 The setting up of this Industrial Growth Centre is expected to give a fillip to the industrial activity in this region in the coming years.





## INFRASTRUCTURE

### a) Power

- 3.32 Although a 32.5 MW gas based power station is in operation and there is a proposal to add to its capacity to reach about 132 MW by 2006 – 07, due to the setting up of new industries in the Karaikal Growth Centre as well as normal growth in power consumption by various groups, Karaikal may still be dependent on external sources for meeting its power requirements. That may continue beyond 2007, say upto 2011. Only when the planned 500 or 1000 MW coal based thermal station gets into stream, say by 2010 or thereabouts, there will be complete self-sufficiency in power in this region.

### b) Water

- 3.33 Besides limited availability of ground water in the region, its quality is also not fully satisfactory. There is some salinity or sourness in the water. Hence the adequacy and quality of groundwater in the region puts a limitation on its extensive exploitation. As there is no known rainwater harvesting system in the region at present, and average rainfall is only about 1380 mm per year, there is only limited recharging of the aquifers in the region. Hence, any enhanced exploitation of ground water could lead to intrusion of sea water into the region, resulting in much less availability of useable / potable water in future years.
- 3.34 The rivers in the region are rather small and not perennial. Water flow in the rivers is sustainable only when there is release of water in the Cauvery / Mettur by Tamil Nadu Government. When there is reduced release of water by the latter, the Karaikal rivers go partially dry. The situation gets worse in the summer months. As Tamil Nadu itself faces considerable shortage in flow of water in the Cauvery, any optimistic outlook of the Karaikal rivers being a regular / perennial source of water in future years for various essential uses may not be fully warranted. Cautious approach in this sphere is essential.
- 3.35 *Keeping the above factors in view, it is felt that tourism assets and beautification projects which are not water intensive in nature may only be considered for establishment both in the short and medium term periods of 5 to 10 years from 2002. Projects which would necessitate the use of substantial quantities of fresh / sweet water, which would put considerable*



*strain on the limited water resources available at present and the potential availability in future, have been considered as not desirable in this region.*

**c) Roads**

3.36 As on 31.3.2001, the road length position in Karaikal region was as follows:

**TABLE 3.6 : ROADS IN KARAIKAL**

(in kms)

	<b>Surfaced roads</b>	<b>Unsurfaced roads</b>	<b>Total</b>
PWD	165	-	165
Municipality	172	-	172
Commune Panchayats	260	49	309
<b>Total</b>	<b>597</b>	<b>49</b>	<b>646</b>

**d) Transport**

3.37 As on 31.3.2001, there was a sizeable population of passenger buses providing economic bus transportation service to the local population. The vehicle population in the region has been growing steadily over the years. Details on the available transport facilities in the region are shown in **Table 3.7**.

**TABLE 3.7 : VEHICLE POPULATION IN KARAIKAL**

	<b>(As on 31.3.2001)</b>
<b>Transport Vehicles (Public)</b>	
Trucks / Lorries	145
Light motor vehicles	
- for passengers	178
- for goods	374
Passenger Buses & Other Buses	261
Taxis	352
<b>Total</b>	<b>1310</b>
<b>Personal / Private Vehicles</b>	
Cars	2026
Jeeps	165
Two – Wheelers	28483
Tractors	511
Trailers	378
Others	254
<b>Total</b>	<b>31817</b>



**e) Healthcare**

- 3.38 The region appears to have adequate healthcare facilities in terms of hospitals, chest clinic, community health centre, etc. The total number of beds available in the medical institutions as on 2000-01 was 452. Details about healthcare facilities in the region are shown in **Exhibit 1.2**.

**f) Education**

- 3.39 In the sphere of academic education, Karaikal had a total of 183 general education institutions of which two were colleges. The rest were schools from pre-primary to higher secondary level. One each of engineering college, medical college and a polytechnic are also functioning to impart professional education. Details about education facilities available in the region are given in **Exhibit 1.2**.

**g) Financial Institutions**

- 3.40 As on 31.3.2001, Karaikal had a total of 17 commercial bank branches, having an aggregate deposit of Rs. 281 crores. The per capita deposit amount was Rs 16497

**AUGMENTATION OF INFRASTRUCTURE**

- 3.41 As substantial open areas and chunks of land are available in the region, it should be possible to augment / improve the other physical infrastructure facilities like roads, transport systems, electric power, and communication systems, and social infrastructure like healthcare, education, sports and games areas, etc.



### C. TOURISM SCENARIO / ATTRACTIONS IN KARAİKAL

- 3.42 At present Karaikal has few or very limited attractions or places of interest for the leisure / adventure / entertainment seeking tourists or those visiting for spiritualism / education / healthcare / sports. Although Karaikal Beach with its large spread of sands, children's play areas, restaurant, etc. does attract visitors in their hundreds, and more during the week ends and other public holidays, they are mostly the local residents visiting the beach for evening relaxation. Other out station visitors from Pondicherry, Tamil Nadu and southern states also invariably visit the beach for relaxation. But the visitors to Karaikal for beach tourism are not many.
- 3.43 Karaikal has a few famous temples which attract pilgrims in their thousands on days of periodic pujas (weekly, monthly, and other particular auspicious days) and upto one lakh or more during annual festivals. A considerable part of such visitors are from the nearby places who tend to return to their places after their worship. Only a small percentage of such pilgrim visitors are known to take up accommodation and stay at Karaikal for part of the festival period.
- 3.44 Apart from these local temples, there are a number of other temple and pilgrim centres around Karaikal all within distances of 20 to 80 km from Karaikal. Visitors to these various pilgrim centres / temples, often from various parts of the country, also tend to stay at Karaikal to visit these places till the time of their return. Thus it serves both as transit tourist centre and destination tourist centre for various sections of the pilgrim tourists. Their total number is estimated as about 35000 – 40000 in the whole year.
- 3.45 The names of the well known pilgrim / temple centres and their distances from Karaikal are as given in **Table 3.8** below:



**TABLE 3.8 : IMPORTANT PILGRIM CENTRES AROUND KARAİKAL**

Name of Temple	Name of Deity	Location	Distance from Karaikal (in kms.)
1. Suryanar Koil	Sun	Near Aduthurai	75
2. Chandran Koil	Moon	Thingalur	91
3. Vaitheeswaran Temple	Mars	Near Sirkazhi	45
4. Thiruvengadu Temple	Mercury	Thirunageswaram (Near Poompuhar)	45
5. Guru Koil	Jupiter	Alangudy	77
6. Sukran Temple	Venus	Kanjanur (Near Suryannar Koil)	78
7. Saturn Temple	Lord Saneeswarar	Thirunallar	5
8. Rahu Temple	Rahu	Thirunageswaram (Near Kumbakonam)	53
9. Kethu Temple	Kethu	Kizhaperumpallam	38
10. Anjaneya Temple	Anjaneya	Ananthamangalam	20
11. Bhadrakali Amman Temple	Kali	Ambagarattur	15
12. Singaravelar Temple	Murugan	Sikkal	27
13. Amirthakadeswarar, Abhirami Temple	Lord Siva & Parvathi	Thirukadaiyur	25
14. Subramanya Temple	Murugan	Swamimalai	66
15. Cauvery River Confluence	-	Poompuhar	40
16. Dharga	Mosque	Nagore	17
17. Holy Mary Church	Mother Mary	Velankanni	37



- 3.46 **Exhibit 3.1** presents data on the year wise inflow of domestic and foreign tourists into Karaikal during the ten years 1992 to 2001. It is seen that the inflow of domestic tourists is far higher than that of the foreign tourists. It is also seen that the domestic tourists arrival in Karaikal had increased by over 50 percent from 1998 onwards and more or less sustained that trend upto 2001. In the case of foreign tourists the numbers almost tripled in 1995 from the low levels in the previous years. However the inflow of foreign tourists had been hovering around 250 numbers per year during 1995 – 2001. The annual average growth in tourist inflow in Karaikal during 1992-2001 is seen as 5.1 % only.
- 3.47 For both domestic and foreign tourists, the average period of stay was only around 1 to 1.3 days, not touching even two days during the entire period. This is perhaps a sure sign of low preference for stay at Karaikal beyond the minimum period required for visiting the available places of tourist interest. Obviously, even the beach front with the smooth sands and the scene of Arasalar river joining the sea, have not persuaded the leisure tourist to extend his / her stay at Karaikal beyond a day and some.
- 3.48 Karaikal has practically no French heritage building, archaeological sites, museums or places of relaxation and amusement, which could be greater motivators for the foreign tourists to extend their period of stay in Karaikal. In this connection, establishment of certain tourist attractions, with the various rivers and riverbanks as the focus areas could be appropriate. Water based recreation, such as boating on the rivers and mini lakes being formed on the banks of various rivers there, a few water front gardens having other attractions like water fountains, bird houses, man made water falls, etc. in them could also be attractive places for relaxation and leisure tourism.

### **POPULATION, TOURISTS AND CARRYING CAPACITY**

- 3.49 As shown in **Tables 1.28 and 3.4**, our projections of likely levels of population indicate that from 170640 in 2001, Karaikal population would have increased to 194000 by 2011 and further to 215300 during 2021. The density of population would have increased to 1205 and 1338 by 2011 and 2021 respectively.
- 3.50 Although the region's population is given as 170640 persons during 2001, and the population density is derived from this population, it excludes the



additional floating population (tourists) of about one lakh per year on average in recent years, as also those not taking up accommodation in the town but visit the town for pilgrimage, business, etc. Indeed the number of pilgrims visiting the Thirunallar Temple and other temples twice a week is estimated at 10000 to 15000 per week. For the year as a whole, this pilgrim inflow could be about 5 – 6 lakhs.

- 3.51 Estimates of likely tourist traffic in Karaikal show that from about 97325 persons in 2001, it would increase to about 210100 by 2011, and 544800 by 2021 under Probable Scenario as shown in **Exhibit 1.5**.
- 3.52 Added to the growing population in the region, the sizeable inflow of non-tourist / floating population as cited above is bound to exert pressures on the carrying capacity of the region such as supply / availability of essential requirements like water, clean air and environment, transport linkages and so on.



## E. SWOT ANALYSIS

Strengths	Opportunities
1. Considerable inflow of pilgrims throughout the year, with heavy inflow to Saturn temple on Saturdays and bi-annual festival days at this temple.	Scope for tourist coach operators in Government and private sectors to offer package tour services to Nagore and Velankanni via / from Karaikal at times of annual festivals at these two centres.
2. Substantial traffic to Nagore and Velankanni through Karaikal offering business opportunities on these routes.	Provide conducted, package tour services to pilgrim groups, student groups, leisure tourists to visit Pondicherry and / or Karaikal from other centres in the four southern states.
3. Located close to several important pilgrimage centres in Tamil Nadu, such as Kumbakonam, Nagore, Sirkali (Vaitheeswaran Temple) Velankanni, and Navagraha Deities.	Examine business potential in providing contract carriage services to tourists / visitors to Kumbakonam, Nagore, Sirkali (Vaitheeswaran Temple) Velankanni, Chidambaram, Thiruvaiyaru, etc. to participate in religious and cultural events.
4. Adequate economic and social infrastructure facilities like roads, transport, hotel accommodation, communication, banking, etc.	Scope and need for suitable additions to existing tourist attractions to develop this into a composite tourist centre.
5. Availability of relatively large open land / spaces at economic costs.	Develop an 'Express way' or extend East Coast Road to facilitate faster, smoother transportation between Karaikal and Pondicherry.
6. Large pilgrim and tourist inflow potential from Tamil Nadu centres like Thanjavur, Tiruchi, Chidambaram, etc.	Business potential for motels / restaurants on Karaikal Pondicherry Express way.





Strengths	Opportunities
7. Existing industrial activities likely to get further momentum with large industrial investments in 'Industrial Growth Centre' at Polagam.	Establishment of an amusement park, and a river view restaurant with bar on the Arasalar river bank, opposite to the existing offices of Directorate of Fisheries and Indian Meteorological Department.
8. Increased activities by ONGC, GAIL, etc. in the adjoining oil fields likely to spur industrial culture in the region.	Scope for organising water sports and competitions on the Arasalar and other rivers by local and outstation swimmers / sports persons.

Weaknesses	Threats
1. Non-availability of other tourism attractions except temples, resulting in no / low motivation for the pilgrim tourists to stay at Karaikal.  Hence Karaikal functions / is seen more as a transit point rather than as a destination or stay point for the tourists	Possible / proposed development of tourist attractions like amusement parks, recreation centres, etc. by Government and private investors at nearby tourist centres like Nagore, Poompuhar and Velankanni.
2. Poor quality accommodation and restaurant facilities inhibit stay / extended stay of the better class tourists.	Monsoon rains and inclement weather conditions during June – December periods are dampeners to develop beach tourism in Karaikal.
3. Absence or limited presence of well – informed tourist guides and package tour promoters	Lack of captive sources of water and power and consequent dependence for these two essentials on external sources.



### EXHIBIT 3.1

#### TOURIST INFLOW INTO KARAIKAL

Year	No. of tourists checked in					No. of bed nights spent		Average no. of bed nights spent	
	Indian		Foreign		Total	Indian	Foreign	Indian	Foreign
	Nos.	% Share	Nos.	% Share					
1992	65680	99.97	17	0.03	<b>65697</b>	66990	17	1.020	1.000
1993	57765	99.87	75	0.13	<b>57840</b>	59050	75	1.022	1.000
1994	61245	99.87	79	0.13	<b>61324</b>	63030	79	1.029	1.000
1995	64750	99.66	222	0.34	<b>64972</b>	66870	251	1.033	1.131
1996	66980	99.62	258	0.38	<b>67238</b>	69220	288	1.033	1.116
1997	68320	99.65	238	0.35	<b>68558</b>	70650	289	1.034	1.214
1998	66840	99.62	256	0.38	<b>67096</b>	69250	305	1.036	1.191
1999	103251	99.73	283	0.27	<b>103534</b>	120370	334	1.166	1.180
2000	115571	99.65	405	0.35	<b>115976</b>	121303	573	1.050	1.415
2001	97102	99.77	222	0.23	<b>97324</b>	102845	275	1.059	1.239
<b>Growth rates (1992-2001)</b>	<b>4.4</b>	<b>-</b>	<b>33.0</b>	<b>-</b>	<b>4.5</b>	<b>4.9</b>	<b>36.2</b>	<b>-</b>	<b>-</b>



## CHAPTER IV

### MAHE REGION – A PROFILE

#### GEOGRAPHICAL LOCATION

- 4.1 Although politically forming a part of the Union Territory of Pondicherry, Mahe is situated geographically in Kerala State, on the Malabar Coast of the Arabian Sea. It lies between 11° 42' and 11° 43' of the northern latitude and between 75° 31' and 75° 33' of the eastern longitude. It is located at a distance of 630 km by road from Pondicherry. While the other three regions of this Union Territory are situated on the eastern coast of India, Mahe region is situated on the western coast of India.
- 4.2 Mahe region consists of three areas, namely
- Mahe town
  - The small enclave of Kallayi and
  - Naluthura
- 4.3 Mahe town is bounded on the southwest by the Arabian sea, on the north by river Ponniyar (Moolakadevu) with Badagora taluk of the adjacent Kozhikode district lying at its northern extremity. On its other sides lies a stretch of medium height calcareous hills.
- 4.4 Naluthura lies between the small Ponniyar river on the north and Kozhikode – Tellicherry road in the south. In between these two lies the small enclave of Kallayi. These two areas are enclaved within Kannur District of Kerala. **Map 5** shows the geographical features of Mahe region.

#### RIVERS

- 4.5 The main rivers of the region are Ponniyar and Mahe. The river Mahe flows towards the west before merging into the sea, separating it from the enclaves of Kallayi and Naluthura, and forms the northern boundary of Mahe town.



## CLIMATE AND TEMPERATURE

- 4.6 The region experiences very humid conditions. The humidity level is around 80 -85% in the mornings and about 70 - 75% in the evenings throughout the year.
- 4.7 During summer months of March to June the mean maximum temperature ranges between 32° C and 37° C. In the post monsoon / winter period of December to February, the temperature is in the zone of 29° C and 31° C. During the monsoon months of June to November, the temperature variation is from 24° C to 26° C.

## RAINFALL

- 4.8 The region experiences considerably higher rainfall than the other three regions of this Union Territory. The heaviest contribution is from the south west monsoon during the period June to September, equal to about 80% of the total rainfall. North east monsoon during October – December accounts for 12%. **Table 4.1** shows the rainfall pattern in Mahe in the last ten years.

**TABLE 4.1 : SEASON WISE RAINFALL IN MAHE**

1 Years (June to May)	2 South west monsoon period (June to September)	3 North east monsoon period (October to December)	4 Winter period (January & February)	5 Hot weather period (March to May)	6 Col. 4+5 (%share in rainfall)	7 Total	
						In mm	In inches
1991-92	2765 (86)	269 (8)	–	195	(6)	3229	127.1
1992-93	2991 (81)	508 (14)	–	212	(5)	3711	146.1
1993-94	2221 (72)	434 (14)	–	414	(14)	3069	120.8
1994-95	3200 (82)	460 (12)	–	236	(6)	3896	153.4
1995-96	2358 (86)	237 (9)	–	142	(5)	2737	107.8
1996-97	2464 (88)	375 (13)	27	121	(5)	2987	117.6
1997-98	3372 (81)	444 (11)	–	236	(8)	4052	159.5
1998-99	2613(82)	535(17)	-	26	(1)	3174	127
1999-00	2100(75)	432(15)	19	229	(9)	2780	111
2000-01	2044(63)	515(16)	5	697	(21)	3261	130
<b>Normal Rainfall</b>	<b>2730(81)</b>	<b>367(11)</b>	<b>10</b>	<b>280</b>	<b>(8)</b>	<b>3387</b>	<b>135</b>

(\* Figures in parentheses show the percentage in total rainfall)

**Note:** Normal rainfall is the simple arithmetic average of data for 30 years from 1970 –71 to 1999 – 2000 (June to May).



## **ACCESS**

- 4.9 Mahe has a railway station and has broad gauge rail access from Chennai, Mangalore, and Thiruvananthapuram. While some of the long distance trains halt at Mahe and provide direct access to Mahe, the express trains halt at Tellicherry in Kerala, the nearest major railway station from where Mahe is at a distance of only 8 kms. by road.

## **AREA**

- 4.10 Among the four regions constituting this Union Territory, Mahe is the smallest in terms of land area. This region occupies an area of 9 sq. kms. only. The entire area is classified as urban area. The region does not have any rural areas as per the Census classification.

## **LANGUAGES**

- 4.11 Malayalam is the major language of communication. Tamil and Hindi are the other spoken languages.

## **A. DEMOGRAPHIC SITUATION**

### **TOTAL POPULATION**

- 4.12 Mahe's population increased from 33447 persons to 36823 persons between the two successive Census years of 1991 and 2001. As can be seen from the figures presented in **Table 4.2**, this increase in population was considerably lower than the growth recorded in the earlier decades. This steep fall in growth trend is in consonance with the population growth trends in Kerala state with which it is geographically, socially and culturally quite close.



**TABLE 4.2 : MAHE POPULATION AND GROWTH**

Census Year	Total Population	Decadal Growth (%)	Compound Annual growth rate (%)
1961	19485	—	
1971	23134	18.73	1.75
1981	28416	22.81	2.10
1991	33447	17.72	1.65
2001	36823	10.09	0.97

### MALES AND FEMALES

4.13 The sex composition of Mahe population in the last two Census Periods has been as shown **Table 4.3**.

**TABLE 4.3: POPULATION BY SEX**

Census Year	(In numbers & percentages)		
	Males	Females	Total
2001	17146	19677	36823
	(46.56)	(53.44)	(100.0)
1991	15516	17931	33447
	(46.39)	(53.61)	(100.0)

### SEX RATIO

4.14 The sex ratio (number of females per 1000 males) in Mahe region's population was 1148 in 2001 Census as against 985 as per 1991 Census, showing an appreciable change in the sex ratio during the decade.

### LITERATE POPULATION

4.15 There is a high level of literacy among both male and female population of the region as shown in **Table 4.4**.

**TABLE 4.4 : LITERACY LEVELS IN POPULATION**  
(In Percentages)

	2001	1991	1981
Population	95.78	94.10	74.11
♦ Males	97.59	96.90	78.02
♦ Females	94.23	91.73	70.70

## PROJECTIONS OF POPULATION

4.16 Using the past trends in absolute growth of the region's population, and the declines in the growth rates thereto during the period 1981 to 2001, as guidelines for their future growth, we have fixed appropriate annual growth rates in population for future years and projected the likely levels of population in Mahe Region during the decennial periods ending 2011 and 2021. These projections are shown in **Table 4.5**.

**TABLE 4.5 : PROJECTIONS OF LIKELY POPULATION IN MAHE**

Census year	Total population	Population		
		Decadal growth (%)	Annual growth rate (%)	Density Persons / sq. km
1981	28413			3157
1991	33447	17.72	1.64	3716
2001	36823	10.09	0.97	4091
2011	39000	5.8	0.57	4330
2021	40300	3.38	0.33	4476

4.17 It is seen that the total population may increase from 36823 persons in 2001 to about 39000 persons in 2011 and further to 40300 persons by 2021. The annual average growth rates in population are taken as 0.57 percent and 0.33 percent during 2001 to 2011 and 2011 to 2021 respectively.

4.18 These are necessarily indicative figures and the actual population size would depend on certain contributive factors like change in the sex ratio, the levels of literacy among females, changes in occupational pattern and income levels of the population and so on. However, there may not be too large a variation between the projected and actual sizes of population in the region during the reference period.



## **HOUSES & BUILDINGS**

- 4.19 It is gathered that there are about of 9000 buildings in Mahe Municipal area. Of these, 6000 are residential buildings and 3000 are commercial buildings.

## **B. ECONOMIC, SOCIAL AND INFRASTRUCTURE SCENARIO**

### **AGRICULTURE**

- 4.20 Since this region is adjacent to Kerala on the Malabar Coast, the land is made up of typical red laterite soil of Malabar. During 2000-01 out of the total land area of the 870 hectares in the region, the net area sown was 636 hectares and the gross cropped area was 637 hectares, almost the same as the net sown area. The areas under food crops and non food crops in this total were 148 hectares and 489 hectares.
- 4.21 Paddy is cultivated as the major crop, with two crops raised per year. Due to low production of paddy and other food crops, there is a large dependence of the region's population on outside sources for obtaining its requirements of foodgrains, pulses, and other food crops.
- 4.22 Except for betel nuts and tapioca, there is hardly any production of other non-food crops in the region.

### **IRRIGATION**

- 4.23 As of 31.3.2001, the gross irrigated area was only 45 hectares. The extent of wetland is limited and entirely rain fed. Irrigation is wholly by water from springs, ponds and channels. There is no canal, tank or tube well in this region, indicating the great deficiency in water sources in Mahe.
- 4.24 Paddy, plantain, arecanut, and tapioca are the major crops irrigated, the last two having a share of over 80% in the total irrigated area. There is no irrigated area for non food crops.





## FISHERIES

- 4.25 The Mahe river runs for a distance of only about 2 km in this region before it joins the Arabian sea. The river fish here are mostly of estuarine varieties, and fish catch is relatively small. On the other hand, the marine fish of pelagic variety is available in abundance, the coastline here being a rich fishing belt between Ponnani and Mangalore on the west coast. However there is no production of inland fish and inland prawns in the region. Table below shows trends in fish production in Mahe.

**TABLE 4.6 : FISH PRODUCTION IN MAHE**  
(In Tonnes)

	<b>1995-96</b>	<b>2000-01</b>
Marine fish	3030	3763
Inland fish	-	-
Marine prawn	335	222
Inland prawn	-	-

- 4.26 The major fish marketing centres in and around Mahe are Mahe, Cannanore (Kannur), Kozhikode and Tellicherry. With the establishment of a modern fish curing yard in Mahe in recent years, proper and hygienic curing of fish varieties is adopted here.
- 4.27 A Rs. 28 crore fishing harbour project in Mahe is under consideration of the UT Government.

## INDUSTRIES

- 4.28 The level of industrial activity is quite low in this region. Large and medium scale industrial units have only a meagre presence. The two large scale industrial units functioning in this region are Cannanore Spinning & Weaving Mills(NTC) engaged in production of cotton yarn, and Pandy Flour Mills making wheat flour. The former provides employment to about 700 persons.
- 4.29 There are also around 600 registered small scale units in the region, providing industrial employment. Products manufactured by these small scale units include, among others, wooden and steel furniture, polyester packing machine, electrical goods, spare parts for textile machinery, fibre glass products, readymade garments, steel fabricated items, food products, edible oils and so on.



## **OTHER BUSINESS ACTIVITIES**

- 4.30 Although liquor is imported into the town from outside this region, it is an important trading item here primarily due to the substantially lower prices compared to the adjacent areas in Kerala. Fresh and cured fish is sent from here to other places like Kozhikode and Tellicherry, which are important fish trading centres in Kerala.

## **PHYSICAL INFRASTRUCTURE**

### **a) Roads and Transport**

- 4.31 There is a National Highway passing through Mahe for a distance of 1.9 km, connecting Pooghithala and Moolakadevu bridge. For effecting improvements and strengthening of this stretch of this National Highway, an amount of Rs. 50 lakhs has been provided. For construction of a National Highway By-pass road for a length of 2.5 kms inside Mahe, Rs. 3.00 crores has been allotted.
- 4.32 For widening and improvement of the State Highway between Kallayi and Pandakkal, an amount of Rs. 8.2 lakhs has been approved / sanctioned.
- 4.33 Out of 95 Kms. motorable roads in Mahe, 74 Kms. length is maintained by Mahe municipality, while the other 21 Kms. length is under the maintenance of state PWD.
- 4.34 The region appears to have an adequate number of public and private vehicles for the meeting the present transportation requirements. As of March 2001 there were a total of 1242 public transport vehicles and 6000 personal / non-transport vehicles in the operating in the region. However there seems to be scope and need for augmenting the number of passenger carrying light motor vehicles for better passenger mobility.

### **b) Electricity**

- 4.35 There is no power generation facility in the region. At present electricity to the region is made available by the Kerala Electricity System. Details on progress in electrification in the region are presented in **Exhibit 1.2**



**c) Water**

- 4.36 Mahe is dependent on Kerala for its water requirements for both irrigation, institutional and domestic uses. It gets water from a place called Anjarakandi which is located near Tellicherry at a distance of about 25 kms. from Mahe. Though the contracted supply with the Kerala Government is for 20 lakh litres per day, the actual availability is nearabouts 7 – 8 lakh litres per day only due to leakages in the pipeline system. Water is brought by pipelines and stored in a reservoir maintained by PWD.
- 4.37 Although the PWD is in charge of water supply in the region, the Mahe Municipality also has made arrangements by way of community wells, pumps and public taps for water supply to the citizens.
- 4.38 To supplement the scarce availability of water in the region, a rainwaterharvesting scheme in two acres land area (1 metre bund and 2 metres depth) at Pandakkal is being implemented at a cost of Rs. 3 crores.

**d) Health Care Facilities**

- 4.39 In addition to the government healthcare institutions in Mahe region details of which are given in **Exhibit 1.2**, there are a few privately operated maternity homes (2), nursing homes (1) and independent medical practitioners.

**e) Education**

- 4.40 Mahe town has a Navodaya Vidyalaya for school education, and a Government Arts College for general college education. A Polytechnic for providing technical education is being constructed over an area of 10 acres. Details on education facilities available in the region are given in **Exhibit 1.2**.

**4.41 DEVELOPMENT PLANS FOR MAHE**

- i. As a part of Civic Beautification, the Mahe Municipal authorities have taken a decision to create ‘Welcome Arches’ at three border points of the region with Kerala. These three arches will be at the Palloor, Mahe bridge and Pooghithala entry points into Mahe.



- ii. The existing Tagore Park near the Regional Administrator's office is being maintained by the Mahe Municipality. There are plans to acquire the adjacent land belonging to the Education Department and extend the park along the river bank upto Manjakkal Boat Jetty. The expanded park will have a pedestrian walkway for walking and jogging.
- iii. The Mahe Municipality has planned for a modern garbage disposal plant at Pandakkal.
- iv. There is also a proposal for constructing an indoor stadium with swimming pool over an area of 3 acres at Tatakulam.

### **C. TOURISM SCENARIO IN MAHE**

4.42 Mahe region does not have any major tourist attraction at present, particularly to cater to the interests of entertainment / leisure tourists, health care tourists, sports tourists and the like. The major draw for the tourists are the temple festivals and church festivals being held every year by the various temples and St. Theresa's Church located in Mahe.

4.43 Given below are the available tourist attractions in Mahe at present. These could be also termed as places of congregation / relaxation on a routine basis for the local population.

#### **4.44 PLACES OF TOURIST ATTRACTION / INTEREST**

1. **Tagore Park**, with a statue of Marianna an important landmark, with a sense of history and patriotic feelings entrained.
2. **Government House**, which at present houses Regional Administrator's office and residence. This is a Heritage Building.
3. **Mahe Boat House** at Manjakkal, located on the Mahe river.
4. **St. Theresa's Church**, with its annual two week religious festival. This festival attracts about 5000 to 6000 worshippers every day from all over Kerala, not only of Christians but also of other religions. Besides local people, the devotees come from places as far away as Palakkad, Thirissor and Kasargode. Particularly on the two 'Feast Days' there is an even larger flow of visitors to the Church.



5. **St. George Fort** built by the French Colonial Rulers, is situated on the highest hill of Cherukallai at a distance of 1 km from Mahe. It offers an aerial view of Mahe from its location. At present this fort, or rather the remnants of this fort, houses the TV Relay Station of Mahe.
6. **Puthalam Temple and Puthalam Festival**, Temple of Kuttichathan located at Puthalam, is also famous for its annual ritualistic function of Theyyattam. These attract considerable number of visitors from nearby places in Kerala.
7. **Hindu Temples and Theyyam Temples** there are some nine Hindu temples in the region, with the presiding / main deities of the temples being Sri Krishna, Sri Hareeswara, Sri Bhagavathy, Sree Ayyappa and Sri Subrahmanya. The temple names are listed below:
  - Sree Krishna Temple, Choodikkotta
  - Sree Venugopalalayam, Station Road
  - Sree Hareeswara Temple, Mundock
  - Sree Kurumba Bhagavathy Temple
  - Sree Ayya Temple, Koyyoottu Theru
  - Puthanambalam (Ayyappa), Irattappilakkool
  - Ayyappankavvu, Chembra
  - Ayyappankavu, Pandakkal
  - Subrahmanya Temple, Chembra

4.45 There are a total of six Theyyam Temples located within Mahe region as given below:

- Puthalam, Mahe
- Cheriya Mandole, Mahe
- Koyyodan Korothe, Palloor
- Keezhandoor Temple, Chalakara
- Vettakkoru Makan Temple
- Manikkampoyil Temple

4.46 All these temples hold annual and periodic religious festivals and draw large number of devotees from within the region as well as other places / centres in Kerala State.



## **HOTELS & GUEST HOUSES**

- 4.47 In addition to the Government Tourist Home, Government Guest House and Municipal Tourist Home, all of which cater predominantly to the accommodation requirements of visiting Government Officials of Central Government and Union Territory Government, Zara Resorts, Hotel Arena and Aswathi Guest House are three other privately owned hotels providing accommodation facilities to the visitors to the town. All these hotels and guest houses together have 30 rooms which can provide accommodation for a total of 60 persons.
- 4.48 A few private residences are also reported to be offering accommodation on a paying guest basis, especially to foreign tourists.
- 4.49 The room tariff rates in these guest houses and lodging places vary around Rs. 100 to 150 per day for non a/c rooms and between Rs. 300 and Rs. 500 per day for air conditioned rooms.

## **RESTAURANTS**

- 4.50 Besides La Cafe, which is owned and run by the Pondicherry Tourism and Transport Development Corporation, there are 6 to 8 other restaurants in the town, Providing both vegetarian and non vegetarian snack and food items. Except for a couple of them, the hygiene and food quality standards in the others can be given only a low rating. There are also a number of bars with attached catering facilities.

## **4.51 TOURISM INFRASTRUCTURE AND TOURIST TRAFFIC IN MAHE**

1. As may be inferred from the list of tourist attractions or places of tourist interest as given above, the major ones are religion related. Places of worship and religious festivals attract primarily those who can be called as Religious Tourists or Pilgrim Tourists. Generally there is low preference among a majority of them to take lodging accommodation and stay at Mahe to participate in the religious festivals. It is customary for most of these visitors to return to their own places the same day after taking part in the festivals and / or after completion of their worship at the temples / mosques / churches, etc. This tends to keep the demand low for hotel accommodation among these visitors.



2. Due to the near – absence of large scale or significant industrial / commercial activity in the region, demand for lodging accommodation from visiting commercial travellers is also very low at present.
  3. Similarly, the meagre inflow of tourists who can be called as spiritual tourists, sports tourists, healthcare tourists, entertainment / relaxation tourists, and so on has also kept demand for hotel rooms at low to modest levels in the last few years in the region.
  4. To some extent the above factors seem to have contributed to the availability of relatively poor quality hotel accommodation in this town. There is a clear absence of quality hotel accommodation to suit even medium budget tourists. Perhaps there is inhibition among the entrepreneurs to establish better class hotels here.
  5. Related to this phenomenon is the lack of good, hygienic looking restaurants in the town. As these cater mainly to the local population, and short term visitors from nearby places in Kerala, efforts have not been made to upgrade the quality of these restaurants.
  6. Although a number of auto rickshaws provide relatively easy and low cost transportation to various places in the town, the low presence of public bus transport as a means of mass transportation system could be another infrastructure deficiency here.
  7. As Mahe does not find its place in Kerala Tourism itineraries of the Government or private tourism agencies as a transit or destination tourist centre forming part of the Kerala Tourism Circuit, adequate tourism promotional efforts may not be visible to the potential tourists.
- 4.52 As in the case of Yanam, for Mahe also there is no reliable statistics on the annual inflow of tourists. Using the number of hotel / lodging rooms available in the town and the reported occupancy levels in such accommodation centres (Reported occupancy levels being around 50 to 70 percent, we have taken 60 percent as the average room occupancy in the hotels), we estimate the annual number of tourists to Mahe would be about 7300. Adding together the accommodation provided in their houses by relatives of the visitors, and in the Church premises by Theresa Church and so on, which could be in the



range of 100 to 200 per year, the total number of tourists visiting Mahe is put at around 7400 per year.

- 4.53 Around 70 percent of such tourists are believed to be temple tourists or religious tourists visiting Mahe for temple worship and participate in the temple / religious festivals.

#### **POPULATION, TOURISTS AND CARRYING CAPACITY**

- 4.54 Our projections of likely levels of population as shown in **Tables 1.28 and 4.5** indicate that from 36823 in 2001, Mahe's population would increase to about 39000 by 2011 and further to 40300 during 2021. The density of population would have increased to 4330 and 4476 by 2011 and 2021 respectively.
- 4.55 Our estimates of likely tourist traffic in Mahe are shown in **Table 4.7**. It is seen therein that from about 7300 persons in 2001, it would increase to 8900 by 2011, and 10900 by 2021. It means that from a daily average of 20 tourists in 2001, it may increase to 30 tourists by 2021.

**TABLE 4.7 : ESTIMATES OF TOURIST INFLOW**

Year	Mahe		
	Domestic	International	Total
2001	7300	20	7320
2006	8060	25	8100
2011	8900	30	8930
2016	9825	35	9860
2021	10850	40	10900

- 4.56 The present and estimated future inflow of tourists may not exert great pressure on the region's economic / social systems. The carrying capacity of the region does not appear over stretched at present. But limited land area / open spaces, inadequate resources endowment / potential, dependence on external sources for water and power, and high density of population have all together contributed to the present delicate balance in the region's ecological systems and hence imply a limit on further additions to the carrying capacity. While planning for tourism promotion projects in this region, the authorities concerned need to keep this aspect in focus.





## D. SWOT ANALYSIS

Strengths	Opportunities
1. Easily accessible by rail and road from major cities / towns in Kerala, Karnataka & Tamil Nadu. Rail linkages also available to / from Mumbai & Goa through Konkan Railways	Potential for development of water sports and good riverside hotel / restaurant facilities at Manjakkal.
2. Located in North Malabar Region of Kerala state, and could form a part of the Kerala tourism circuit to derive the advantages therein. Kerala Government has proposals to develop tourism in Malabar region in a big way.	Expansion and upgradation of Tagore Park as a recreation and relaxation centre. Provision of a water fountain and / or an enclosure for birds can be considered.
3. Mahe river setting and its confluence with the Arabian sea provide a picturesque view of the area for the tourists.	Scope for development of Thuruthu Island into an eco tourism centre to attract foreign tourists.
4. Boating and canoeing on Mahe river makes for good water sport activity for the adventurous.	Establishment of a few restaurants offering hygienic food and good catering facilities.
5. Easy availability of alcoholic drinks at lower prices in Mahe provides good business potential for bars.	Embark on drawing college students / youth to visit Manjakkal recreation complex by providing suitable coach service and concessional rates for group picnickers.
	Suitable motivation can also be provided to educational institutions / youth clubs to become regular active participants in the indoor stadium complex having also gymnasium and swimming facilities.



Weaknesses	Threats
1. Very few historic monuments / heritage structures of importance to attract tourists.	The monsoon activity which coincides with the peak foreign tourist season of October to December may keep away the foreign tourists to some extent.
2. Religious festivals and similar festive / social gatherings bring in mostly local population having low tendency to stay as tourists.	Limited scope for attracting foreign and domestic tourists from far away places on a sustained basis.
3. Hilly terrain and scarcity of land limit scope for establishing tourist assets or recreational structures.	Availability of alternate / competing tourists sites, existing and planned, in North Kerala by Kerala Government.
4. Absence of good hotel / lodging accommodation and clean, hygienic restaurants offering vegetarian food items.	No scope for beach tourism and low scope for cultural / sports / health care / education related tourism at present.



## CHAPTER V

### YANAM REGION – A PROFILE

#### GEOGRAPHICAL SETTING AND LOCATION

- 5.1 Yanam lies in the Godavari delta area, which corresponds to the Godavari Flood Plain on the east coast of Indian Peninsula. This region is at a distance of 840 kms to the north east of Pondicherry and is located between 16° 42' and 16° 46' northern latitude and 82° 11' and 82° 19' eastern longitude. It is a narrow stretch of land bounded by river Goutami Godavari on the south which merges with the Bay of Bengal, after flowing for about 14 kms towards south east in the region. To its north and east is the Coringa river, which is itself a branch of Goutami Godavari river. It is surrounded on all land sides by East Godavari District of Andhra Pradesh.
- 5.2 [Map 6](#) shows the Goutami Godavari river, the river islands and the major geographical areas of Yanam region.

#### TOPOGRAPHY

- 5.3 This region is a flat, monotonous terrain without any distinct topographical features. The town is situated at the point where the Coringa river branches off from the perennial Goutami Godavari river. The former divides the region into two parts, one on the east and the other on the west.

#### CLIMATE AND TEMPERATURE

- 5.4 The climatic conditions in Yanam correspond to those obtaining in the adjacent areas state in which it is located. The climate is characterised by high humidity levels of over 70% in the mornings and over 60% in the evenings throughout the year.
- 5.5 The summer months of March to June are oppressively hot. The temperature ranges between 29° C and 37° C, the maximum reaching up to 48° C some times during the summer. The heat progressively reduces from June onwards. During the months of June to September, the mean maximum temperature is around 32° C, reducing to around 27° C by December - January.



- 5.6 December and January are the coolest months of the year. The night temperature in these months is around 15° C.

## RAINFALL

- 5.7 June to September and October to December are the months of south west monsoon and north east monsoon respectively. Data on the season wise and annual rainfall in Yanam are shown in the table below. The southwest monsoon contributes nearly 55 percent (678 mm) and the north east monsoon has a share of about 37 percent (450 mm) in the total rainfall. About 10 percent of the rainfall occurs during the months of January to May. The rains last for about 60 days in a year.

**TABLE 5.1 : SEASON WISE RAINFALL IN YANAM**

(In mm)

1	2	3	4	5	6	7	
Years (June to May)	South west monsoon period (June to September)	North east monsoon period (October to December)	Winter period (January & February)	Hot weather period (March to May)	Col. 4+5 (% share in rainfall)	Total	
						In mm	In inches
1991-92	893 (52)	738 (43)	–	82	(5)	1713	67.4
1992-93	637 (54)	477 (41)	–	51	(5)	1165	45.9
1993-94	406 (52)	341 (44)	13	17	(4)	777	30.6
1994-95	771 (36)	1013 (48)	31	299	(16)	2114	83.2
1995-96	582 (48)	621 (51)	–	13	(1)	1216	47.9
1996-97	1179 (59)	784 (39)	15	34	(2)	2012	79.2
1997-98	846 (63)	358 (26)	93	50	(11)	1347	53.0
1998-99	1208(63)	705(37)	-	-	-	1913	75.3
1999-00	534(42)	597(47)	100	41	(1)	1272	50.1
2000-01	525(66)	162(20)	-	107	(14)	794	31.2
<b>Normal Rainfall</b>	<b>678(55)</b>	<b>450(37)</b>	<b>27</b>	<b>71</b>	<b>(8)</b>	<b>1227</b>	<b>48.0</b>

**Note:** Normal rainfall is the simple arithmetic average of data for 30 years from 1970 – 71 to 1999 – 00 (June to May).



## **WINDS AND STORMS**

- 5.8 During the summer period, the wind direction is from the south east to the southwest. In the monsoon season wind blows from southwest to west. During the months of October to February, the morning winds are usually from the northeast, changing their direction to southeast in the afternoons. The wind speeds are moderate throughout the year, ranging from 2 kmph to 24 kmph.
- 5.9 A few of the storms and depressions which form in the Bay of Bengal during May as well as during September - November periods cross the east coast and affect the region, causing thunderstorms, lashing rains and strong winds.
- 5.10 Coinciding with the onset of the southwest monsoon, occasional thunderstorms occur in the months of April to June. Tidal waves are also generated some times by the storms.

## **ACCESS TO YANAM**

- 5.11 There is no direct access to Yanam by rail. Kakinada and Samalkot are the nearest railway stations, both at a distance of about 26 km from Yanam.
- 5.12 Kakinada is an important trading centre and a district road provides good road linkage and public transportation from Kakinada to Yanam, with buses plying throughout the day. The bus service from Yanam to Rajahmundry, another important trade centre in the East Godavari District, and Ramachandrapuram which is en route to Rajahmundry, and vice versa from the two centres to Yanam, is also frequent and adequate in the present circumstances.
- 5.13 A new by-pass road of about 2 km distance would also connect Yanam to the National Highway 214 passing through Kakinada.

## **AREA**

- 5.14 As per the 1991 Census and earlier Census recordings, Yanam covers an area of 30 sq. kms. This has included the five islands on the Godavari river which form part of the Yanam Region. However as these are uninhabited islands, and as there are no known plans to use these land areas for any human settlements in the near future, this factor must have been taken into account by the Census Authorities. Hence, for calculating population density and for



other reasons, the geographical area of Yanam is recorded as 20 sq. km. in the 2001 Census figures.

- 5.15 Yanam region's land area of 30 sq. kms. constitutes 6.25 percent of the total land area of the Union Territory of Pondicherry. Excluding the uninhabited islands and taking only the inhabited areas of 20 sq. km., Yanam accounts for about 4.17 percent of the Union Territory's total area.
- 5.16 Appearing like a twisted piece of ribbon cloth, flat and wide at some points and curled and narrow at some other points, Yanam's land mass of substantial proportions is mainly the area covered by the five islands and the stretch between Isuga Kaluwa and Island no. 1. That is, Adivipolam, Guerampet and Savitrinagar areas.
- 5.17 Yanam town is the only town and municipality in the region. The region has no other urban or municipal areas.
- 5.18 The six revenue villages in Yanam region are Adivipolam, Esithippa Island, France Tippa, Kanakalpeta, Mettacur and Yanam.

#### **A. DEMOGRAPHIC PROFILE**

##### **TOTAL POPULATION**

- 5.19 As per the 2001 Census, the population of Yanam region is 31,362 persons having risen from 20,297 persons as per the 1991 census estimates. The number growth and the decadal percentage increase in the region's population during the period 1961 to 2001 were as shown below. The figures reveal that there have been large percentage increases in the region's population after 1971. This is perhaps due to settlements of migrants from adjacent areas in Andhra Pradesh.

**TABLE 5.2 : TOTAL POPULATION**

Census year	1961	1971	1981	1991	2001
Total population	7032	8291	11631	20297	31362
Percentage increase in population	—	17.90	40.28	74.51	54.52



### YANAM's SHARE IN UT POPULATION

5.20 Yanam region's population as a percentage of the total population in the Union Territory of Pondicherry rose from 1.90 in 1961 to 3.22 in 2001, as shown in figures below:

**TABLE 5.3 : POPULATION SHARE**

Year	1961	1971	1981	1991	2001
% Share in UT Population	1.90	1.76	1.92	2.51	3.22

### SEX COMPOSITION OF POPULATION

5.21 The sex composition of the population in Yanam was as shown below:

**TABLE 5.4 : POPULATION BY SEX  
(in numbers & percentages)**

	Total Population	Males	Females
1991 Census	20297 (100.00%)	10307 (50.78%)	9990 (49.22%)
2001 Census	31362 (100.00%)	15876 (50.62%)	15486 (49.38%)

### SEX RATIO

5.22 Whereas the sex ratio was 969 females per every 1000 males during the 1991 Census, it improved to 975 females per 1000 males as per the 2001 Census.

### URBAN AND RURAL POPULATION

5.23 Both 1991 and 2001 census figures show that the entire population of Yanam region is classified as urban population. Hence there is no rural inhabitation in the region..



## **LITERATE AND EDUCATED POPULATION**

- 5.24 The literacy levels among the Yanam population showed considerable improvement during the period 1981 to 1991, but thereafter did not show much progress for the period ending 2001. Figures below indicate the levels of literacy in the population, as well as among males and females separately.

**TABLE 5.5 : LITERACY LEVELS IN YANAM**  
(in percentages)

Census year	All persons	Males	Females
1981	49.57	55.90	43.08
1991	76.86	82.38	71.19
2001	74.16	79.11	69.07

## **HOUSING**

- 5.25 As per the 1991 Census Yanam region had a total of 4119 occupied residential houses and 4521 number of households, giving a ratio of 1.09 households per each house.

## **LANGUAGES**

- 5.26 Telugu is the most widely and commonly used language of communication in the region. English and Tamil are also spoken by a section of the population.

## **PROJECTIONS OF FUTURE POPULATION**

- 5.27 Using the past trends in absolute growth of the region's population, and the changes in the growth rates thereto during the period 1981 to 2001, as guidelines for their future growth, we have fixed appropriate annual growth rates in population in future years and projected the likely levels of population in Yanam Region during the decennial periods ending 2011 and 2021. These projections are shown in **Table 5.6**.



**TABLE 5.6 : PROJECTIONS OF LIKELY POPULATION IN YANAM**

Census year	Total population	Population		
		Decadal growth( %)	Annual growth rate (%)	Density Persons / sq.km.
1981	11631			582
1991	20297	74.5	5.73	1015
2001	31362	54.5	4.45	1568
2011	44000	40.4	3.45	2202
2021	57400	30.3	2.68	2870

5.28 It is seen that the total population may increase from 31362 persons in 2001 to about 44000 persons in 2011 and further to 57400 persons by 2021. The annual average growth rates in population are taken as 3.45 percent and 2.68 percent during 2001 to 2011 and 2011 to 2021 respectively.

5.29 These are necessarily indicative figures and the actual population size would depend on certain contributive factors like change in the sex ratio, the levels of literacy among females, changes in occupational pattern and income levels of the population and so on. However, there may not be too large a variation between the projected and actual sizes of population in the region during the reference period.

## **B. ECONOMIC, SOCIAL AND INFRASTRUCTURE SCENARIO**

5.30 Agriculture and fishing in the primary sector, and various kinds of trading and service activities in the tertiary sector are the major contributors to Yanam's economy. Industrial activity has been at a relatively low level until recent times and its contribution to the region's economy is not significant yet.

### **AGRICULTURE**

5.31 The land use classification in the region as on 31.3.2001 was as follows. The figures in Table below reveal that about 29 percent of the total area is being used for agricultural activities in the region.



**TABLE 5.7 : LAND USE PATTERN IN YANAM**

	(In hectares)
<b>Total area</b>	<b>2396</b>
➤ Forest area	–
➤ Land not available for cultivation	1049
➤ Other uncultivated land excluding fallow	593
➤ Fallow land	60
➤ <b>Net area sown</b>	<b>694</b>
Area sown more than once	574
Gross cropped area	1268

5.32 In the gross cropped area of 1268 hectares, the areas under food crops and nonfood crops were 878 ha. and 390 ha. Total production of food grains during 2000 – 01 was 2292 tonnes.

### **IRRIGATION**

5.33 Yanam receives irrigation water through Bank Canal which starts from Dowleswaran Head Works (known as Sir Arthur Cotton Barrage) on the river Godavari, downstream of Rajahmundry. This canal runs east upto Pilanka, and from there through a small channel, popularly known as the French Channel (built in 1949 under an agreement between the then French Government and the Government of India.) This canal meets the irrigation and drinking water needs of the areas west of Coringa river.

5.34 Similar to the French Channel on the west side of Coringa river, the water requirements for irrigation as well as household purposes of the areas on the eastern side of Coringa river are met by ‘Adivipolam Channel’. Work on construction of this new channel, starting from the tail end of Tallarovu south channel and ending at the mouth of Nilapalli Channel was taken up by the Andhra Pradesh Government and completed in 1996.

5.35 During 2000-01 the net and gross area covered by irrigation for all crops were at 363 and 736 hectares respectively. The irrigated areas under food crops and non-food crops were at 702 ha and 34 ha during the year. Among food crops, food grains covered 690 ha, according for as much as 94% of the gross irrigated area. It is noted that both net area sown and area covered by irrigation were almost the same during that year.



## FISHERIES

- 5.36 Fishing and fisheries related occupation is an important economic activity in the region, providing livelihood for a sizeable section of the region's population. Mechanised boats, motorised and non motorised traditional crafts, along with nets are used in fishing activities.
- 5.37 Inland prawn culture and prawn farming is also being carried on in a significant way. Water from the Godavari river is used as the main source of brackish water for prawn farming. Trends in estimated production of marine and inland fish varieties are shown in **Table 5.8**.

**TABLE 5.8 : ESTIMATES OF FISH PRODUCTION**  
(In tonnes)

	<b>1995-96</b>	<b>2000-01</b>
Marine fish	2775	2927
Inland fish	1252	1210
Marine prawn	232	176
Inland prawn	141	-

## INDUSTRIES

- 5.38 There are at present three functioning large scale industrial units and two medium scale units in the region. The large-scale units produce pharmaceutical formulations, ceramic wall and floor tiles, and shrimp feed items. The two medium scale units turn out electronic components and rice bran oil respectively. These two are remaining closed at present.
- 5.39 Besides these, there are 87 small-scale units and 81 tiny / cottage units engaged in the production of a variety of industrial and consumer goods, software services, building materials and so on.
- 5.40 It is estimated that all these functioning industrial units together provide a total employment for about 2800 persons in the region.

## EMPLOYMENT

- 5.41 It is gathered that around three percent of the Yanam population is employed in the Government offices in the region.



## 5.42 SOCIAL

- ◆ Yanam has a mix of French and Dravidian cultures.
- ◆ Telugu is the most widely spoken language here, being the mother tongue of a majority of the population. English and French are also spoken and understood by a cross section of the business and literate people.
- ◆ There are about 50 – 60 French nationals of Indian origin settled in Yanam.

## INFRASTRUCTURE

### a) Water

5.43 Yanam region is dependent to a large extent on the water flowing in through irrigation channels from the Dowleswaram Barrage. This raw water is stored in ground level reservoirs only after purification through rapid sand filters.

5.44 The existing water ways with their running lengths in Yanam region are as shown below:

**TABLE 5.9 : WATER WAYS IN YANAM**

	<b>Length (in km)</b>
<b>A. Rivers</b>	
Godavari	16.00
Goringa	3.50
<b>Total length of river ways</b>	<b>19.50</b>
<b>B. Channels</b>	
French channel	4.50
Adivipolam channel	6.50
kaluva channel	3.00
Nakkala drain	2.00
<b>Total length of channels</b>	<b>16.00</b>

5.45 Although these river ways carry water almost throughout the year, due to high salinity water from these sources is not suitable for potable or other domestic uses. Moreover, ground water throughout Yanam Region is saline and not suitable for domestic use or fully suitable for irrigation purposes.



However, during times of flood in these rivers, the surface water of the river is pumped out for storage in small ponds and used subsequently. Much of such pumped water from the running rivers is reportedly being used for irrigation purposes.

- 5.46 Water supply in Yanam Region is being maintained by the Public Works Department. Three water supply systems are in operation at present. These are:

**i. Yanam Water Works:**

- 5.47 This has two ground level reservoirs with a combined storage capacity of 100 million litres. This reservoir is fed by the French Channel. This source supplies water to a population of about 15000 members in areas covering Yanam town, Ambedkar Nagar and Mettacur villages at the rate of around 70 litres per day.

**ii. Kanakalpeta Water Works:**

- 5.48 This has a ground level reservoir of 9 million litre storage capacity and is fed by the French Channel. A total population of around 4000 members in the villages of Adiandhrapet, Bheem Nagar, Fishermenpet, Kanakalpeta and Udayakrishna Vamsi Nagar obtain water from here. The per capita availability is about 70 litres per day.
- 5.49 For meeting the increasing water requirements as also to reduce dependence on outside sources, a new storage reservoir of 40000 cu.m. capacity is proposed to be built over a land area of 11 acres in Kanakalpeta.

**iii. The Dariyalathippa Water Works:**

- 5.50 This has a total storage capacity of 120 million litres water in five ground level reservoirs, and serves a population of about 12000 persons at a per capita rate of 70 litres per day. This unit is fed by the Adivipolam Channel. Villages like Dariyalathippa, Farampeta, Gurempeta and Savithri Nagar, all on the eastern side of Coringa river, obtain their water supply from this source.



- 5.51 The network of distribution pipeline for supply of treated drinking water to the households and commercial units in the region is about 30 km. The entire area is covered for supply of drinking water.

#### **Future Plans for water**

- 5.52 It is gathered that from the present levels of 20 cusecs surface water inflow of canal water from Pillankara in Andhra Pradesh, plans are being formulated to increase the inflow / supply to 30 cusecs in the near future.

#### **5.53 RECOMMENDATIONS ON WATER STORAGE AND USAGE**

1. Notwithstanding the region's dependence on outside sources for meeting its drinking and other essential water requirements, Yanam has not taken any steps for rain water harvesting. At 1227 mm, the annual rainfall in Yanam region is appreciable. In a region with considerable open spaces yet, and 5 islands of large acreage, the system of rain water harvesting should have been given considerable importance. The region needs to adopt soon and activate to the maximum extent rain water harvesting to augment the supply / availability of fresh water.
2. Construct one or more check dams at suitable points on the Godavari river upstream of the new bridge, and Coringa river, at the earliest to prevent / reduce the run-off of the river water to the sea.
3. Dig a suitable number of mini lakes or ponds alongside the banks of Godavari and Coringa rivers in Yanam region. During flooding of the rivers and when the stored water near the check dams exceeds the safe level, the excess water could be diverted to these lakes for use later.
4. Besides the mini lakes along the riverbanks, a few mini lakes / ponds can also be formed in the various islands to serve as storage reservoirs of rain water. Such stored rainwater will also help in recharging the ground water in the region and reduce the salinity of ground water.
5. Over a longer time span, due to continuous percolation of the stored fresh / sweet water in the river and mini lakes, salinity levels in the river water as well as the ground water in these places is likely to get reduced to acceptable levels for non – potable uses.



## **b) Power**

- 5.54** Yanam region has no captive power generation facility. It gets its requirement of power from Andhra Pradesh State Electricity system. There are no reported plans for setting up captive power generating facility in the region in the near future. Details on electricity purchased and electricity sold and progress in electrification in the region are given in the **Exhibit 1.2**

## **c) Roadways**

- 5.55** There are no National Highway or State Highway Roads in Yanam. Available major district road runs for a length of 1.44 km in Yanam, connecting Draksharama Road on the western side and the Kakinada Road on the eastern side of Yanam. All other roads are categorised as town roads, and flood protection or flood bank roads of Mettacur connecting upto the borders of Yanam with East Godavari District.
- 5.56** As of 31.3.2001 Yanam region had a total of 58 km. of surfaced roads and only 360 metres length of unsurfaced roads, maintained more or less in equal lengths by the PWD and Municipality of the region.
- 5.57** A new road bridge across Godavari river to connect Yanam and Kakinada Road has been constructed and commissioned a few months ago. There are good motorable approach roads on both sides of the bridge.
- 5.58** Due to the relatively low vehicle and traffic density at present, and as envisaged in the near future, there are no plans of road fly-over projects in the town. Under the Road Development Schemes for the region, several road and road side drain improvement works are being carried out periodically. In the last two years, widening of major district road from Yanam border to the bus stand was also completed.



## GOVERNMENT PLANS FOR ROADS

5.59 In Yanam town, all the internal roads are narrow, allowing little scope for widening or beautification of these roads. But the road side space available on the district road was developed as a park. Ornamental lights and fountains have also been installed at select road junctions in Yanam town such as Dhraksharama Road, Indira Park, Gandhi Park, Government Guest House, etc. Further improvements are to be taken up in the coming years.

5.60 During the 10<sup>th</sup> Five Year Plan, there are proposals for road development works at an outlay of Rs. 8.80 crores. These include renovation / strengthening of old roads and formation of new roads.

### d) Transport

5.61 Details on population of various types of motorised vehicles are given in **Table 5.10.**

**TABLE 5.10 : VEHICLE POPULATION IN YANAM**

	<b>Nos. (As on 31.3.2001)</b>
<b>Transport Vehicles (Public)</b>	
Trucks / Lorries	98
Light motor vehicles	
- for passengers	39
- for goods	11
Passenger Buses & Other Buses	15
Taxis	2
<b>Total</b>	<b>165</b>
<b>Personal / Private Vehicles</b>	
Cars	174
Jeeps	7
Two – Wheelers	2687
Tractors	19
Trailers	11
Others	6
<b>Total</b>	<b>2904</b>





**e) Communication**

**5.62** Details on communication facilities available at present in the region are given in **Exhibit 1.2.**

**f) Education**

**5.63** Apart from an Arts & Science College and large number of schools for general education, until recently there was no institution for imparting professional education in the fields of engineering and technology, medicine, law, veterinary sciences and computer applications. Only recently Regency Institute of Technology has been set up in Yanam providing courses in various branches of engineering and computer applications. A polytechnic is also being set up for imparting diploma education in technology subjects.

**5.64** Details on the types of education institutions available in the region, students and teacher population are given in **Exhibit 1.2.**

**g) Healthcare**

**5.65** Details on available healthcare facilities from government agencies in the region are given in **Exhibit 1.2.** Soon a hundred bed new hospital with attached medical college is to be set up In Yanam by Kanchi Mutt.

**HOTEL ACCOMMODATION**

**5.66** Besides the Government Guest House, there are 5/6 privately owned lodges in Yanam for the stay of visitors to the town. The Government Guest House has a total of eight rooms, (five of them air conditioned and the other three without a/c facility). Preference is given here to visiting officers and employees of Government Departments in the Union Territory. The room tariff rates vary from Rs. 200 for non a/c rooms to Rs. 500 for a/c rooms.

**5.67** The privately owned lodges together have about 70 rooms. About 20 rooms of this total have air conditioning facilities. The room tariff in these hotels vary between Rs. 100 to 125 per day for the non a/c rooms and around Rs. 250 – 300 for rooms with a/c facility.

**5.68** The room occupancy level in all these lodges varies between 50 and 60 percent in a year.



### **RESTAURANTS**

- 5.69 The Seagull Restaurant owned and operated by the Pondicherry Tourism and Transport Development Corporation is the more prominent restaurant in the town. It is on the bank of river Godavari and has a picturesque location. It offers both vegetarian and non-vegetarian fare, with a choice of Indian, Continental and Chinese cuisine to suit the taste preferences of its clients. A bar attached to the hotel offers a range of alcoholic drinks.
- 5.70 Besides Seagull, there are some four vegetarian restaurants and two non vegetarian restaurants, offering typical south Indian dishes and food items to their customers.

### **C. PRESENT TOURISM SCENARIO**

- 5.71 Yanam at present appears to be a place with no tourism activity.
- 5.72 Discussions with local hoteliers and restaurateurs reveal that the town is indeed being visited by some foreigners periodically, especially during the winter / post monsoon months. But they have no clue on their numbers. Indications are that these could be between 20 - 30 numbers per year, their stay mostly restricted to a day or less. The French nationals of Indian origin settled down in Yanam also receive some French people as their guests who prefer to stay with their hosts instead of taking up accommodation in hotels.
- 5.73 The number of foreign visitors passing thru Yanam as a transit centre is also believed to be quite small.

### **TOURIST ATTRACTIONS**

- 5.74 Except for the Shri Venkateswara Temple and the Venkanna Ratham, the historic Church and the grotto in the Church premises, and the Grand Mosque, all of which may be said to have some tourist importance, Yanam does not really have any significant tourist asset such as monuments, heritage buildings, historic finds, etc. at present. Shri Venkateswara Temple, believed to have been built in the 15<sup>th</sup> century by the ruling king of the region, is the main place of worship for the Hindus from Yanam and nearby places. Besides poojas during auspicious days, the temple celebrates important religious festival for one month period during July – August of every year.



- 5.75 The Christians offer prayers and celebrate important religious festivals at the historic Church near the office of the Regional Administrator. This Church is reportedly over 150 years old and is an important landmark in Yanam. Originally built in 1848 – 49 and re-constructed after demolition in 1978, the Grand Mosque was extended in 1999 – 2000 to offer better facilities for the Muslim devotees who congregate here regularly for prayers and worship.
- 5.76 It is gathered that the Hindu, Christian and Muslim population who visit Yanam periodically to offer prayers and take part in the religious festivals at various times of the year, are mostly from Yanam town itself and nearby places, say within a 50 – 100 km radius. The number of visitors to these various religious festivals is a maximum of a few thousands. It is estimated that only for the important events of Ponnavaahanam, Ratha Yathra and Chakratheertham during the month long festival at the Sri Venkateswara Temple every year, there would be about 1 to 1.5 lakh visitors to the temple / town. However, these visitors tend to return to their villages / houses the same day after attending the religious festivals. Generally there is a low tendency to stay back in the town using hotel accommodation for such stay. The more observed custom is for some of these visitors to stay with their relatives / friends in the town. Hence from these groups of religious visitors there is only small demand for lodging accommodation in Yanam.
- 5.77 Many Government offices are located in the Mini Civil Station, across the road from the Regional Administrator's office in Yanam town. As the region's area is small and there is adequate transportation to reach the offices of the Regional Administrator or other Government Departments, visitors to these offices tend to return home on completion of their work, or prefer to make repeat visits directly from their homes. There is really no felt need for them to use lodge / hotel rooms to extend their stay in the town for this purpose. This again restricts the demand for hotel rooms in the town.
- 5.78 The third major category of visitors to the town are those having industry / business linkages. As there are only a few major and medium scale industrial units in Yanam, and about one third of the local working population is engaged in business activities, there would be a small flow of business visitors to Yanam. These travellers tend to stay in the hotels / lodges. To a large extent demand for lodging rooms is mainly from this group of visitors.



- 5.79 The other group of visitors to Yanam are the habitual or occasional consumers of alcoholic drinks. The substantially lower prices of alcoholic drinks in Yanam compared to Andhra Pradesh is motivation for people from nearby places to visit Yanam. However as the bars attached to some of the lodges / hotels and the liquor shops are in shabby condition, the tendency for many among these people is to finish off their drinks and leave the bar / town. Only in a very few cases may these regular drinkers tend to stay in a hotel / lodge for a day to enjoy their drinks in a relaxed manner. However, demand for hotel rooms from this category of visitors / customers is very limited and occasional only.
- 5.80 Lastly, as there are no places of significant tourist interest within about a 50-100 km distance from Yanam town, it is not thought of or being used as a transit tourist centre or a tourist hub where tourists might stay for a day or two. This situation also contributes to the low demand, as well as demand potential, for increased tourist arrival or accommodation in Yanam.
- 5.81 Discussions with the existing hoteliers / lodge owners in the town indicate that in recent years, the occupancy levels in their establishments have been in the range of 60 to 70 percent only. Although there was rising demand for hotel rooms from such visitors, the startup of new hotels had taken care of the increased demand to some extent. Hence the occupancy level has remained at around the same level. To put it differently, the excess supply of rooms / beds has been to the extent of about 30 to 40 percent vis a vis demand in recent years.
- 5.82 According to knowledgeable sources in Yanam, everyday an estimated 15000 to 20000 people, and a number of 2-wheelers, cars and LCVs use the ferry service to cross the Goutami Godavari river from Yanam to Amalapuram and vice versa. Besides steady revenue stream for the boat operators, such a large population passing through Yanam every day generates appreciable trading activity also in Yanam. But with the opening of the new road bridge, already opened for traffic in August 2002, providing a direct road link from Kakinada to Amalapuram and other areas nearby to Amalapuram, this human traffic is likely to be diverted from the existing ferry service. It is apprehended that this may also deal a blow to the trading and business activity in different goods / products in Yanam in the coming years.



## **POTENTIAL FOR TOURISM DEVELOPMENT**

5.83 Despite it not being a tourist centre at present, Yanam appears to have adequate potential for development as a tourist centre. Yanam has the following natural resources and scenic sites which could be advantageously developed as potential tourist sites / attractions. These are given below:

1. The Goutami Godavari river which runs to a length of about 12-14 kms. in Yanam town before discharging itself into the Bay of Bengal. The river covers a vast area of about 500 hectares nearabouts the boat / fishing jetties in Yanam, with depths varying from 5 to 10 feet at many places.
2. About 2 kms. stretch of coconut grove / open land on either side of the ferry point and close to the newly developed Approach Road leading to the bridge from the ferry point. The total area covered by the coconut grove and open space would be about 20-25 acres.
3. Five uninhabited islands on the Godavari River, lying close to each other and together covering a total land area of about 815 hectares.
4. Large open spaces in the Adivipolam, Guerampet and France Thippa areas of Yanam, offering interesting avenues of development.
5. Relatively unpolluted river area and open spaces in the town.

5.84 Yanam can be developed both as a transit tourist centre and / or a destination tourist centre. It can be considered as a transit tourist centre when taken as a part of Andhra Pradesh tourism circuit. Thus for both foreign as well as domestic tourists who join the conducted sight seeing tours of Andhra Pradesh either by A.P. Tourism Development Corporation or by the private tour operators, it would be one of the several tourist centres covered in the tour programme.

5.85 On the other hand, for the residents from nearby towns / centres in Andhra Pradesh, and the foreigners (mostly French people) visiting Yanam periodically to stay with French nationals staying permanently at Yanam, Yanam could be marketed as the 'Destination Tourism Centre'.



5.86 *In this context we may suggest that tourism promotion efforts in Yanam should be built around the core theme ‘river-recreation-relaxation and rejuvenation’.*

5.87 *‘Back to nature’, ‘In tune with nature’ concepts should be the guiding spirit and philosophy in promoting some of the uninhabited islands for tourist traffic.*

#### **PROJECTIONS OF TOURIST INFLOW**

5.88 Keeping in view the various tourism attractions that have been suggested for development in Yanam in a phased manner over next 10 year period, we have made projections of the likely tourist traffic in Yanam during the reference period. It may be noted that these are indicative of the likely tourist inflow hand-in-hand with the likely development of Yanam as a tourist centre in future years. Our projections are as shown in **Table 5.11**

**TABLE 5.11 : PROJECTIONS OF TOURIST TRAFFIC IN YANAM**

<b>Years</b>	<b>Likely inflow of tourists (Nos.)</b>
2001(actual)	15350
2006	17800
2011	20600
2016	24000
2021	27800

#### **POPULATION, TOURISTS AND CARRYING CAPACITY**

5.89 Our projections of likely levels of population as in **Table 5.6** indicate that from 31362 in 2001, Yanam’s population would increase to about 44000 by 2011 and further to 57400 during 2021. The density of population would be at 2200 and 2870 by 2011 and 2021 respectively.

5.90 Although the region’s population is given as 31362 persons during 2001, and the population density is derived from this population, it excludes the additional floating population (tourists) of about 15000 per year or on an average 50 persons per day in recent years, as also those not taking up accommodation in the town during their visits to the town. This floating population also exerts some demand on the local supply of water, transportation, etc., even though such inflow benefits the local business community by way of income from the purchases made by the visitors.

5.91 The increased population and anticipated inflow of tourists in future years together may pose some challenges to the carrying capacity of the rather resources poor Yanam region.

#### D. SWOT ANALYSIS

Strengths	Opportunities
<ul style="list-style-type: none"> <li>◆ The huge water spread of Godavari river, greenery on the river banks as well as the various islands on the river offer a picturesque and magnificent view for the tourists.</li> <li>◆ Yanam is situated in the midst of east and west Godavari districts of Andhra Pradesh having a rich population. Prominent towns in these districts are Bhimavaram, Kakinada and Rajahmundry.</li> <li>◆ Lower prices of alcoholic beverages causing sustained high demand for them.</li> <li>◆ Setting up / future expansion of higher level educational institutions in the region.</li> <li>◆ Relatively unpolluted environment of the islands and the river.</li> <li>◆ Availability of large open spaces for establishing new projects.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Possibilities for development of these natural tourism assets as 'eco tourism sites' for corporates and discerning affluent foreign / domestic tourists.</li> <li>◆ Establishment of good hotel accommodation and restaurant facilities to cater to the tourist as also local population. The choice sites would seem to be. <ul style="list-style-type: none"> <li>- At a point close to and along the district road connecting Kakinada to the bridge, the hotel overlooking the river and the bridge.</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>- At a suitable place in French Thippa, which will attract the student population and the business people.</li> </ul> </li> <li>◆ Expanding market potential due to growing number of college students and employees of educational / business /healthcare establishments seeking new avenues of entertainment, recreation and adventure.</li> <li>◆ Scope for integrating with A.P Tourism circuit, for ensuring sustained flow of foreign and domestic tourists.</li> <li>◆ The wide, new roadway linking Kakinada to Amalapuram / other areas through new bridge could throw up new business opportunities for shopping mall / departmental stores, highway restaurants, video games / pool game parlours, beer pubs, etc.</li> </ul>



Weaknesses	Threats
<ul style="list-style-type: none"> <li>◆ Absence of any important monuments / tourist attractions in Yanam and nearby areas.</li> <li>◆ Economic activity is to a large extent primary sector oriented, with trading / business being next in importance. This results in conservative and contended lifestyle of local population.</li> <li>◆ Relative absence of higher level educational and medicare institutions in the region.</li> <li>◆ Lack of good hotels / restaurants for accommodation and food / refreshments.</li> <li>◆ Practically no inflow of medium to high budget foreign or domestic tourists.</li> <li>◆ Limited suitability of the river and island areas for tourist visits during monsoon periods lasting from June to December.</li> </ul>	<ul style="list-style-type: none"> <li>◆ The monsoon rains, storm winds and rough sea conditions during the months of June to December coincide with the peak foreign tourists' season of October to February. These could keep the tourists (importantly foreign tourists) away from the region.</li> </ul>





## CHAPTER VI

### RECOMMENDED PROJECTS AND THEIR ECONOMIC BENEFITS

#### OUTLINES OF 20-YEAR PERSPECTIVE PLAN

- 6.1 For the purpose of identification, selection and shortlisting of various tourism related projects that could be set up in this Union Territory, a survey of select areas / sites was carried out in each of the four regions. Visits were also made to a number of prominent places of tourist interest such as temples, churches, other spiritual centres, beach and lake areas, amusement / recreation centres, museums and art centres to gather first hand information relevant to the study. Intensive discussions were held with knowledgeable sources in government and non-government institutions for obtaining a clear picture of the need and scope for creating various sustainable tourism assets, and the priority considerations in the creation of these assets and facilities. Considerable desk research was also carried out on various aspects of the Union Territory of Pondicherry such as:
- a) Its present and likely future population upto 2021.
  - b) The present and likely future density of population in all the four regions.
  - c) The economic, social and infrastructural scenario, as well as the developmental trends and possibilities in these segments of Union Territory.
  - d) Recent trends in inflow of domestic and foreign tourists and the anticipated growth in future years.
  - e) The volumes and pattern of non-tourist traffic, covering pilgrim visitors / commercial travellers and the like.
  - f) The types of tourist attractions and places of tourist interest available at present and those which are proposed / planned to be developed by the State's Tourism Department and private sector players.



- g) The availability and quality of hotel / lodging accommodation and restaurants and the need for these in future periods.
- h) The potential and possibility of augmenting / improving upon the physical and social infrastructure facilities in the region for meeting future needs so that this does not come in the way of growth of tourism activities.
- i) The sustainability of greater tourist traffic in the region, taken together with the likely increases in its population.
- j) The carrying capacity of the region of the larger tourist inflow.

6.2 Keeping all these in view, we have designed the outlines of a 20-Year Perspective Plan for Tourism in the Union Territory of Pondicherry on a region wise basis. These are essentially the contours of a medium to long term developmental strategy for tourism, providing scope for flexibility in their implementation priorities to suit the needs of particular time periods, budgetary limitations, revenue aspects and the like. Due weightage must be given by the policy planners and project implementing agencies to crucial issues like the investment involved, the likely revenue generation potential, and the philosophy that such tourism related projects are necessarily investments on the future which may not yield attractive returns in the short to medium terms. Such projects contribute to the composite development of the area and nearby places, help in adding to the cultural and aesthetic variety and richness of the area, benefiting the local population too in the process and, finally, adding to the Quality Index of Life for the region's population.

**6.3** It would be beneficial to keep in mind the following philosophy when the schemes are being formulated for tourism promotion. The key objective of setting the ground to attract larger inflow of tourists should be built around the core theme '**Tourism for Enriching Outings**'.

#### **PROPOSED OUTLAYS ON TOURISM PROMOTION**

6.4 The Government of Pondicherry has proposed an outlay of Rs. 70 Crores during the Tenth Five Year Plan Period of 2002-07 for tourism development activities in the UT of Pondicherry. Of this total, Rs. 11 crores is earmarked for expenditure during the year 2002-03 on creation / beautification, etc. of various tourism facilities in the four regions of the UT.



- 6.5. On its side, as a part of the 20 year Perspective plan for Tourism Promotion in the UT, Tata Economic Consultancy Services has identified / recommended various projects for the four regions, which would entail a total outlay of about Rs. 33 crores. This amount is budgeted for investment during the period 2002 to 2010 only, and excludes investments envisaged for additions / improvement to infrastructure facilities, environment etc which are all conducive to sustained tourist inflow. This outlay would be exclusive of, and apart from the Rs. 70 crores plan outlay by Union Territory Government.. Beyond that period, investments could be more on further expansion and / or beautification of the already established tourism assets. As envisaged by us, there may be only marginal scope / need for investing in new major tourism projects in the post 2010-11 period.
- 6.6. In the following sections, we have listed the types of projects and activities which may be taken up by the authorities concerned in each of the four regions of the Union Territory of Pondicherry. The time frame for implementation schedule of the projects suggested falls under three periods namely, short term, medium term and the long term. Necessarily there could be some extent of overlap among them and rigid adherence to these indicative time periods may be neither feasible nor advisable.

#### **PROJECT IDENTIFICATION**

- 6.7. Each of the four regions have their own individual characteristics for tourism development.
- 6.8. In Pondicherry Region, the Union Territory's Tourism Department and Pondicherry Tourism and Transport Development Corporation have over the years developed various tourism attractions, or have supplemented and complemented in various ways the facilities available at different tourist spots in the region.
- 6.9. The list of projects and activities, drawn up by the Tourism Department of Pondicherry UT are expected to be implemented during this period 2002-2011. The details of these are given in **Exhibit 1.4 in Chapter I** of this report. The programme list is quite exhaustive and inclusive of diverse items. There is hardly anything extraordinarily new or unique that is left for identification or fresh suggestion by the consultants. Nevertheless, TECS has reflected upon this aspect considerably, and has chosen to recommend the following projects and schemes for implementation by the authorities.



6.10. Details of the recommended projects for the four regions, along with a brief picture of the financial highlights of the project such as project cost, turnover, profitability and likely employment, are given in **Exhibit 6.1** at the end of this Chapter. **Exhibit 6.2** provides a consolidated picture of the suggested scheduling of the recommended projects over the 20Year Perspective Plan Period.

## **PROJECTS AND SCHEMES RECOMMENDED**

### **6.11 A) PONDICHERRY REGION**

1. Development of a Lakeside Spa Resort, with 40 to 50 beds capacity on the banks of Oussudu Lake. Alternatively, lakeside cottages may be set up. There should be good landscaping of the area, with lots of greenery around.

Besides the usual amenities available in a star hotel, such as multi cuisine restaurant, well stocked bar, conference hall, men's beauty parlour or saloon, boutique shop, etc, the resort complex would have a swimming pool and, massage parlour cum health club which are essential features of a Spa Resort.

Guided boat rides on the lake could be provided to the resort guests who show a preference for it. Angling kit could be provided too for those who wish to amuse themselves with on-board fishing.

Even if the lake should remain just about partially full for about 4 – 5 months in a year, the resort / cottages should be able to attract business from high end commercial travellers, foreigners and the like. As in the Virgin Island at the Chunnambar Water Complex, solar power and wind generated electricity may be used in the Oussudu Lake Resort Complex.

2. Jointly with the present owner, or otherwise, a few garden cottages in the coconut grove overlooking the Chunnambar Lake could be established. The cottages could be at an elevated level from the ground. This location provides a very scenic view of the Chunnambar lake and the Virgin Island, with frequent movement of boats in the waters.

It is gathered that in a nearby plot of land, the local Rotary Club is planning to take up construction of conference hall and some commercial



building. That would increase the physical and economic activities in the area close to the Chunnambar Water Sports Complex.

3. At Chunnambar, an aerial rope way between the boat jetty and Virgin Island would provide for an attractive novelty in reaching the island.
4. PT & TDC may operate night time boating services during Moon-lit nights, New year eve nights and other festive occasions to provide connectivity to the Virgin Islands in the Chunnambar Water Sports Complex. Local residents and domestic tourists from nearby centers might be enthusiastic about :
  - Boating on Chunnambar on moon lit nights and New Year eve nights.
  - Celebrate the New Year eve night on the island.
  - Dine and dance relaxation on the Virgin Island on these nights.
5. Initiate efforts for establishing Pondicherry Boat Club on the lines of Madras Boat Club. With sponsorship and membership support from business and educational institutions, sports bodies like SAI etc, boating, and rowing activities could be strengthened in the Chunnambar Complex. Annual rowing and sailboat competitions could also be held. Over a period of years, with suitable nurturing and back up by the institutions involved in this activity, this could become a looked forward to sporting event at the Chunnambar Water Sports Complex (Like the annual Nehru Cup Boat Festival in Alappuzha).

In this connection, we cite the examples of Madras Boat Club and Kolkata Yacht Club both of which have been holding annual regatta / rowing tournaments for the past 20 – 30 years.

Suitable facilities at the club / waterfront would have to be provided to the boat club members. These include vehicle parking areas, a cafeteria, rooms for dress change, storage area for boating / rowing gear like motors, paddles, sail cloth, first aid kits and lifeguard systems.

The Boat Club also serves as a recreation centre with indoor games for he members and their families.

6. Provision of public amenities at the Chunnambar Water Sports Complex and Oussudu lake area.



7. Introduction of a 'Sonne-et-Lumiere' or 'Sound & Light Show', preferably in a French Heritage building or the open air maidan opposite to Gandhi Statue on the beach where fairs and cultural programmes are regularly held.
8. By providing suitable incentives, encourage setting up at choice locations a few beer pubs which have aesthetic and upscale ambience. Tourists and commercial travellers who do not take up hotel accommodation during their visit to Pondicherry are likely to patronise such bars. The 2002 – 03 Budget statement also makes a reference to this as a tourism promotional measure.
9. On the lines of annual 'Beer Festival' in Germany, and 'Wine Festival' in France, manufacturers and traders of beer and alcoholic drinks in the Union Territory may be encouraged to hold 'Beer Vizha' or 'Beer Kondattam'. The incentive for the manufacturers and the traders concerned may be in the form of waiver of sales tax on the sales of drinks during the festival days period.

There is a strong likelihood of people from neighbouring areas in Tamil Nadu, Andhra, and Kerala visiting the UT regions to participate in the Beer Kondattam, resulting in enhanced sales for the traders.

10. To facilitate smooth and fast transportation between the coastal towns of Pondicherry and Karaikal, a hovercraft service can be considered. Business people from both these regions as well as visiting businessmen from elsewhere in the country could be major source of business for hovercraft service.
11. The campuses of Pondicherry University and adjacent Pondicherry Engineering College together cover an area of 900 to 1000 acres. Built up areas occupy not more than 2 to 4 % of this area. The vast open grounds with trees and other vegetation provide ample scope for developing this secluded area into a natural habitat for animals like deer, rabbits, as well as for birds, on the model of Guindy National Park in Chennai. Suitable watering holes for these animals in the form of ponds can be created in the park.



12. Consider providing low cost dormitory accommodation facility near Veerampattinam Fishermen Temple for pay-and-use by the large number of pilgrims visiting for the annual 10-day festival and the monthly / weekly pooja ceremonies at the temple.
13. Establishment of budget accommodation at one or more suitable locations to cater to the short-period lodging facilities required by visiting artists for participation in the cultural / fine arts / religious festivals, pilgrims, sports persons, student groups / others may be examined by the tourism authorities. Alternatively, like the Grey-hound bus stations in the USA, locker-chests and wash facilities may be provided for those who opt for these amenities only instead of room accommodation.
14. In co-ordination with Swimming Federation of India and other sports authorities, establish one or more swimming pools conforming to specified design and standards for providing training in competitive swimming as also for holding periodic swimming competitions among south-zone / inter district teams.
15. A number of government departments of this UT such as the Urban Development Department, Department of Power, PWD, Water Supply and Drainage, Education, Forest and Wildlife, Fisheries, Transport, etc are implementing a number of schemes to improve the quality of life of citizens of Pondicherry. This will not only indirectly help in attracting tourists, but also in increasing the number of days of tourists stay in Pondicherry.
16. Greening of Pondicherry is a must for generating / sustaining tourist appeal. Immediately initiate a programme of tree planting on the beach road and other major roadsides to improve the dry and tree less environment in the town. There are just a few stretches of road in the town with avenue trees.
17. Except the ITDC's Ashok Hotel complex, none of the leading national hospitality chains such as the Taj, Oberois, Leela group, ITC hotels division and Mahindra Days Inn have yet come to Pondicherry. Presence of quality national and international hotel chains will not only attract the high spending domestic / foreign tourists but also attract business conferences / seminars / workshops etc. Suitable steps may be taken in



this regard by the authorities concerned to promote holding of conferences / seminars etc in the better class Pondicherry hotels / resorts.

18. In spite of a long coastline, the utilization of its potential to develop tourist interest is low at present.
19. Provide suitable employment opportunities for the post graduate students in Tourism Administration of the Pondicherry University. There is an absence of any such person with tourism qualification in the employ of the Tourism Department and Tourism Promotion offices at present.
20. Stipulate / encourage adoption of rainwater harvesting in as widespread a manner as possible to augment ground water potential in the region, as also to prevent / reduce run off of pure rainwater into sewerage channels, sea, etc during monsoon periods.
21. Examine the scope for building check dams at suitable points across Sankarabarani and Pambayar rivers for deriving consequent benefits of increased water storage, reduced run-off of rain / fresh water to the sea, recharging of aquifers due to increased percolation and the like.

#### **6.12 B) KARAIKAL REGION**

For attracting / motivating the domestic tourists who regularly visit Karaikal temples to spend more time at Karaikal, as well as for drawing the potential tourists who may be skipping Karaikal in their tour itinerary, the following tourist attractions / projects are suggested for consideration. The potential tourists include students of educational and training institutions from nearby centres, group pilgrim and leisure tourists, weekend / short holiday adventure/ leisure tourists looking for new places / avenues of entertainment, and the like.

1. A mini planetarium with adequate space for parking two wheelers and mini buses.
2. A riverside entertainment area for children on the Arasalar river bank. The same facility will also have a bar attached restaurant at an elevated level, providing a panoramic night view of glistening Arasalar river for the drinkers in the bar and diners in the restaurant. The uniqueness of this bar / restaurant / entertainment area project is the fun / thrill in reaching the other side of the river by boat from beach roadside.





3. A couple or more relatively large public gardens on riverbanks and other suitable places in Karaikal town. These gardens will have good landscaping, aquarium, small ponds for water birds and fish varieties, pedestrian walk ways, etc.
4. A mini amusement park, with limited amusement and games. As the business gets stabilised with customer traffic at a steady level, the activities can be expanded.
5. An indoor stadium for a variety of sports and games, and a swimming pool. With adequate planning and government / private support, these could be developed as the training ground for able and competition standard sports persons and swimmers. This venue could be used for holding periodically inter-regional / inter district sports competitions and sports festivals, in the process creating an avenue for inflow of sports tourists to Karaikal.
6. The existing boat jetty on Arasalar river to be strengthened for boating and other water based sports activities.
7. Run Yatra specials or circular route services from Thirunallar Temple and Ambagarattur Temple and vice versa as also from suitable boarding / disembarkation points on Tuesdays, Saturdays and all other festival days when large crowds of devotees visit these temples. Like the Tamil Nadu Government nursing a monopoly transport service on ECR, these services could also be run as monopoly services by PT & TDC.
8. Similarly, from Pondicherry and Karaikal, Nagore specials and Velankanni specials could be run on festival days and large crowd days at these temples.
9. Initiatives may be taken by Tourism Department to form / sponsor a Karaikal Boat Club as Karaikal has a number of rivers / waterways suitable for holding annual boating / rowing competitions among different local and inter district teams. Local companies and business units, colleges and universities, medical institutions, etc. can be persuaded to become corporate / institutional members of the local boat club. Employees from these member institutions would be allowed use free access with conditions attached - to the boating facilities for regular boating / rowing practices on the Arasalar and / or other rivers.



10. Introduction of boating and boat journeys on moonlit nights, and other special occasions to suit customer requirement, on Arasalar river, Nandalar river etc could be considered.
11. Allow private caterers / hoteliers on license fee basis, to take up party catering on beach front, river fronts and lake fronts on special occasions ( as per customer choice), moonlit nights, New year eve nights and the like. These could appeal as fun and adventurous outings for the domestic tourists from areas adjacent to Karaikal.
12. Greening of Karaikal for ecological gains may be given high priority by the authorities concerned. Responsibility and targets have to be fixed on various local authorities like Municipal Administration, Departments of Horticulture / Agriculture, Forest and Public Works, and Tourism Directorate to plant trees on road side and river banks and ensure their proper growth. A start could be made with the Beach Road, Bye Pass Road, various river banks and mini lakes under formation, and extended later to other major roads all over Karaikal region. Ornamental trees and shrubs, which may not need irrigation for long, could be considered for planting at some places.

#### **6.13 C) MAHE REGION**

1. Extension of Tagore Park. The Office of the Regional Administrator in Mahe is having firm plans to acquire land and extend the existing Tagore Park up to the boat jetty at Manjakkal. The extended park area is likely to be in place, providing for delays in acquisition of land etc, by about year 2004.
2. Manjakkal Recreation Complex. Suggest setting up Recreation Center with restaurant facilities at Manjakkal.
3. Indoor Stadium with swimming pool to be established at Tatakulam area.

#### **6.14 D) YANAM REGION**

With abundant greenery provided by the wind swept coconut / palm trees and bushes on its either side, the calm flowing Godavari river itself is a wonderful natural tourist attraction in this region of the UT. The five so far uninhabited



islands in this broad river impart great ecological and scenic charm to this place.

To emerge in future, and serve, as an enjoyable transit tourist centre, if not to become an acceptable tourist destination point, it is essential to create / add some key infrastructure facilities in the town. For the discerning foreign and / or domestic tourists, the available facilities are quite inadequate or not suitable. Indeed these may be major disincentives to include Yanam in the itinerary of tourists.

We have the following suggestions for tourism promotion in Yanam.

1. As per available information, the medium to long term tourism promotion plans of Andhra Pradesh Tourism Department do not seem to cover East Godavari and West Godavari Districts of the state. Hence these two districts appear to be unimportant from the state's tourism promotion policies and efforts. This in itself may provide a step-in opportunity for the Pondicherry UT Administration to initiate and promote vigorously a plan for tourism development in Yanam. The UT administration may enter into a suitable, mutually beneficial long term operating agreement with A.P Tourism Development Corporation for exploiting such an opportunity for promoting tourist inflow into Yanam. Broadly, the agreement could cover various aspects like tourism promotion schemes, transportation of tourists to Yanam from Kakinada, Bimavaram etc and offering on a package basis transportation, sight seeing and other facilities in Yanam to potential tourists from nearby areas in Andhra Pradesh.
2. **Arrange for preparation of a comprehensive 'Master Plan for Tourism Development' in Yanam.**
3. **Godavari river and river banks near the ferry point as locales for film shooting.**

As this area is flood prone and not quite suitable to put up permanent structures, temporary structures could be put up. As per requirements for various films. These temporary structures can be easily dismantled after completion of film shooting.

Location film shooting may also be permitted on the river and the islands partly for revenue generation from licensing fees and partly to generate tourist inflow into the region.



**4. 3 or 2 star hotel on the river bank, close to the bridge.**

At least one well equipped star category hotel offering room accommodation and restaurant service to the tourists. In view of the modest tourist inflow likely / estimated in the next ten years or so, a total of 40 – 50 beds in this hotel category is considered adequate to meet requirement upto 2010 – 11. Depending on the future increase in tourists patronage of Yanam, additional hotel rooms may be setup. This star category hotel may preferably be set up at a point close to the bridge in the coconut grove area facing the approach road / Godavari river. The construction could be such that all or almost all rooms in the hotel will have a view of Godavari river and the bridge on the river.

**5. Establishment of budget rooms / dormitory accommodation**

A couple of budget hotels, offering both independent rooms as well as dormitory type accommodation can be set up to suit the requirements of budget tourists and tourist groups / pilgrim tourists. This can be done by offering land at concessional rates or on long lease basis to the private sector.

**6. Stimulate private investment for setting up premium beer pubs / bars**

Suitable encouragement may also be given for private parties to set up aesthetically furnished stand alone bars / beer pubs which will attract not only the tourists and commercial travellers visiting the town, but also people from nearby places who are habitual consumers of alcoholic drinks, for consumption of liquor in a relaxed atmosphere.

**7. A swimming pool of games standards**

This may be built at a place inside the town, easily accessible to the student population and other town areas and nearby places in Andhra Pradesh. As there are hardly any sustained sports activities or avenues for extra curricular activities in the town at present, the student and the youth population in the town would find the swimming pool as a very suitable place for entertainment and healthy hobby activity.



8. Water sports and boating activities near the ferry point or at a suitable point on the upstream stretch of Goutami Godavari river.
9. Each of the five islands to be developed for different purposes, all primarily as revenue generating Eco-tourism projects, These could be a large botanical garden with varieties of trees and plants, an island for trekking purposes and conducting camps, and so on.
10. Check dam to be built across Godavari river and / or Coringa river at some suitable points on these two rivers. Where feasible also develop mini lakes alongside the river for the stored lake water to be used mainly for irrigation and ground water recharging.
11. Allow operation / plying of houseboats on the Goutami Godavari River. Boat hire charges would be on per day basis.
12. Permit Operation of both pleasure boating and speed boating services on the Godavari / Goutami river during moonlit nights and other festival / important occasions as a novel / additional tourist attraction.
13. Channelise investment into establishing small amusement parks, which will have, besides the rides, games of skill providing opportunities for winning money from success in the games.
14. Construct an outdoor stadium –cum-fair / exhibition site. This can be used not only for developing sports talent and conducting periodic sports competitions among various teams in the region, but also for holding exhibitions by various business units in the region to promote higher sales of their products.
15. Establish wider, better roads / road network in the town. As some areas of the town are fully built up, and widening of the roads may be quite difficult, such improvement can take place only in the other areas. These include places like the industrial areas, France Thippa, Savithri Nagar and Sitarama Nagar. The roads could also have traffic islands at suitable road crossings / inter sections. These traffic islands can have some beautification like Green patches, shrubs and flower plants, decorative lights and or water fountains. The development and upkeep of such traffic islands can be entrusted to private / commercial establishments or rotary, lions clubs in the town.



16. Augment / improve transportation services for easy, comfortable travel within Yanam as well as to nearby places, such as Annavaram Temple, Dhvaksharama Temple and so on.
17. Introduce coach services for taking pilgrim visitors from Yanam and nearby places to pilgrim centres like Annavaram and Dhvaksharama Temple for attending weekly and yearly festivals at these temples. Coach services may also be provided on a package basis for bringing tourists from Kakinada, Rajahmundry, Bhimavaram, and other nearby places in Andhra Pradesh to Yanam when some tourism projects / attractions are in place.
18. Initiate necessary steps to form a 'Yanam Boat Club' which could get sponsorship and support from Government as also private commercial and educational establishments in the region. The college students and other youth in Yanam and nearby places should be encouraged to become members of the Boat Club and take to regular water sports activities such as swimming, rowing, sailing, canoeing, water skiing, etc. on the Goutami Godavari river. Periodically competitions could be held in water sports activities among the local members of the Boat Club as well as teams from other areas.

#### **DEVELOPMENT OF SPA / HEALTH RESORTS**

- 6.15 Two places appear most suitable for development of Spa / Health resorts in Pondicherry UT. These are
  - Near the Oussudu Lake in Pondicherry and
  - One of the five islands on Godavari river or at a suitable site on the Godavari river bank in Yanam.
- 6.16 Both are endowed with scenic surroundings. With requisite additional investments on landscaping, tree planting, etc, these two water-front areas may be converted into picturesque locations with greenery all round, which would be beneficial and conducive atmosphere for Spa / Health resorts.



6.17 These health resorts, specializing in providing herbal and other oil based treatment for improved health and rejuvenation of body system of clients, would attract not only the visiting tourists to these centres, but also receive growing patronage from the local residents. Suitable health care packages could be developed by these centres for both short term therapeutic as well as extended rejuvenation courses of health care for the clients. As the East and West Godavari Districts around Yanam region do not seem to have any such facility at present, development of such health resort at Yanam could be a big draw for that region's population.

### **PROJECT IMPLEMENTATION**

6.18 Separate Action Groups, representing various government departments and private agencies involved in project implementation, may be constituted for firming up action plans on the following. Each Action Group may be headed by a Senior Manager or Project Director for co-ordination of respective group's works.

- Duration and commissioning time of the project
- Implementation schedule of the project
- Funding and disbursing authority of the project
- Project monitoring and course correction
- Government / Institution Liaison
- Division of work among persons in each Group



## ECONOMIC BENEFIT ANALYSIS OF THE PROJECTS

- 6.19 The total impact of tourism could be analyzed in terms of direct, indirect and induced benefits. The direct impact is the most tangible of the three benefits. The *direct income and employment* generated by tourism refers to the incremental income and employment generated in different sectors of the tourism industry directly as a result of tourist spending. The *indirect employment and income* refers to the incremental income generated in sectors which supply inputs to the industry.
- 6.20 The input supplying industries in turn require a whole set of raw materials and intermediate supplies as their input. Thus, this effect generates income and employment to the industries higher up in the supply chain. This in turn leads to increased output, income and employment in the sectors producing consumption goods. This is termed as the *induced effect*.
- 6.21 Thus economic impact of tourism on a region can be termed as the aggregate of all the three components. As there are no direct ways of ascertaining the last two components accurately, they are expressed as a multiple of the direct impact of tourism on the region. This multiple is called the **Multiplier**.
- 6.22 *Input-Output Analysis* is a sophisticated tool used for multiplier analysis. This has been developed based on Wassily Leontief Model. This has been used at the national level for estimation of tourism benefits.
- 6.23 The Input–Output analysis requires construction of a transaction matrix. This matrix takes into account the sectoral and industry interdependence. The coefficients of this matrix indicate the quantity of each input required by every industry. Final demand for each industry’s output in terms of consumption, investment and export purposes are also specified. The degree of inter industry interdependence is formally quantified in this matrix.
- 6.24 The basic areas of tourist expenditure are
- Accommodation and food
  - Transportation
  - Shopping
  - Entertainment





These sectors will benefit directly from the increased tourism activity. These sectors, which in turn will become the core for various other dependent sectors, induce a multiplier effect on them thus increasing the scale of benefit.

#### ASSUMPTION AND METHODOLOGY

6.25 Some of the assumptions that have gone into projection of the economic benefits from various projects suggested are

☞ Projections of tourist inflow

☞ Likely receipts from tourism

6.26 The receipts from tourism spending, which is the direct output of tourism have been calculated as

Annual tourism receipts =	Annual tourists arrival X Average expenditure per day X Average duration of stay (no. of days)
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#### ☞ *Multipliers*

The multipliers used are as given in **Table 6.1**. Indirect output, total income and employment generation have been calculated based on these multipliers taken from an ESCAP sponsored study '*The Economic Impact of Tourism in India*' conducted in 1992.

**TABLE 6.1: MULTIPLIERS IN TOURISM SECTOR**

Economic Multipliers in Tourism Sector		
<i>Multipliers</i>	<i>Domestic</i>	<i>International</i>
Indirect Output	1.05	1.069
Income-Output Multiplier	0.903	0.93
Employment-Output	13.62	17.33

Source:

1992 United Nations ESCAP sponsored Study  
"The Economic Impact of Tourism in India"



### ❧ *Indirect Output*

The indirect output has been calculated using the following formula:

$$\text{Indirect Output} = \text{Direct output} \times \text{Indirect output Multiplier}$$

### ❧ *Total Output*

The total output generated is the aggregate of both direct and indirect output.

$$\text{Total Output} = \text{Direct output} + \text{Indirect Output}$$

### ❧ *Total Income*

Total income accruing to the economy has been derived using the income / output multiplier given in Table A. It can be calculated using the following formula:

$$\text{Total Income} = \text{Direct output} \times \text{Income-Output Multiplier}$$

### ❧ *Employment Generation*

The incremental employment generated due to the tourist arrivals can be projected by the use of the formula given below:

$$\text{Total Employment} = \text{Direct Output} \times \text{Employment-Output Multiplier}$$

- 6.27 The incremental employment generation has been projected on the basis of output employment multipliers for domestic and international tourists. Employment generated from tourism activities will be primarily due to the domestic tourists inflow even though international tourists have a higher employment – output multiplier value.



## PROJECTED ECONOMIC BENEFITS

6.28 Based on our calculations as per the methodology described above, the incremental additions to employment and income due to tourist inflow in the four regions of **Pondicherry UT** have been derived and shown in **Table 6.2**.

**TABLE 6.2 : PROJECTED ECONOMIC BENEFITS FROM TOURISM PROJECTS**

Year	2001	2011	2021
<b>Pondicherry</b>			
Income Generated (Rs. Mln.)	120	680	5060
Employment Generated (Nos.)	1870	10290	76300
<b>Karaikal</b>			
Income Generated (Rs. Mln.)	30	220	1430
Employment Generated (Nos.)	490	3260	21600
<b>Mahe</b>			
Income Generated (Rs. Mln.)	2	3	8
Employment Generated (Nos.)	30	50	120
<b>Yanam</b>			
Income Generated (Rs. Mln.)	5	20	100
Employment Generated (Nos.)	70	290	1500
<b>Grand Total for UT</b>			
Income Generated (Rs. Mln.)	<b>165</b>	<b>920</b>	<b>6600</b>
Employment Generated (Nos.)	<b>2450</b>	<b>13900</b>	<b>99500</b>



# EXHIBIT 6.1

## SALIENT FEATURES OF RECOMMENDED PROJECTS

Region / Project	Total outlay (Rs. Lakhs)	Total Revenue (Rs. Lakhs)	Profit (+) or Loss (-)	Employment potential * (No. of persons)
<b><u>PONDICHERY</u></b>				
1. Lakeside Spa Resort – Oussudu Lake	350 (2006-09)	111 (Year 2011)	21 (Year 2011)	65
2. Boat Club - Chunnambar	50 (2006-08)	17 (Year 2011)	4 (Year 2011)	12
<b>Sub Total</b>	<b>400</b>			<b>77</b>
<b><u>KARAIKAL</u></b>				
1. Amusement Park	90 (2003-09)	96 (Year 2011)	7 (Year 2011)	67
2. Gardens / Parks	30 (2004-06)	6 (Year 2007)	1 (Year 2007)	13
3. Budget Hotel	90 (2004-06)	19 (Year 2007)	3 (Year 2007)	29
4. Riverside Bar / Restaurant	40 (2005-07)	12 (Year 2010)	1 (Year 2010)	26
5. Mini Zoo (Animal Park)	50 (2006-09)	31 (Year 2011)	6 (Year 2011)	33
6. Indoor Sports Complex	700 (2007-11)	27 (Year 2012)	-4 (Year 2012)	42
7. Planetarium	800 (2009-12)	32 (Year 2012)	3 (Year 2012)	30
<b>Sub Total</b>	<b>1800</b>			<b>240</b>



**EXHIBIT 6.1 Contd..**

<b>Region / Project</b>	<b>Total outlay (Rs. Lakhs)</b>	<b>Total Revenue (Rs. Lakhs)</b>	<b>Profit (+) or Loss (-)</b>	<b>Employment potential * (No. of persons)</b>
<b><u>MAHE</u></b>				
1. River Side Park	30 (2003-05)	3 (Year 2007)	- (Year 2007)	12
2. Manjakkal Recreation Complex	70 (2004-07)	21 (Year 2010)	1 (Year 2010)	44
3. Indoor Stadium	400 (2006-10)	17 (Year 2011)	-3.50 (Year 2011)	26
<b>Sub Total</b>	<b>500</b>			<b>82</b>
<b><u>YANAM</u></b>				
1. Budget Hotel	180 (2003-06) (2011-14)	9 (Year 2008)	5 (Year 2008)	28
2. Star Hotel	240 (2003-08)	62 (Year 2008)	2 (Year 2008)	58
3. Amusement Park	80 (2004-07)	70 (Year 2011)	5 (Year 2011)	67
4. Mini Zoo (Animal Park)	50 (2005-09)	19 (Year 2007)	-5 (Year 2007)	34
5. Trekking Island	20 (2007-10)	60 (Year 2007)	16 (Year 2007)	22
6. House Boat & Water Sports	30 (2004-07)	6 (Year 2009)	2 (Year 2009)	8
<b>Sub Total</b>	<b>600</b>			<b>217</b>
<b>Grand Total</b>	<b>3300</b>			<b>616</b>

\* Refers only to direct employment

Notes:

1. Financial figures have been rounded
2. Figures in parentheses in column 2 above relate to project implementation period

**EXHIBIT 6.2**

**PROPOSED INVESTMENT SCHEDULE FOR RECOMMENDED PROJECTS**

Projects	Total value	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>Pondicherry</b>	Rs. Lakh																				
<b>1</b> Lakeview Resort	350																				
% of total value					10	25	45	20													
Rs. Lakhs					35	88	158	70													
<b>2</b> Boat Club	50																				
					50	25	25														
					25	13	13														
<b>Total Investment</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>100</b>	<b>170</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>KARAIKAL</b>																					
<b>1</b> Amusement Park	90																				
% of total value		30	20		15	15		20													
Rs. Lakhs		27	18		14	14		18													
<b>2</b> Gardens (Rs. 30.00 lakhs for one garden initially)	30																				
			50	30	20			50	30	20			50	30	20			50	30	20	
			15	9	6			15	9	6			15	9	6			15	9	6	
<b>3</b> Economy Class Hotel	90																				
			50	25	25																
			45	23	23																
<b>4</b> River side Restaurant	40																				
				40	30	30															
				16	12	12															
<b>5</b> Childrens Animal park Mini Zoo	50																				
					10	25	45	20													
					5	13	23	10													
<b>6</b> Indoor Sports Complex	700																				
						15	35		25	25											
						105	245		175	175											
<b>7</b> Planetarium	800																				
								10	30	35	25										
								80	240	280	200										
<b>Total Investment</b>	<b>1800</b>	<b>27</b>	<b>78</b>	<b>48</b>	<b>59</b>	<b>143</b>	<b>268</b>	<b>123</b>	<b>424</b>	<b>461</b>	<b>200</b>	<b>0</b>	<b>15</b>	<b>9</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>9</b>	<b>6</b>	<b>0</b>

**EXHIBIT 6.2 Contd.**

Projects	total value	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>MAHE</b>	Rs. Lakh																				
<b>1</b> Riverside Garden (Tagore Park)	30	20	50	30																	
		6	15	9																	
<b>2</b> Manjakkal Recreation Complex	70		20	40	30	10															
			14	28	21	7															
<b>3</b> Indoor Stadium	400				15	20	25	20	20												
					60	80	100	80	80												
<b>Total Investment</b>	<b>500</b>	<b>6</b>	<b>29</b>	<b>37</b>	<b>81</b>	<b>87</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Yanam</b>																					
<b>1</b> Economy Class Hotel (2 nos. @ Rs. 91 lakh per hotel)	90	35	15	25	25					35	15	25	25								
	180	32	14	23	23					32	14	23	23								
<b>2</b> Star Category Hotel	240	30	25			20	25														
	%	72	60			48	60														
<b>3</b> House Boat & Water Sports	30		20	30	25	25															
	%		6	9	8	8															
<b>4</b> Amusement Park	80		30	25	25	20															
	% invst		24	13	13	10															
<b>5</b> Animal Park	50			25	25	10	20	20													
	%			13	13	5	10	10													
<b>6</b> Trekking Island	20					15	25	35	25												
	%					3	5	7	5												
<b>Total Investment</b>	<b>600</b>	<b>104</b>	<b>104</b>	<b>57</b>	<b>55</b>	<b>74</b>	<b>75</b>	<b>17</b>	<b>5</b>	<b>32</b>	<b>14</b>	<b>23</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Investment</b>	<b>3300</b>	<b>137</b>	<b>211</b>	<b>141</b>	<b>255</b>	<b>404</b>	<b>613</b>	<b>290</b>	<b>509</b>	<b>493</b>	<b>214</b>	<b>23</b>	<b>38</b>	<b>9</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>9</b>	<b>6</b>	<b>0</b>



## CHAPTER VII

### FINANCING THE TOURISM PROMOTION PROJECTS

- 7.1 As per the Draft 10<sup>th</sup> Five Year Plan for 2002-2007 and the Annual Plan for 2002-2003 of Pondicherry Government, the proposed outlays for tourism development in the Union Territory of Pondicherry are at Rs 70 crores and Rs 10.88 crores respectively. Details regarding the plans schemes are already covered under the section ‘ Government’s Plan for Tourism Development’ and **Table 1.26**, both in Chapter 1.
- 7.2 Financial assistance by the Tourism Department, Govt of India for improvement of tourism facilities is channelised through respective state / UT governments on a cost sharing basis. The cost of land and its development is borne by the state / UT government, while funds for the construction are provided by the Union Government. Various schemes for which central government assistance is provided are as follows:
- Budget accommodation, including tourist bungalows and tourist lodges
  - Upgrading of existing tourist accommodation
  - Wayside amenities such as cafeteria, restaurants, fast food outlets
  - Tourist reception points
  - Health Resorts / Beach Resorts
  - Refurbishment of Monuments and Heritage Buildings
  - Development of Pilgrim Centres
  - Establishment of Light and Sound Programmes
  - Adventure Sports
  - Organising Fairs and Festivals
  - Production of Publicity / Promotional Material
  - Computerisation
- 7.3 Depending on the progress in their implementation, required funds for execution of such projects are released in 3 or 4 instalments.
- 7.4 Apart from these, for large investment projects a new scheme of financial assistance has also been in vogue for some time now. As per this, while the





central and state governments contribute 28 percent and 12 percent of the project cost, the balance 60 percent is funded by financial institutions and banks. Under this new scheme, the total amount sanctioned and released by the Central Government to different states and UTs in the last four years for tourism development projects is as shown below in **Table 7.1**. The decreasing percentage share in column 5 of the Table is perhaps indicative of the slack in project implementation by the state / UT governments.

**TABLE 7.1 : CENTRAL ASSISTANCE FOR TOURISM PROJECTS**

(Amount in Rs. lakhs)

<b>Year</b> <b>(1)</b>	<b>No of Projects sanctioned</b> <b>(2)</b>	<b>Amount Sanctioned</b> <b>(3)</b>	<b>Amount Released</b> <b>(4)</b>	<b>(4) as % of (3)</b> <b>(5)</b>
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
2000-01	337	7748.36	2433.89	31.41
<b>Annual Growth(%)</b>	<b>9.2</b>	<b>15.4</b>	<b>10.1</b>	<b>-</b>

Source: Tourist Statistics- 2000

7.5 Figures below illustrate the trends in this aspect in Pondicherry UT.

**TABLE 7.2 : PROJECTS SANCTIONED, AMOUNT SANCTIONED AND AMOUNT RELEASED FOR PONDICHERRY UT.**

(for all projects including fairs and festivals )

(Amount in Rs. lakhs)

	1997-98	1998-99	1999-2000	2000-2001
No of Projects Sanctioned	4	2	10	3
Amount Sanctioned	35.64	15.00	163.89	26.18
Amount Released	12.83	4.50	52.04	9.09



## INCENTIVES FROM OTHER CENTRAL GOVERNMENT AUTHORITIES

### 1) Ministry of Youth Affairs and Sports

7.6 Incentives from the Ministry of Youth Affairs and Sports for promotion of sports, adventure, youth welfare / youth festivals activities, youth / group travel, sports clubs, youth clubs, youth development centers, Special Area Games (SAG) are available to State / UT governments and other agencies involved in the promotion of such activities. Needless to say, all these activities aim to promote group activities, group travel etc of sports and games persons, youth etc and have therefore an impact on promotion of domestic tourism. What we may call as **Sports Tourism**.

7.7 A brief description of some of these incentive schemes is given below. It is felt in this connection that by formulation of appropriate policies and implementation measures, activities could be promoted in the four regions by Pondicherry Government to promote inflow of domestic tourists (mainly relating to sports and youth affairs) into this Union Territory.

#### a) Monetary grants for Promotion of Adventure

7.8 The scheme includes an exhaustive list of adventure activities such as trekking, hiking, camping, rock climbing, mountaineering, skiing, cycling, rafting, kayaking and canoeing, water skiing, jet boating, long distance swimming, wind surfing, long distance sailing, diving including scuba diving, gliding, hang gliding, ballooning, parachuting, para sailing / para gliding, micro light flying and power gliding etc., for which financial assistance is provided to State Government / Union Territory Administrations, NYKs, Educational Institutions, Voluntary organizations, public trusts, individuals and group of individuals etc.

#### b) Financial assistance for Holding of National Youth Festivals and National Youth Day

7.9 During 12-16 January of every year this festival is held at different centers in the country to commemorate the birth anniversary of Swami Vivekananda. The seventh National youth festival was held at Hisar in Haryana in January 2002, with 2900 youth from 35 States / UT participating and the Haryana state government playing the host.



c) Finance for Construction of Youth Hostels

7.10 As financial assistance is available from this ministry for construction of Youth Hostel buildings where developed plot is made available by the State / UT government for construction of the building, it may be worthwhile to establish youth hostel in Karaikal. The youth hostel could serve to attract groups of weekend and short holiday tourists to Karaikal from various nearby centers in Tamil Nadu. It can also serve to provide accommodation for groups of sports tourists, cultural tourists, spiritual tourists, etc visiting Karaikal for short period stay.

- d) Grants for creation of Sports Infrastructure
- e) Grants to Rural Schools for Sports Equipment & Playfields
- f) Grants for promotion of Sports in Universities and Colleges
- g) Grants for Installation of Synthetic Surfaces.
- h) Incentives for promotion of Sports and Games in schools.
- i) Contribution to National Sports Development Fund.

**2) Department of Culture, Ministry of Tourism and Culture**

7.11 Financial assistance is available from the Department to various State / UT governments and / or autonomous bodies created / sponsored by State / UT governments for :

- Development and maintenance of national memorials.
- Setting up of multi purpose cultural complexes including those for children.
- Promotion, strengthening and maintenance of regional and local museums

**3) Ministry of Environment and Forests**

7.12 Financial assistance is provided by this Ministry for development of National Parks and Sanctuaries. Under this scheme, 100 percent central assistance is provided for non-recurring items of expenditure for National Parks and Sanctuaries, and 50 percent assistance for recurring expenditure also in the case of National Parks.



- 7.13 For eliciting and encouraging people's participation, a designated Board in this Ministry provides financial assistance to Non-Governmental Organisations (NGOs) / Voluntary Agencies (VAs) for afforestation and tree planting activities.

#### **4) International Agencies, Government of India**

- 7.14 Capital grants for the establishment of Heritage Building Fund, and periodic financial assistance for better upkeep of 'Heritage Buildings' may be likely from UN organs and / or Central Government Departments.

### **GOVERNMENT'S ROLE IN RECOMMENDED TOURISM PROJECTS**

- 7.15 Among the recommended projects, we envisage investment by government or government agencies (such as Tourism Department and Pondicherry Tourism Development Corporation) only on projects like Gardens / Parks, Mini zoo (Animal park and Aquarium), Indoor sports complex, Planetarium, Recreation park and the development of one or more of the five existing islands in Yanam for trekking and other suitable activities.
- 7.16 Except for major investments on creation / augmentation of requisite infrastructure facilities for enabling smooth / successful commissioning and operation of recommended projects, minimal participation / involvement of the UT Government or government agencies is envisaged in implementation and or operation of tourism related projects. Government is expected to play predominantly the catalytic role of a facilitator, in areas such as allocation of requisite land on lease basis to the private promoters, merit based quick clearances and permits where necessary, fast sanctioning of power, water connections etc to the project, while at the same time safeguarding the larger interests of the public. These would cover aspects like environmental pollution from the envisaged projects, likely revenue gain / loss to the government in the short, medium and longer terms, the employment and income generation potential from the projects and so on.
- 7.17 Whole or major investment on all other projects as well as their commercial operation is best / preferably left to the private sector. Direct investment participation by government or government agencies in these projects is not recommended.



7.18 The Draft Tenth Five Year Plan Report ( 2002-1007 ) has proposed an outlay of Rs 306.10 crores for the transport sector, which works out to 11.68 percent in the total outlay. For water supply and sanitation schemes, Rs 123.50 crores is the proposed outlay, which is 4.71 percent of the total.

7.19 Development of infrastructure facilities such as roads, electricity, port, transport and irrigation are the thrust areas in the Tenth Plan. The improved availability of these facilities, especially good roads and uninterrupted and quality power, are meant to facilitate rapid growth through private initiatives and creation of employment opportunities particularly in the private sector. Focused attention will be given for development of tourism, among others, as this has considerable potential for additional employment generation in the Union Territory areas.

### **Ways of Funding the Projects**

7.20 While project funding would be the responsibility of the private promoter, government could provide financial assistance in one or more of the following ways:

- Offer the required extent of land on low-rent, long lease basis, with provision for 5 to 10 percent annual increase in lease rentals from the fifth year of operation.
- Term loans and working capital may be provided on liberal / concessional terms by designated state level financial institutions. UT Government may also stand as Guarantor for the loans, which may be obtained by the promoter from funding institutions like PIPDIC, Tourism Financial Corporation of India, Japanese Business Investment Corporation (JBIC) etc.
- Charges for utilities - considering the income and employment generation potential of tourism projects, concessional charges may be levied on supply of power and water to these projects for a specified period.

### **Fiscal Incentives**

7.21 As tourism has been accorded ' Industry Status' by the Central Government, various incentives and offers given by the different state level industrial promotion corporations in the country, such as concessional or deferred



collection of commercial taxes for a specified period, could be extended to the tourism projects implemented by private entrepreneurs in this UT.

7.22 Pondicherry Government has also been moving on the right lines in extending such promotional incentives and enabling measures for tourism development in the UT. The currently available major facilities are as follows:

**A) Incentives Available to Tourism Sector**

- Grant of soft loan by the financial institution
- No luxury tax
- No entry tax for tourism vehicles
- Sales tax holiday for five years for new investments on tourism projects.
- Subsidy on interest as granted by Government of India.
- The units entitled for above concessions should fulfil the criteria laid down by the U.T Administration.

**B) Grant of Loans**

PIPDIC and other state level institutions will be extending loans to tourism related activities at reduced rate of interest as per normal terms and conditions.

**C) Land Acquisition for Joint Ventures**

The relatively high cost of land and non-availability of required extent of land at suitable locations may have inhibited major private investments on tourism projects in Pondicherry in recent years. To overcome this, the UT Government has proposed to acquire land at proper and suitable locations to start joint ventures with private firms with land as government's equity. This is expected to give better results / bring in potential private entrepreneurs.

**RECOMMENDED INCENTIVE PACKAGE**

7.23 In addition to fiscal / monetary / other incentives offered by the UT Government for promotion of tourism projects / activities in the UT, the authorities may also consider providing specific incentives and / or tax rebates to the project investor on the following lines. These may be given for specified period, say 5-8 years, from commissioning time of the project.



- Help to obtain monetary assistance from the Central Agencies for using renewable sources of energy (like wind energy and solar power) in the operation of the project. Full use of captively generated power from operation of windmill, solar energy system etc would minimize their drawal of power from the state grid.
- Fiscal incentives for use of eco-friendly materials such as hand-made recycled papers, articles made from cotton, jute fabrics etc, furniture items made from re-constituted wood / bamboo / aluminium etc, instead of timber and so on.
- Use of recycled water right from construction stage of the project and continuing during the operating period.
- Giving full or partial commitment to roadside tree plantation and maintaining the trees then onwards.

## **CONDITIONS**

- 7.24 While the government agencies would provide various forms of assistance to the project investor in setting up and operation of various tourism projects in the UT, there should also be an obligation on the entrepreneur for environment protection and eco-friendly efforts. Rigidly enforceable conditions should include rain water harvesting, pre treatment and recycling of used / effluent water, and developing a green belt in / around the project area from the time of starting the project work. Non-adherence or violation of these conditions should result in withdrawal of incentives to the project and / or penal action against the promoter.

## **EMPLOYMENT POTENTIAL**

- 7.25 Project wise employment potential on these various recommended projects is as indicated in **Exhibit 6.1** in **Chapter VI**. These are considered as 'Direct Employment' in the projects. The 'Indirect Employment' would be in areas like infrastructure projects covering roads and transportation for improved access to the project sites, augmentation of power and water supply, beautification / improvement of the existing assets, training of staff and workers for acquiring new operational skills and so on. There could be a maximum employment potential for about 100 persons per year.



## **PRIORITISATION OF INVESTMENTS**

7.26 Priority of investment on these projects may be as indicated below:

- Augmentation of fresh water availability at the tourist project areas by suitable measures including implementation of Rain Water Harvesting System.
- Installation of solar and / or windmill assisted power generation system.
- Recycling of used water from kitchen, wash rooms etc for garden, vehicle wash, laundry use etc.
- Provision of training to staff and workers of various existing and new projects in aspects like rendering first aid, emergency life saving techniques, risk and disaster management.





## CHAPTER VIII

### INFRASTRUCTURE DEVELOPMENT

- 8.1 The consultants working on preparation of this 20 year Perspective Plan Report are of the view that the Recommended Projects and other tourism promotion schemes for the four regions of Pondicherry UT for implementation during the periods 2002 to 2010, would provide adequate attractions to the tourists / visitors upto the year 2010 or thereabouts. Hand in hand with higher levels of population and the anticipated additional inflow of tourists to the four regions, particularly in Pondicherry and Karaikal, the inevitable pressures on the available infrastructure facilities at these centres would also have increased. The situation then could warrant additional investments on augmentation and upgradation of various infrastructure facilities and environment improvement measures.
- 8.2 Given below is a brief description of what may have to be done for major infrastructure areas:

#### ROAD AND RAIL TRANSPORT

- 8.3 On the roads and transportation side, for instance, building a network of elevated roadways and road flyovers for faster / free vehicular traffic, and building of sub-ways for safe and easy crossing of arterial roads and road junctions by the pedestrians are likely to become virtual necessities in Pondicherry and Karaikal in the post 2011 period. Investments on these would be on an on-going basis in the 2010-2021 periods. On the other hand, a rail link between Pondicherry and Cuddalore, as suggested by Pondicherry Government, could result in partial diversion from bus traffic to rail traffic between these two points, thus easing the pressure on the Cuddalore - Pondicherry road transport system in future years.
- 8.4 Detailed traffic surveys covering both passengers and goods movement on these routes would have to be carried out for a reliable estimate of the future road and rail traffic volumes on Tindivanam – Pondicherry – Cuddalore segment and inside Pondicherry Urban Areas. Plans for additions / improvement to road network, subways etc have to factor in these estimates



of likely future pressures on these infrastructure facilities during the periods 2011-16 and 2016-2021.

### **FERRY SERVICES**

- 8.5 To ease the pressures on the road transport system, operation of ferry services between Pondicherry Port and Cuddalore Port as well as between Pondicherry and Karaikal (or any other suitable landing points at these places) could also be given appropriate consideration. However, the environmental and economic benefits of running ferry services for movement of passengers and cargo between Pondicherry and Cuddalore / Karaikal, as alternatives / supplements to transportation by road / rail, would have to be thoroughly examined.

### **CIVIC AMENITIES**

- 8.6 With increased levels of population, tourist inflow and urbanization in these regions on the one hand, and limitations or high cost availability of open spaces and essential utilities like power, water, etc on the other, the collection and disposal of all forms of garbage and waste material are likely to present major cost and environmental challenges to the urban authorities. Considerable expenditures on maintaining and improvement on these would be essential to provide a healthy environment for the local population and tourists. Thus, even to attract / sustain the inflow of tourist volumes in future years, investment on the core infrastructural facilities like the above, instead of direct investment on tourism assets / projects, might become inescapable. The scale and nature of such future infrastructure investments may not be envisaged at present.
- 8.7 Hence, it might be fair to mention that investment on tourism related projects, as well as other projects, which would help to create a conducive environment for sustained / larger tourist flow to these regions in the post 2010 period would have to be directed more towards improvement (and beautification where warranted) of the already created facilities, than creation of newer attractions. Necessarily, these could be in the range of a few crore rupees (say Rs 3 to 5 crores ) every year for the period 2010-2022.
- 8.8 **In view of these, no fresh sizeable direct investments by government agencies on greenfield tourism projects are being suggested or envisaged for the period 2010-2021.**



## CHAPTER IX

### PRIVATISATION OF TOURISM ASSETS

- 9.1 Pondicherry Tourism & Transport Development Corporation (PT & TDC), a unit of the Pondicherry Tourism Department, has already been operating on commercial basis a number of tourism assets like hotels and restaurants, water sports facilities including boating, recreation centre, and sea side cottages. The Department of Tourism also operates a number of lodges / tourist accommodation facilities located in all the four regions of this UT. Although these are in good condition, it is felt that there is scope and need for improvement in their operational systems.
- 9.2 It is felt that privatisation of some of the hotels / restaurants could be initiated at an early date. Considering their locational aspect and the scenic surroundings, the Seagull restaurants located at Chunnambar water sports complex, Karaikal Beach Area, and Godavari river front in Yanam could be major attractions for private sector investment.
- 9.3 We also recommend that the Tourist Home at Uppalam in Pondicherry Town may be attached, for regular operations / administration, to the Pondicherry Institute for Hospitality crafts, which is situated right next to the Tourist Home. Such an integration of operations of these two entities is likely to prove beneficial in several ways not only for getting hands-on experience for the Diploma and Certificate courses students of the Craft Institute, but also for the guests staying at the Tourist Home which is woefully lacking in catering / restaurant and other such guest service facilities at present.
- 9.4 After successful privatisation of some of these restaurants and accommodation facilities, in full or part, the authorities concerned may take up appropriate privatisation decision / measures on the remaining properties of the Department of Tourism, Government of Pondicherry.



## CHAPTER X

### ENVIRONMENTAL IMPACT ASSESSMENT

#### INTRODUCTION

- 10.1 Tourism affects the environment in various ways as it forms an important avenue for economic and social development. It should be a prime concern for the tourism industry to preserve the environment, so as to maintain its core characteristics. It becomes necessary to decide the maximum limit that each region can take in view of its available resources. This brings into consideration the need for an Environment Impact Assessment (**EIA**). This aspect has assumed great importance in India, which can be seen from the EIA Notification issued by Government of India in 1994 for all the projects proposed to be undertaken in Union of India.
- 10.2 EIA, as an important decision making tool, helps in judging each proposal for its sustainability based on the continuous availability of resources in the long run without compromising on the requirements of the same resource for future generations. Thus, it helps in prescribing a limit that is arrived at using scientific tools.
- 10.3 It is important to understand that EIA is not a hindrance to development but a facilitator for a harmonious development that is to be expected from each project proposed. EIA helps in identifying the regeneration rate of each critical resource and also imposes a responsibility on the project to evolve various means to regenerate and conserve the resource so as not to destroy or use it at a pace that will not be sustainable in future.

#### TOURISM AND ITS ENVIRONMENTAL IMPACT

- 10.4 Tourism results in increase in a region's population by increasing the floating component at any given point in time. This generates an additional demand on the infrastructure like accommodation, transport, power, water, sewage and other support services necessary to cater to the increase in population.



#### 10.5 Some of the other impacts of tourism development could be

1. ***Disruption of Ecological Balance of an Area:*** The impact may be obvious in the form of damage to sensitive flora and fauna native to the region. The impact may also be subtle in the form of change in breeding habits of animals and flowering cycles of plants due to human intervention in some of the sensitive habitats.
2. ***Deforestation and Soil Erosion:*** This will be a result of the increased demand for wood from construction sector both as a raw material and for construction of hotels and resorts. The demand would also arise from agriculture sector to meet increased demand for food. This will result in soil erosion and reduction in rainwater retention capacity of the land.
3. ***Littering:*** Of late this has become a major irritant in many tourist attractions because of increasing use of non-biodegradable materials by tourists like plastic water bottles, plastics for packaging etc. This completely defaces both the natural and built environment.
4. ***Demand for Tourist Accommodation:*** Increased tourist activity alters the balance between hotels and residential housing. Moreover, this results in increased traffic congestion if transportation demands are not factored in the initial planning phase.
5. ***Erosion of Local Values and Customs:*** This is an important aspect which has a direct impact on the local population. Some of the core customs and values of the local population, which are harmonious with local environment, might change due to interaction with tourists. This might result in complete loss of the culture that would be core to the sustenance of that environment leading to various immeasurable impacts on the environment.

### ENVIRONMENTAL ANALYSIS OF PROPOSED TOURISM PROJECTS

#### A) Pondicherry Region

- 10.6 Pondicherry Town has some of the most treasured monuments of French architecture. It is also the seat of Aurobindo Ashram, and close to Auroville in adjacent Tamil Nadu, both of which attract a large number of spiritual tourists from India and abroad. Pondicherry already has a high population



density. Therefore it warrants a very careful promotion of tourism so as to sustain the environment.

#### 10.7 Current scenario

##### **1. Construction**

Pondicherry Town has only a few large open spaces for any further construction activity on a large scale.

##### **2. Vehicle Congestion**

There is heavy vehicular traffic during the peak hours due to large growth in the vehicle population. Despite the resulting congestion on the roads there is only limited scope for widening of the existing roads.

##### **3. Pollution**

Pondicherry has a considerable level of industrial activity with large and medium industries and several hundreds of small-scale industries. Atmospheric pollution from industrial activity and increasing vehicle population on the roads is on the increase.

Due to increasing population, continuous inflow of visitors throughout the year and growing commercial activities, there has been considerable pressure on the limited water resources in the city on one hand, while on the other there is also rising level of water pollution in the region.

##### **4. Litter and drainage overflow**

Pondicherry region does not have covered or underground drainage system in some parts of the region. The increasing resident and floating population in the region has led to overloading of the existing drainage and sewerage system.

10.8 From the above observations, it can be interpreted that if tourism is allowed to be developed without careful planning, it will lead to strain on the scarce resources like water, power and land in some of the areas. There is a need for careful development planning in Pondicherry to keep the environmental conditions in balance.

10.9 Another aspect to be considered prior to attracting tourism is the already overloaded water supply system of Pondicherry, which largely depends on Tamil Nadu for obtaining its requirement of potable water. Efforts have to be



made by the UT to develop its own sources of water supply and reduce dependence on Tamil Nadu. This needs to be done if tourism is to be promoted vigorously. Therefore, priority may be given for implementing widespread rainwater harvesting system. This will help in increasing the storage capacity in the medium term and help in recharging the aquifers in the longer term. Increased availability of water is an essential infrastructural requirement for Pondicherry.

### **PROPOSED PROJECTS**

10.10 The recommended tourism projects in Pondicherry region are

1. Lakeside spa resort near Oussudu Lake
2. Pondicherry Boat Club at Chunnambar.

Matrix P.1 and Matrix P.2 summarize the likely impact on the environment of Pondicherry region from these suggested projects.

### **CONCLUSION**

***10.11 Pondicherry has a number of tourism attractions already in place, drawing a considerable tourist population over the years. Perhaps what merits greater attention is augmentation of the existing tourist facilities and effecting improvement / beautification of these assets. Thus a shift could be from mere quantity to improved quality of tourist attractions. The suggested projects are not likely to create any adverse effect on the environment.***



## **B) Karaikal Region**

10.12 Besides the beach, Karaikal has a number of religious tourist attractions including the well-known temple of Lord Saneeswara at Thirunallar. This region does not have many French monuments or any other attractions like Pondicherry region. The *Sani Peyarchi* festival which takes place once every two and half years attracts nearly two lakh pilgrim visitors. Inflow of leisure tourists is in modest numbers only. There has been no adverse effect so far on the environment because of the relatively low tourist inflow into the region.

### **10.13 Current scenario**

#### **1. Construction**

Karaikal Town still has some large open spaces in different areas, offering scope for further construction activity. There is relatively low congestion of buildings.

#### **2. Vehicle Congestion**

The steady increase in vehicular traffic will eventually lead to congestion on the arterial roads of the region. There is only limited scope for widening some of the inner city roads in the town.

#### **3. Pollution**

There are a number of small-scale industries and a few large industrial units in the region. Industrial pollution is reportedly on a manageable scale only.

#### **4. Sewerage System**

Karaikal region does not have covered or underground drainage system. The region experiences increasing pressure on the existing drainage system due to the growing population.

10.14 From the above, it can be interpreted that if tourism is allowed to be developed without careful planning, it could lead to strain on the scarce resources like water, power and sewerage system in Karaikal region. Dovetailing the tourism plan to the resources and ecological situation in the region would help to bring about benefits of tourism without causing severe imbalance in the existing system and resources utilization.





10.15 An important aspect to be considered prior to attracting tourists is the already overloaded water supply system of Karaikal, where ground water availability is fast depleting leading to intrusion of seawater. Efforts have to be made by the UT authorities to develop other sources of water supply. This needs to be done independent of any decision to be taken on promotion of tourism in the region. Some efforts have been taken in this direction through construction of check dams across the rivers and construction of mini lakes to store sweet water.

### **ENVIRONMENT ANALYSIS OF THE PROPOSED PROJECTS**

10.16 The tourism projects suggested for Karaikal region are

1. Water based sporting activity on Arasalar River.
2. Bird Sanctuary nearabouts Arasalar River and Nandalar River.
3. Check Dam across Arasalar river.
4. Speed Boat Jetty Project
5. Indoor Stadium with swimming pool
6. Planetarium
7. Animal Park near Nandalar river

10.17 Matrix K.1 to Matrix K7 summarize the likely impact on the environment of Karaikal region from each of these suggested projects.

### **CONCLUSION**

***10.18 Karaikal being less densely populated than other regions of PondicherryUT, offers furthur scope for tourism development. The region attracts large number of pilgrim tourists. Due to lack of any other tourism attraction nearby, these pilgrim tourists have no motivation to extend their stay in Karaikal. The proposed projects will at best induce some of them to extend their stay in Karaikal.***

***10.19 The projects suggested for Karaikal are eco-friendly in nature keeping in view the constraints existing in the region. Moreover, some of the projects suggested will have a positive impact on the ecology of Karaikal.***



### **C) Mahe Region**

10.20 In spite of being a former French colony, this region does not have many French monuments or any other major tourist attractions. There is inflow of visitors during religious festival seasons of St.Teresa's Church and Sri Krishna Temple. Except commercial travellers and government officials from other regions of the UT, other categories of tourists to this region are quite limited. There has been no major adverse effect so far on the environment because of tourist inflow into the region.

10.21 Current scenario

#### **1. Construction**

Mahe Town is characterized by lack of large open spaces in most of the areas for any further construction activity. Moreover, the town suffers from narrow roads, hilly terrain, open drainage and lack of quality tourist accommodation.

#### **2. Vehicle Congestion**

Continuous increase in the vehicle population leads to traffic clogging on some roads and will lead to further congestion on the narrow arterial roads of the region.

#### **3. Pollution**

Mahe has very low industrial activity with only two large industrial units in the region. Hence, it has not witnessed any pollution from industrial sector.

#### **4. Litter and drainage overflow**

Mahe region does not have covered or underground drainage system. The high population density has led to pressure on the existing drainage system.

10.22 From the above, it can be interpreted that if tourism is allowed to be developed without careful planning, it will lead to strain on the scarce resources like water, power and land in Mahe region. Dovetailing the tourism plan to the resources availability and ecological situation in the



region would help to bring about benefits of tourism without disturbing the existing system and resources utilization.

- 10.23 One of the important aspects that has to be considered prior to attracting tourists is the already overloaded water supply system of Mahe, for which the region is entirely dependent on Kerala. Efforts have to be made by the UT to develop its own sources of water supply and reduce dependence on Kerala. This needs to be done independent of any decision to be taken on promotion of tourism in the region. Though some measures are proposed to be taken in the region for rainwater harvesting, this has to be done more intensively considering the large rainfall the region receives annually.

### **PROPOSED PROJECTS**

- 10.24 The tourism projects suggested for Mahe region are

1. Expansion of Tagore Park (as per already existing plans for the region)
2. Boating activity, Children's park and bar attached restaurant at Manjakkal Boat Jetty
3. Construction of indoor stadium, swimming pool and dormitory accommodation at Tatakulam

- 10.25 Matrix M.1 to Matrix M.3 summarize the likely impact on the environment of Mahe region from each of these suggested projects.

### **CONCLUSION**

- 10.26 In view of the already strained civic amenities and natural resources of the region as also the increasing population of Mahe, there may be no economic ground to suggest any large-scale projects in the region for tourism development. However, this should not prevent the administration of the region from augmenting and improving the civic amenities and aim to provide better quality of life for the residents of Mahe. Although any large-scale investment and promotional activity for tourism could have positive impact on the region's economy in the shorter term, the impact on the environment and ecological balance in the region could be less than satisfactory in the longer term.***



#### **D) Yanam Region**

10.27 Except the large spread of Godavari river and the five uninhabited islands with limited extent of vegetation in them, there is practically no place of tourist interest in the region.

10.28 As the region has a delicate ecological balance, which needs to be nurtured carefully, the government authorities have been emphasizing the importance of developing this place as an eco-tourism centre. Thus, any tourism project that would result in a larger inflow of tourists to the region calls for a complete impact analysis on the ecology of Yanam. Though tourism has a considerable impact on the environment because of its dependence on the natural resources, it is to be noted that the contribution from tourism to the economy is equally significant.

10.29 This region has not witnessed any tourist inflow on a large scale. There has been no adverse effect so far on the environment because of the tourism sector. But this region has a skewed distribution of population, with a high concentration in Yanam town area and low population density in other areas of the region. The five islands coming under the Yanam region are uninhabited.

10.30 Current scenario

##### **1. Construction**

Yanam Town has adequate open spaces offering scope for further construction activity. Some portions of the town near Regional Administrator's office are relatively free from too many buildings because of the large-scale presence of government offices. There is lack of quality tourist accommodation in the town.

##### **2. Vehicle Congestion**

Yanam town is characterized by narrow roads overflowing with vehicular traffic during the peak hours. Another notable feature is that there is practically no scope for widening the existing narrow congested roads, which do not have pedestrian walkway either. Some of the streets near the thoroughfares are just wide enough to allow the passage of a single four wheeler at any given time in one direction only.



### **3. *Pollution***

Some of the outlying areas of Yanam town have minimum industrial activity and low traffic flow. This has kept the pollution level low in this belt. But soil salinity, which is already very high in this region, is on the increase due to the intensive prawn culture activity in these areas. As per available reports, the entire ground water in Yanam region is saline. This inhibits the growth of vegetation and consequently development of green belt areas.

### **4. *Litter and drainage overflow***

Yanam region does not have a covered or underground drainage system even in Yanam town. Increased load on the drainage system has led to foul smell emanating from the sewage drains along the road in some areas of the town. The drainage system is also used for dumping garbage in most of the places.

- 10.31 From the above observations, it can be interpreted that if tourism is promoted without careful planning, it will lead to strain on the scarce resources like water and power. There is a need for careful development planning for some of the areas in Yanam, which would help in improving the geographic distribution of the population in the region. There could be consequent improvement in economic activity in the newly developed areas.
- 10.32 Moreover, areas near the Regency Institute of Technology, Adivipolam and along the by-pass road connecting the NH 217 to the new bridge have considerable open spaces which could be used for institutional and residential development in a well-planned manner. Besides reducing congestion in the town, these new areas offer potential for development of business activities like game parlors, hotels and restaurants, entertainment centres and sports activities by way of play grounds, gymnasium etc.
- 10.33 Many families are involved in prawn culture in the areas mentioned above. There will be a need to relocate some of the farms if this area is to be used for some of the tourism projects mentioned in our report. This will affect the livelihood of the farmers who are into this activity. Moreover, the relocation of the farms and farmers to newer areas may increase the salinity of the soil in those areas.



10.34 The five inhabited islands with large acreage may offer good possibilities for forming mini lakes and introduction of rain water harvesting system.

#### **PROPOSED PROJECTS**

10.35 The major tourism projects suggested (Excluding hotels) for this region are

1. Amusement Park
2. Mini Zoo / Animal park
3. Trekking Island
4. Boating and water based activities

10.36 Matrix Y.1 to Matrix Y.4 summarize the likely impact on the environment of Yanam region from each of these suggested projects.

#### **CONCLUSION**

***10.37 Keeping in focus the ecological sensitivity of the region and the need to reserve it in future years on the one hand, and the economic and social benefits that would accrue to the region from careful utilization of the available natural and other resources in the region on the other hand, we have recommended projects of such a nature whose impact is likely to be more beneficial than adverse to the region as a whole in the longer run.***



**MATRIX P.1: EVALUATION OF ENVIRONMENTAL IMPACT OF  
LAKESIDE SPA RESORT**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Possible outflow of effluent from the resort.
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems			√		During peak season - large number of visitors
Water drainage and flooding problems		√			Location of the resort on the lake bank
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX P.2: EVALUATION OF ENVIRONMENTAL IMPACT OF  
BOAT CLUB AT CHUNNAMBAR**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			Location of restaurants
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna		√			Construction of Buildings etc
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach





**MATRIX K.1: EVALUATION OF ENVIRONMENTAL IMPACT OF BOATING  
ACTIVITY ON ARASALAR RIVER.**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution		√			from speed boat exhausts
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general		√			Due to disturbance from boats
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Because of the project location

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.2: EVALUATION OF ENVIRONMENTAL IMPACT OF BIRD  
SANCTUARY NEAR ARASALAR & NANDALAR RIVERS**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				Might not be much
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Possible, being on the river bank

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.3: EVALUATION OF ENVIRONMENTAL IMPACT OF  
CHECK DAM ON ARASALAR RIVER**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				Positive impact – increased sweet water availability
Ground water pollution	√				Positive impact – Reduction in salinity over a period of time
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.4: EVALUATION OF ENVIRONMENTAL IMPACT OF SPEED  
BOAT JETTY PROJECT**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution		√			Exhausts from motorised boat
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				Possible due to spillage of fuels
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Because of its proximity to river

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.5: EVALUATION OF ENVIRONMENTAL IMPACT OF INDOOR  
AND OUTDOOR STADIUM WITH SWIMMING POOL**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Chlorine water from pool
Ground water pollution		√			-do-
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems		√			From pool
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskip, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.6: EVALUATION OF ENVIRONMENTAL IMPACT OF  
PLANETARIUM**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			From visitors
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)		√			Might need extensive landscaping
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX K.7: EVALUATION OF ENVIRONMENTAL IMPACT OF  
CHILDREN'S PARK (ANIMAL PARK) NEAR NANDALAR RIVER**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				Smoking - visitors
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			From inmates and visitors
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Proximity to river

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX M.1: EVALUATION OF ENVIRONMENTAL IMPACT OF  
EXPANSION OF TAGORE PARK**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems	√				
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Possible, being on the river bank

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach





**MATRIX M.2: EVALUATION OF ENVIRONMENTAL IMPACT OF BOATING  
ACTIVITY, CHILDREN'S PARK AND BAR ATTACHED RESTAURANT AT  
MANJAKKAL**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution		√			From speed boats and restaurant
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Release of wash water from restaurant
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			From restaurant
Water drainage and flooding problems		√			-do-
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general		√			From boating activities
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			(possible being a coastal region)

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX M.3: EVALUATION OF ENVIRONMENTAL IMPACT OF INDOOR STADIUM, SWIMMING POOL AND DORMITORY ACCOMMODATION**

Type of Impact	Evaluation of Impact				
	No Impact	Minor Impact	Moderate Impact	Serious Impact	Comments
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Chlorine water from pool
Ground water pollution		√			-do-
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			From dormitory
Water drainage and flooding problems		√			From pool
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes	√				

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



### MATRIX Y.1: EVALUATION OF ENVIRONMENTAL IMPACT OF AMUSEMENT PARK

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution		√			Smoking, Exhausts from gensets etc.
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods		√			Noise from equipments and crowd
Solid waste disposal problems			√		During peak season - large number of visitors
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna		√			Some of the natural flora and fauna might be destroyed or removed
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general		√			
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes			√		Island Location

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX Y.2: EVALUATION OF ENVIRONMENTAL IMPACT OF  
MINI ZOO / ANIMAL PARK**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution		√			Burning of wastes
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters	√				
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			From inmates and visitors
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Island Location

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



**MATRIX Y.3: EVALUATION OF ENVIRONMENTAL IMPACT OF  
TREKKING ISLAND**

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution	√				
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Due to the participants
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods	√				
Solid waste disposal problems		√			-do-
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Island Location

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



#### MATRIX Y.4: EVALUATION OF ENVIRONMENTAL IMPACT OF BOATING AND WATER BASED ACTIVITIES

Type of Impact	Evaluation of Impact				Comments
	No Impact	Minor Impact	Moderate Impact	Serious Impact	
Air pollution		√			Motorised boats
Surface water pollution, including rivers, streams, lakes, ponds, and coastal waters		√			Waste from tourists
Ground water pollution	√				
Pollution of domestic water supply	√				
Noise pollution, in general and at peak periods		√			Noise from boats
Solid waste disposal problems		√			From Visitors
Water drainage and flooding problems	√				
Damage or destruction of flora and fauna	√				
Ecological disruption and damage, including both land and water areas, wetlands, and plant and animal habits in general	√				
Land use and circulation within the project area	√				
Land use and circulation problems (building design, landscaping, signs, etc.)	√				
Damage to historic, archaeological, and other cultural sites	√				
Damage to specific important and attractive environmental features, such as large trees, hilltops, and unusual geological formations	√				
Generation of erosion, landslides, and similar problems	√				
Likelihood of damage to the project from natural environmental hazards, such as earthquakes, volcanoes, floods, hurricanes		√			Location on river bank

**Source:** Inskeep, Edward, Tourism Planning: An Integrated and Sustainable Development Approach



# MAP I

## LOCATION OF FOUR REGIONS OF UNION TERRITORY OF PONDICHERRY





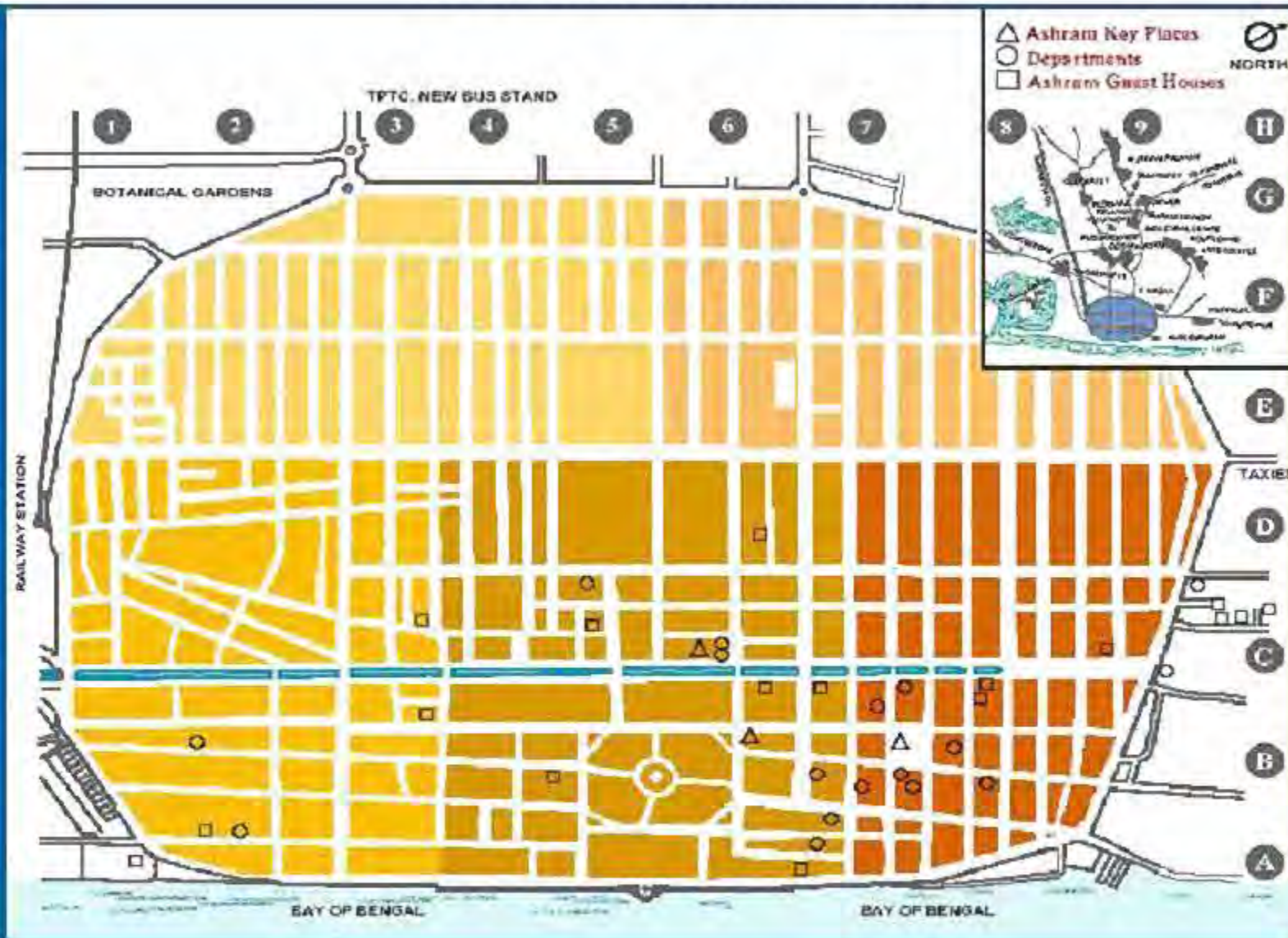
MAP 2 AREA MAP OF PONDICHERRY REGION





MAP 3 - BOULEVARD AREA OF PONDICHERRY TOWN

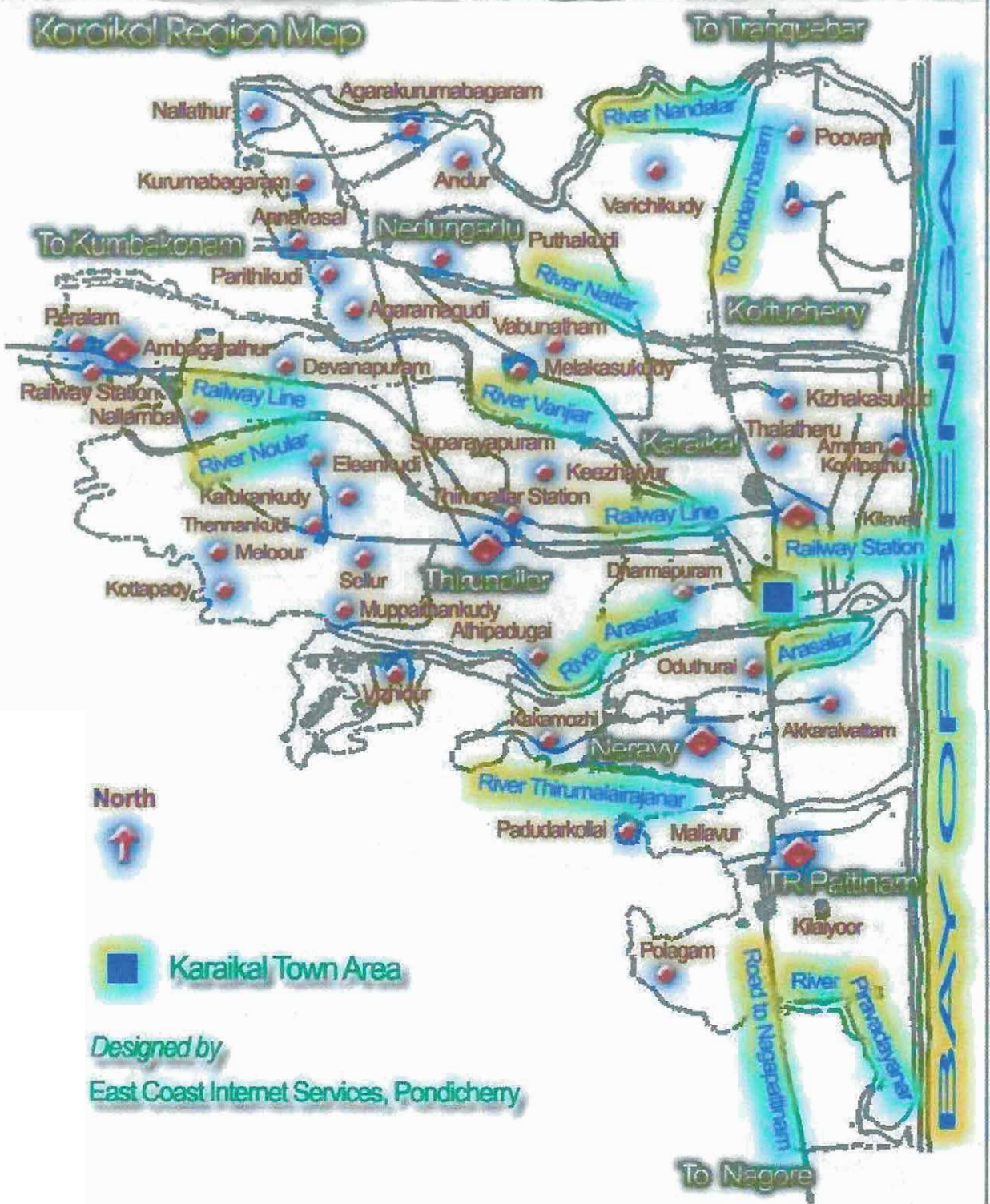
LEGEND FOR MAP 3



Place	Location	Place	Location
<b>Ashram Key Places (triangle)</b>		<b>Ashram Guest Houses (square)</b>	
Ashram Main Building	7B	Cottage Guest House (B for booking done)	6C
Reception Service (public relations office)	7B	Matri Sharanam (day rest house)	7C
Bureau Central (information)	6C	New Sweet Home (B)	8C
SABDA	7C	Oniya Nilayam	3C
		Park Guest House (B)	1A
<b>Ashram Departments (circle)</b>		<b>Medical Services</b>	
Art Gallery	7B	Ayurvedic Section	2B
Dining Room	6B	Homeo Niketan (homeopathy)	8B
Photo Section	7B	School for Perfect Eyesight	8B
Publication Department	7B		
<b>Ashram Commercial Units (circle)</b>		<b>Ashram Related Guest Houses (square)</b>	
Art House	7B	Atithi Bhavan	10D
Ashram Weaving Department	10D	Aurobharati (B)	10D
Autocare (tours)	7C	Garden Guest House	10D
Aurotravels (travel agent)	6C	International Guest House (B)	6C
Auroform and Aurofurn (furniture, leather)	8B	Kamataka Nilayam (B)	4C
Auroshikha Agarbathies	7C	Navajyoti Press House	5C
Ayurvedic Section	2B	Onissa House	9C
Batik Section	7B	Ramakrishna Bhavan (B)	10D
Cottage Industries (agarbathies)	6C	Samarpan Yatri Bhavan (B)	5B
Cottage Restaurant	6C	Sea Side Guest House (B)	7A
Fleurs en Flacon (perfumes)	7B	Shelter	2B
Hablik Handweaving	2B	Society House	7C
Hand Made Paper Factory	9C		
Harpagon Workshop and Wood Working Unit	8B		
Marbling Group	7A		
Mother's Embroidery Department	7B		



AREA MAP OF KARAİKAL REGION



MAP 8 AREA MAP OF MAHE REGION



## MAP 6 AREA MAP OF YANAM REGION

