

**CHAPTER - VII
URBANISATION, TRAVEL AND TOURISM*****I. Urbanisation*****7.0 Introduction**

Ecologically, urban system is a fabricated landscape of the biosphere. It is also termed as a techno-ecosystem. It actually covers a small area of the biosphere, but is highly energy intensive, generating enormous quantity of waste, heat and pollution. The energy density i.e. the amount of energy consumed per unit area per year is about 1000 or more times greater than that of forest. The cities and towns have adverse impact on habitat as a whole, mainly because of dumping of waste products into the country side; which provide almost all life-supporting resources to the urban areas. However, with high stress on life-support environment, the growth of urbanization continues at a faster rate. In the Year 1900, only 150 million people were living in cities which, swelled to 290 billion, a 19-fold increase. It has been estimated that more than half of the world population will live in cities by 2007. With this global scenario, in India 285.35 million people live in urban areas constituting 27.78% of total population. Whereas, in Orissa only 5.49 million people live in urban areas which constitute 14.97% of total population of the state.

Urbanisation is one of the critical indicators of development. The percentage of urban population to total population in India grew from 10.85 in 1901 to 27.78 in 2001 census. The corresponding figures of Orissa are 2.4 and 14.97 respectively.

The rate of urbanisation is comparatively low in Orissa, occupying fifth position from the bottom in the country below which there are four states Assam (12.72%), Sikkim (11.10%), Bihar (10.47%), and Himachal Pradesh (9.79%). The change in percentage decadal growth in Orissa is (-4.12) considering the percentage decadal growth between 1981-91(20.06%) and 1991-2001(15.94%).

7.1 Trends in Urbanisation**7.1.1 Demographic Features**

The 2001 census has classified 138 places as towns out of which 107 are statutory (by virtue of statutory notifications) and 31 are non-statutory towns. The growth of statutory and census town between the period 1991 to 2001 has increased from 102 and 22 to 107 and 31 respectively. There is also district wise variations in the towns of the state. Ganjam district occupies the first position having 19 towns whereas Deogarh and Boudh

occupy the last position having one town each. The trends of urbanisation are also highlighted by inclusion of the concept of the urban agglomerations, which do not qualify to be treated as independent towns but form a continuous spread of the town as outgrowths of the towns with sign of urban characteristics. There are 10 number urban agglomerations in the state viz Sambalpur, Rourkela, Baripada, Balasore, Cuttack, Byasnagar, Bhubaneswar, Jatni, Titilagarh and Gunupur. This phenomena characterizes movement of forces of urbanisation towards countryside. Environmentally it has an adverse impact mainly because of fragmented and isolated development inputs.

The trends of urbanisation also highlight change of urban population with 2.47% of total population in 1901, increasing to 14.97% in 2001. The state's highest growth rate of urban population was 86.79% during the decade 1951-61, which declined to 29.78% during 1991-2001. This may perhaps be due to two major factors viz (i) after independence many rural people migrated to urban areas with expectations of improving quality of life in the urban environment (ii) subsequent slowing down of economic growth due to inadequate industries, infrastructural and services sectors inputs which declined rate of decadal growth of urban population.

Urban characteristics and their trends can be analyzed from the factors like size of class of towns, civic status, population percentage of decadal growth, sex ratio, total literacy rate and female literacy rate, etc which are also responsible to determine the stress on the environment. It is also seen that percentage decadal growth of class VI towns is highest at the level of +105.51 and lowest for class IV towns, which recorded a negative growth of (-3.21%) as per 2001 census. Sex ratio is highest in class IV towns (940) and lowest in class I towns (895). The literacy rate is highest (88.22%) in class VI towns whereas is lowest in class IV towns (65.56%). The female literacy is highest in class VI towns (73.09%) and lowest is class IV towns.

From the analysis of these figures it can be inferred that with increasing decadal rate of populations as in class VI towns, families migrate from rural areas to the nearest urban areas with expectation to educate their children through better livelihood opportunities with the objective of improving quality of life of their future generations. This has resulted in highest literacy rate (88.22%) and also highest female literacy (73.09%) in class-VI towns. But the percentage of decadal growth is negative (-3.21%) in class IV towns. This implies that people living in class IV towns are in a stage of transition either to go back to rural areas or move to higher level towns and cities. In general with size of towns increasing sex ratio is declining alongwith literacy rate. This is an indicator to demonstrate that

higher size of towns are not able to provide adequate infrastructural services for shelter, education and employment opportunities which are the critical issues to degrade urban environment. *Table-7.1* highlights the trend of urbanisation related to the indicators discussed.

TABLE: 7.1
Trends of Urbanisation in Orissa

| Size Class | Civic Status | Population | % of decadal growth 91-01 | Sex Ratio | Total Literacy Rate | Female Literacy Rate |
|------------------------------|-------------------|------------|---------------------------|-----------|---------------------|----------------------|
| Class I (100,000 to above) | 6 UA and 2 towns | 5,493,319 | +21.78 | 895 | 80.95 | 72.68 |
| Class II (50,000-99999) | 1 UA and 13 towns | 9,40,975 | +51.66 | 907 | 70.86 | 70.19 |
| Class III (20,000 to 49,999) | 3 UA and 30 towns | 1000298 | +19.67 | 925 | 78.79 | 70.03 |
| Class IV (10000 to 19999) | 47 towns | 695,416 | -3.21 | 940 | 75.71 | 65.55 |
| Class V (5000-9999) | 24 towns | 174385 | +4.58 | 912 | 79.91 | 70.46 |
| Class VI less than 5000 | 6 towns | 24671 | +105.51 | 903 | 88.22 | 73.09 |

UA-Urban agglomeration

Source: Census 2001

7.1.2 Urban Population Distribution

The urban population according to 2001 census is 54,963,18. Consisting 14.97% of total population, which is less than all India average of 27.78%. Since 1901, except for 1911 where the percentage of urban population to the total population is lower than 1901; increasing trend of urban population has been observed in all the subsequent decades till 2001. The district wise urban population, child population in the age group 0-6 and literacy rate is given in the *Table-7.2*.

TABLE: 7.2
District Wise Urban Population in Orissa

| Sl. No | District | Population | Child population in the age group of 0-6 | Literacy | |
|--------|------------|------------|------------------------------------------|----------|--------|
| | | | | Male | Female |
| 1. | Baragarh | 103500 | 11,870 | 4181 | 3130 |
| 2. | Jharsugada | 185318 | 22,393 | 75366 | 52469 |
| 3. | Sambalpur | 254,272 | 28605 | 99868 | 72,182 |

| Sl. No | District | Population | Child population in the age group of 0-6 | Literacy | |
|--------|---------------|------------|------------------------------------------|----------|---------|
| | | | | Male | Female |
| 4. | Debagarh | 20,085 | 2506 | 7820 | 5692 |
| 5. | Sundergarh | 628,892 | 74,762 | 263504 | 196,212 |
| 6. | Kendujhar | 212944 | 29127 | 80,869 | 56141 |
| 7. | Mayurbhanj | 155407 | 17,319 | 65,685 | 49,410 |
| 8. | Baleswar | 220194 | 27,107 | 87,205 | 66,674 |
| 9. | Bhadrak | 140,950 | 19,192 | 50,650 | 36,879 |
| 10. | Kendrapara | 74128 | 8923 | 30114 | 24079 |
| 11. | Jagatsinghpur | 104,321 | 11,654 | 46,336 | 30,430 |
| 12. | Cuttack | 6,41,577 | 64,243 | 2,74900 | 205,422 |
| 13. | Jajpur | 72945 | 8297 | 30263 | 22985 |
| 14. | Dhenkanal | 92787 | 9978 | 39895 | 30,356 |
| 15. | Anugul | 158387 | 15502 | 69924 | 49731 |
| 16. | Nayagarh | 37,052 | 3870 | 16021 | 12515 |
| 17. | Khurda | 804,775 | 85773 | 366,182 | 262,624 |
| 18. | Puri | 203802 | 21,391 | 83581 | 66535 |
| 19. | Ganjam | 538,191 | 61376 | 218,548 | 157138 |
| 20. | Gajapati | 52,773 | 5982 | 19209 | 14562 |
| 21. | Kandhamala | 44093 | 5228 | 18903 | 14445 |
| 22. | Boudh | 17,996 | 2072 | 7510 | 5422 |
| 23. | Sonapur | 40,065 | 4688 | 16,398 | 11152 |
| 24. | Bolangir | 154,229 | 17,408 | 62,472 | 46075 |
| 25. | Nuapada | 30,029 | 4135 | 10,806 | 7604 |
| 26. | Kalahandi | 100277 | 12884 | 38677 | 26859 |
| 27. | Rayagada | 115,374 | 13802 | 42,460 | 31468 |
| 28. | Nabarangapur | 59,226 | 7748 | 21478 | 15803 |
| 29. | Koraput | 198,119 | 23,633 | 75,016 | 56593 |
| 30. | Malkangiri | 34,610 | 4949 | 11672 | 7947 |

Source: Census of India 2001

From the analysis of district wise population of the state, it is seen that Khurda is the highest urbanised district (population 804,775) followed by Cuttack (Population 641577) and Sundergarh (Population 628892). The least urbanised district in the state is Boudh with only 17,996 population. Number of literate urban people is highest in Khurda district (6,28,805) and lowest in Boudh district (12932). The corresponding urban female literate figures are 2,62,624 and 5422 respectively. It can be inferred that with higher rate of urbanisation the literacy figure go up and vice versa. Sex ratio varies and has no regular pattern. In bigger and highly densed towns and cities, the sex ratio is low, mainly because of high rental value of houses and high cost of living. There is comparatively high rate of urbanisation in coastal areas of the state and in the industrial complex of Rourkela. In northern and eastern region of the state, the rate of urbanisation is slow due to lack of growth of industry and service sector. The growth of urban population from 1981-2001 in different classes of towns and city indicates similar pattern as evident from the **Table-7.3**.



TABLE: 7.3

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7.1.3 Slums

Census 2001 has defined slums as (i) all areas notified by state/local government under any Act (ii) all areas recognised as “Slums” by state/local government which have not been formally notified as slum under any Act (iii) a compact area of at least 300 population or about 60-70 households of poorly built congested tenement, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. Such areas were identified personally by charge officers and also inspected by an officer nominated by Census Directorate.

However the census randomly selected 15 towns and identified slum pockets in these towns. The towns selected are Baragarh, Brajarajanagar, Jharsugada, Rourkela, Rourkela Industrial Township, Sambalpur, Cuttack, Bhubaneswar, Puri, Bolangir, Bhawanipatana, Sunabeda and Jeypur. The total population in these 15 towns is 2,818,455, out of which slum population is 302,616, constituting 22.54% of total population of the towns. The literacy rate of slum dwellers is 72.96%, which is less than that of literacy rate of whole towns, which is 83.29%. The literacy rate of slum dwellers of Berhempur is highest (83.12%) where as lowest literacy rate of 45.77% is observed in Sunabeda town. The sex ratio of slum population in 15 towns varies from highest of 1020(Bolangir town) to 896 in Baleswar town.

A study of slum in 102 urban local bodies in the state has been taken up, according to which there are 2401 number of slums with a population of 12,27,191, which constitute about 22.40% of total urban population. Highest slum population of 103730 is at Bhubaneswar, followed by Cuttack (90796) and Rourkela (879479). In general, sex ratio is higher in slum areas of the towns accompanied by low literacy rate in relation to total population of the towns. There is concentration of urban poor in slums. A study report prepared as a part of an inter-country research project on “Critical issues and policy measures to address of urban poverty” sponsored by Asian Development Bank, Manila was circulated by National Institute of Public Finance and Policy, New Delhi in 1993. This is the last comprehensive study report available which provide some of the critical issues relating to urban poverty in Orissa. According to this report percentage of poverty in urban Orissa is 24.1% out of which most are slum dwellers. Orissa is one of the states where number of urban poor increased from 0.85 million in 1972-73 to 1.09 million in 1987-88. This phenomena of high incidence of poverty with low urbanisation continues to generate intense pressure on urban environment.

The pressure of slums on urban environment is increasing as it is viewed as “invasion” of the urban areas by “the masses” and considered as social evil that has to be eradicated. Such perceptions lead to further degradation of slum areas adversely affecting the urban environment. The slums build up pressure on urban land utilisation, infrastructure and basic services. The conflict between slum population and general population increases as the people living in slums make efforts to grab access to the towns infrastructure and services, which are not designed for them. They also do not fit into the general schemes of urban livelihood programmes because of their social and legal characteristics. As such, they struggle and create an informal sector of economy whose contributions do not find a place while working out the budget of towns/states. The informal sector can encompass different types of revenue generating activities, but generally consists of labour-intensive, small-scale or family-based enterprises. The informal sector includes all unregistered commercial enterprises and all non-commercial enterprises that have no formal structure in terms of organisation and operation. It also comprises a major part of labour market and has played an increasing role in the expansion of production.

Due to non-recognition of contribution of informal economy of slum dwellers, urban policies are not addressed specifically to the urban poor. This results in negative impacts on all sectors of urban development degrading the urban environment. Due to absence of holistic and sustainable policies of the government on slum development, responses from the slum settlements deteriorate the quality of urban people as well as urban ecology. The responses to the pressure can be identified as (a) toleration coupled with neglect (b) eviction with or without sponsored relocation (c) low-cost unhygienic congested housing (d) absence of security of tenure coupled with lack of access to service and amenities etc.

7.2 Pressure, State and Impact

7.2.1 On Land

Pressure on land due to slow pace of urbanization has increased. In 1991, the total area under urban use was 2544.22 sq.kms, which was increased to 2794.26 km in 2001. The corresponding density of population are 1665 persons per sq.km in 1991 and 1967 sq.km in 2001. Intra town pressure on land is also increasing particularly for class I and II towns. Such pressure has adversely affected the quality of environment by squatter

settlement, congestion, pollution, law and order problems, increased proportion of built-up area, minimizing open areas and lack of adequate infrastructural services including livelihood programmes etc. The population of urban areas for quality of living and environment is now in a state of flux giving rise to an apprehension of gradual degradation of urban life. Such dilemma has given rise to the idea of “back to villages”.

7.2.2 Urban Transport

Urban transportation is closely tied to land development, which creates both positive and negative externalities in the process of city growth in the state. There is need to address the transport system as part of integrated urban strategies which can attend to the interests of all user groups. The mobility of the people without environmental pollution is a positive indicator of city urban transportation. **Table - 7.4** highlights the pressure of transport on urban environment of the State.

From the table it is evident that both number and rate of vehicular transport is increasing at a fast rate in the state. In five years, during 1990-91 to 1995-96 the percentage increase in registration of vehicles and use on road 55.26% and 60.97% respectively. But in three years during 2000-01 to 2002-03 percentage increased in vehicles registered and use on road is 24.28% and 28.06%. Most of growth of vehicular traffic uses the road network of urban areas creating problems like traffic congestion, pollution of air, noise etc, deteriorating quality of urban environment. Most of the roads in towns are not designed for cars and other vehicular traffic. Widening of existing roads, adding new roads and building flyovers etc., for improving traffic management in the towns are required to meet the increasing density of vehicles. There is substantial degradation at intersections of urban roads with mixed traffic of slow and fast moving, modes of transport. Missing of non-motorised traffic with motorised traffic not only affect the efficiency of speed of the traffic but also contribute to congestions, pollution and accidents. All these factors increase pressure on urban environment degrading quality of life.

Table-7.5 indicate region wise use of vehicles highlighting concentration of motorised traffic in urbansied areas of the state.



TABLE - 7.4

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TABLE-7.5
Motor Vehicles on Road (in use) in Orissa 2002-03
(As on 31.3.2003)

| Name of the Region | Two (2) Wheelers | Three (3) Wheelers | Buses | Cars & Jeeps | Goods Carrier (Three wheelers tempo) | Lorries & Trucks | Tractors | Others (Trailors + Treckers + other) |
|--------------------|------------------|--------------------|-------------|--------------|--------------------------------------|------------------|--------------|--------------------------------------|
| Balasore | 51757 | 168 | 218 | 1086 | 417 | 2015 | 790 | 1786 |
| Bhubaneswar | 194632 | 3768 | 509 | 23335 | 1348 | 4110 | 1130 | 2410 |
| Bolangir | 26700 | 53 | 192 | 1616 | 14 | 904 | 885 | 578 |
| Chandikhole | 29105 | 219 | 160 | 1955 | 176 | 4754 | 713 | 1833 |
| Cuttack | 117096 | 1878 | 641 | 9453 | 1158 | 5989 | 2957 | 4782 |
| Dhenkanal | 58215 | 454 | 287 | 2249 | 275 | 3896 | 853 | 2390 |
| Ganjam | 94441 | 1198 | 754 | 1984 | 873 | 3488 | 763 | 1188 |
| Kalahandi | 19476 | 48 | 99 | 13330 | 27 | 451 | 1331 | 1259 |
| Keonjhar | 31580 | 167 | 222 | 3372 | 255 | 5565 | 513 | 1159 |
| Koraput | 30103 | 235 | 140 | 1291 | 48 | 717 | 557 | 1127 |
| Mayurbhanja | 33872 | 329 | 355 | 2200 | 241 | 1943 | 1018 | 1463 |
| Phulbani | 6812 | 150 | 117 | 528 | 50 | 390 | 312 | 491 |
| Puri | 20026 | 815 | 207 | 899 | 210 | 283 | 754 | 923 |
| Rourakela | 117933 | 1203 | 210 | 8359 | 385 | 4004 | 126 | 301 |
| Sambalpur | 40919 | 82 | 90 | 3719 | 8 | 3093 | 492 | 779 |
| Sundergarh | 21635 | 77 | 263 | 1374 | 190 | 1143 | 636 | 1268 |
| Baragarh | 34216 | 116 | 132 | 1000 | 79 | 1011 | 2242 | 1732 |
| Rayagarh | 6153 | 88 | 59 | 425 | 34 | 530 | 508 | 672 |
| Angul | 3106 | 119 | 17 | 128 | 112 | 205 | 89 | 91 |
| Gajapati | 495 | 1 | 50 | 8 | 2 | 1 | 11 | 11 |
| Jagatsinghpur | 563 | 1 | 1 | 10 | 16 | 4 | 15 | 15 |
| Bhadrak | 2073 | 39 | 118 | 218 | 48 | 417 | 63 | 116 |
| Jharsuguda | 999 | 10 | 23 | 119 | 38 | 296 | 42 | 52 |
| Nawarangapur | 226 | 4 | --- | 2 | 5 | 5 | 7 | 18 |
| Nayagarh | 768 | 88 | 82 | 10 | 28 | 114 | 5 | 6 |
| Nuapada | 77 | --- | --- | 1 | --- | --- | --- | --- |
| TOTAL | 943178 | 11310 | 4946 | 66691 | 6037 | 45328 | 16924 | 26656 |

Source: Transport department, Govt. of Orissa

7.2.3 Water Supply

The public Health Engineering department (PHED) is the nodal agency to plan, implement and monitor water supply schemes in the urban areas of the State. There are 13 public health divisions in the state responsible for supplying water to 103 urban local bodies. In addition, Baripada division has taken responsibility to supply water to one census town viz Chandbali. The department manages urban water supply schemes of the state through allotment of funds from the State Government budget for both development of new schemes and maintenance of the existing plants and pipelines. As provisions made in the state budget was not adequate to meet the need of water supply in the towns, Orissa Water

Supply and Sewerage Board Act was introduced in the year 1991. The Board borrows funds from financial institutions like HUDCO (Housing & Urban Development Corporation, Govt. of India) to undertake new water supply projects in the state. The status district wise of urban water supply by PHED, is given in *Table-7.6*.

TABLE: 7.6
District wise Status of Urban Water Supply in Orissa

| Sl No. | Name of Division | Number of Towns | Source of Supply | Water supply in MLD as on 31.3.04 | Population benefited | Average rate of supply LPCD | Total no of house connection |
|--------------|---------------------------------------|-----------------|-------------------------------------------------------------|-----------------------------------|----------------------|-----------------------------|------------------------------|
| 1. | NOI Cuttack | 6 | Production Wells | 116.535 | 1,26,100 | Variety from 29 to 208 | 22308 |
| 2. | NOII Cuttack | 7 | Production well, tank and river | 14.15 | 120199 | Varies from 56 to 153 | 1208 |
| 3. | Baripada | 4 | Production well | 15.33 | 158750 | Varies fro 40 to 127 | 7088 |
| 4. | NO-I Bhubaneswar No-II Bhubaneswar | 1 | River and Production well | 206.0 | 64930 | 317 | 49734 |
| 5. | No-III Bhubaneswar | 4 | Production well and river | 5.64 | 87602 | Varies from 41 to 82 | 1517 |
| 6. | Puri | 6 | Production well & River | 24.18 | 208580 | Varies from 41 to 132 | 7766 |
| 7. | Berhampur | 6 | Production well & River and reservoir | 38.83 | 351725 | Varies from 44 to 102 | 13915 |
| 8. | Bhanjanagar (at Chhatrapur) | 16 | Production well & River and reservoir and infiltration well | 16.27 | 215780 | Varies from 41 to 129 | 4340 |
| 9. | Koraput | 11 | River, reservoir and production well | 47.24 | 238315 | Varies from 42 to 515 | 9578 |
| 10. | Bolangir | 413 | River & production well | 21.13 | 259764 | Varies from 41 to 115 | 6174 |
| 11. | Sambalpur | 12 | River & production well, water fall | 44.65 | 434490 | Varies from 40 to 172 | 15219 |
| 12. | Rourkela | 4 | River, tank and query | 35.25 | 348655 | Varies from 66 to 131 | 15940 |
| 13. | Keonjhar | 4 | Production well, Dam, River | 19.30 | 146285 | Varies from 64 to 183 | 3775 |
| TOTAL | | 103 | | 638.82 | 4181465 | | 17112 |

Source: Public Health Engineering Department, Govt. of Orissa

However for better clarity the details of water supply urban local body wise is given in *Table - 7.7*.



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Out of 5496318, urban population of the state, 76% (4181465) of people are benefited from the water supply schemes. Average daily per capita supply of water is 152 litres (152 lpcd). In addition to this, there are 16487 hand pump tube wells and 17112 stand posts in 103 urban local bodies. However, out of 103 urban local bodies, people in 89 local bodies get supply of water below the normal average standard of 140 lpcd. Moreover, in some of the water supply schemes, adequate measures are not taken to maintain and control the quality of water as per the prescribed standard. The old city areas where population has increased manifold, there is frequent scarcity of water as the old distribution pipe network has not be replaced to cater to the need of the increased population. Poor people in the towns do not have adequate access to water source, as a result they adopt unfair means of puncturing the pipe lines for their daily use. This leads to pollution and wastage of water. Scarcity and uneven distribution of water generate pressure creating law and order problem in a number of towns. In the towns like Berhampur, Bolangir, Titilagarh, rajarajanagar, Jharsugarh, Rairakhol, Athagarh, Banki etc. the problem of water supply is acute. High pressure generated due to inadequate supply of water accompanied by inferior quality, have significant impact of the health, which is felt particularly during summer and rainy seasons. Waterborne diseases are quite common during such periods of the year. Every year the negative responses of the urban people due to non-availability of quality services and inadequacy of water supply system create also social problems in the state.

The constitution of Orissa Water Supply and Sewerage Board has facilitated to some extent to mitigate the pressure and minimize the adverse impacts. From 1991 to 2004, the Board has taken up water supply schemes in the towns of Bhubaneswar, Cuttack, Jajpur Road, Kendrapara, Sambalpur, Rourkela, Anugul, Talcher and Titilagarh.

7.2.4 Sewerage and Sanitation

The issue of sewerage and sanitation is linked to supply of water. The sufficiency of water is one of the key factors for sanitation of urban areas. The number of urban dwellers who are inadequately served with water is much higher than officially acknowledged. The situation of adequate sewerage and sanitation facilities is also a daunting challenge. Although sanitation is an individual ritual, it has community repercussions in terms of health and social welfare. Mahatma Gandhi said “Sanitation is more important than independence”. The United Nations Millennium project started in 2003 has embarked on the identification of best strategies for meeting the millennium development goals and related targets. By the target year of 2015, nearly 60% of world’s population will make cities their home. The Millennium declaration has set the target of

50% reduction of population who are unable to reach or afford safe drinking water and the proportion of people who do not have access to basic sanitation. The Declaration has made seven recommendations of action at all levels: (1) Develop and implement efficient household sanitation system (2) Improve sanitation in public institutions especially schools (3) Promote safe hygiene practices (4) Promote education and outreach focused on children, as agents of behavioural change (5) Promote affordable, socially and culturally acceptable technologies and practices (6) Develop innovative financing and partnership mechanisms (7) Integrate sanitation into water resource management strategies. With global concern and goals, the water and sanitation has been acknowledge a human right.

The National plan of Action of India formulated in the year 1996 has highlighted the importance of sustainable urban services and spelled out that the sustainability of human settlements would depend considerably upon the development and maintenance of viable urban services particularly drinking water, sanitation, waste disposal, transport and communication. It is further stated that the governments at all levels in partnership with the private sector, NGOS and community groups, would develop and maintain need-based urban services catering to all segments of population, keeping in perspective the population and environmental considerations. The Housing & Urban Development Department, Government of Orissa published a paper “Orissa urban Management Programme in 1990s in which progress of urban sanitation was evaluated. According to this paper, during 6th plan only two towns were covered with low cost sanitation programme and in 7th plan 17 towns were covered. During 1990-93, 53 towns were covered with sanitation scheme and 78 towns out of 101 towns have been made scavenger free. Besides, guidelines were issued to check air, water, land, noise pollution in the towns. The most important policy decision of adopting “ecological engineering” as a tool to clear wastewater / sewerage of the towns was a milestone in the sector of sewerage and sanitation.

However it has been observed that due attention had not been given to sewerage and sanitation in the state. The first sewerage scheme was started in 1960s for the city of Cuttack. But it could not be completed and only part of the town was covered with sewer lines discharging the sewage to main drainage channel of the town, which discharged the wastewater to river Kathjori, near a village Matagajpur located in the outskirts of the town. No treatment plant was constructed. Similarly for the capital city of the state, Bhubaneswar, there is no integrated sewage treatment plant. The sewage from the sewer lines is discharged to river Daya. There are few oxidation ponds catering to small communities like

Laxmisagar, Nayapalli etc. A portion of sewage is discharged to the forest areas adjoining the northern part of the city. There are sewage treatment plants in town like Sunabeda, and Rourkela, but their efficiency of functioning is limited. During 1990-95, three demonstration sewage treatment plants were developed adopting the techniques of ecological engineering in Cuttack, Bhubaneswar and Puri in collaboration with National Environmental Engineering Research Institute, Nagpur (NEERI) of Govt. of India. Those three were the first ecological engineering project to treat wastewater in the country. In Cuttack, 1×10^6 litres waste water was treated with a set of duckweed ponds where algae and duckweeds are employed for the removal of nutrients and for reduction of BOD and COD levels, followed by the fish culture and marketing ponds. In Bhubaneswar, wetland root zone process was adopted to treat sewage of 4000 population in Sainik School area. Typha Latifolia and phragmites Karka (Macro phyte plants) were planted to provide surface for bacterial growth, filtration of solid, translocation of oxygen to root zone and improvement of soil permeability. In Puri, treatment of 10×10^6 litres of wastewater was based on physico-biochemical renovative potential of land eco-system. There was consumption of wastewater through high evapo-transpiration and conversion of nutrient energy of waste into biomass, thus developing green belt in 50 ha of land. All the three models are cost effective, eco-friendly and sustainable, simultaneously improving environment of the towns. But unfortunately in subsequent years not only such projects were not replicated, but no care was taken to sustain the demonstration projects. In Bhubaneswar, a similar project in small scale like Cuttack was developed near Nicco park few years back. Except the above projects there are no other projects in any of the urban local bodies to collect and treat the sewage.

In sanitation sector, twin pour flush latrines are developed in some of the towns of the state in collaboration with NGOs and CBOs. But it appears there is absence of seriousness to solve the problems of sanitation in the towns.

Such approach towards sewerage and sanitation sectors build up both social and environmental pressure on the states. The impact of the pressure creates unhygienic condition of the towns exposing the urbanities to health hazards.

7.2.5 Municipal Solid Waste Management

The solid waste generated in municipal areas is derived from sources like household, commercial refuse, institutional refuse, street sweepings, construction debris, industrial activities etc. In general, household waste

together with commercial, institutional and street cleaning, account for approximately 90% of all urban waste in India.

The average solid waste generation in Orissa is about 0.35-0.40 Kg per person per day. Like in other municipal areas of India, the urban local bodies of Orissa have the full responsibility for collection and disposal of municipal solid wastes.

From the information collected from 34 towns, it is observed that quantity MSW generated and collected vary widely, which is dependent on functional characteristics of the towns. Efficiency of collection, transportation and processing of solid waste is very low. Unscientific haphazard land filling creates environmental problems. Uncollected garbage finds its way into open drains, which become blocked and thereby promote breeding of mosquitoes. In many urban local bodies of the state, there is frequent breakdowns of collection vehicles and it is not common for more than 50% of the fleet to be down at any time awaiting repair. Garbage is transported in open to the land filling sites, spreading pollution along the routes of transportation. Leachate from decomposing and putrifying garbage percolate into soil and nearby water sources, and the resultant contamination of food, water and soil could be responsible for the transmission of many diseases. High pressure on the environment is generated mainly because of low efficiency of service and productivity of the system. Its impact is felt at social, economic, and environmental sectors of urban areas. The onus of providing solid waste management service lies with local government and a fundamental deficiency is the indifference of state government to assume their basic responsibility to raise sufficient funds to provide acceptable level of services.

Till 2005-2006, only 54 urban local bodies out of 103 have applied for authorization for setting up waste disposal facility. Out of those 54 ULBs only 17 have been granted authorization by the State Pollution Control Board. The remaining applications are incomplete in some respect or the other.

7.2.6 Biomedical Waste Management

Biomedical waste includes (a) animal waste:- carcasses, body parts etc that have been inoculated with microorganisms infectious for humans (b) human blood and blood product waste blood and soiled materials (c) cultures and stocks; culture dishes blood specimen tubes, devices used to transfer, inoculate and mix cultures that are infectious to humans (d) pathological wastes: Tissue coming from biopsies ,surgery, obstetrical

procedures or autopsies (e) sharp waste: All hypodermic needles, syringes and IV tubes with needles attached, scalpel blades and lancets (f) Respiratory isolation waste: waste contaminated with blood or other potentially infectious body fluids from humans isolated for disease spread by respiratory or droplet transmission (i.e. pulmonary suction or canisters, gowns, masks and other articles that may have been contaminated). The hazardous part of biomedical waste constitutes a grave risk if not properly treated. Its propensity to encourage the growth of pathogens and the ability to contaminate the non-hazardous solid-waste jeopardize the efforts undertaken for municipal waste management. It has been roughly estimated about a quarter of waste generated in a hospital is infected.

In India, only after notification of the Bio-medical waste (Handling and Management) rules 1998, hospitals and other such establishments are slowly streamlining the process of waste segregation collection, treatment and disposal. In Orissa the State Pollution Control Board is the prescribed authority for the enforcement of provisions of rules to regulate management of the waste. The State Board has initiated proactive measures with all common establishments for proper redressal of problems. Out of 1026 number of health care units in the state 681 units are under authorization administration of Board.

In the state because of lack of awareness of impact of biomedical waste on health, adequate pressure has not yet been built up by the people. In view of multiplication of health units in private sector besides the public, it is now the most appropriate time to effectively regulate the provisions of rules, so that every unit should be responsible for all activities from generation to disposal without any adverse effect on health of the people and urban ecology. One common biomedical waste facility has been developed near Khurda by private entrepreneur.

7.2.7 Urban Air Pollution

Industrialisation accompanied by urbanisation has resulted in deterioration of India's air quality. As per WHO, out of 3 million premature deaths in the world that occur each year due to outdoor and indoor air pollution, the highest number occurs in India. The Air (prevention and control of pollution) Act was enacted in the country in 1981. In Orissa, the State Pollution Control Board is in charge of enforcement of provisions contained in the Act, both in Urban and rural areas. Due to low pace of growth of both industrialization and urbanisation, the problem of air pollution is mostly observed in Class I and industrial towns/cities. The annual mean concentration of the critical air quality parameters in all the monitoring stations of the state is given in the following **Table-7.8** for the year 2003.

TABLE: 7.8
Ambient air quality status of the monitoring stations during year 2005

| Pollution level | Industrial (I) | | | Residential (R) | | |
|-----------------------------------|-----------------------------------|---------|---------|-----------------------------------|---------|-------|
| | SO ₂ & NO ₂ | SPM | RSPM | SO ₂ & NO ₂ | SPM | RSPM |
| LOW(L) | 0-40 | 0-180 | 0-60 | 0-30 | 0-70 | 0-30 |
| Moderate(M) | 40-80 | 180-360 | 60-120 | 30-60 | 70-140 | 30-60 |
| High(H) | 80-120 | 360-540 | 120-180 | 60-90 | 140-210 | 60-90 |
| Critical(C) | >120 | >540 | >180 | >90 | >210 | >90 |
| Standard for Annual average value | 80 | 360 | 120 | 60 | 140 | 60 |

| CITY/LOCATION | Area/Class | ANNUAL MEAN CONCENTRATION ($\mu\text{g}/\text{m}^3$) | | | |
|-----------------------------|------------|--------------------------------------------------------|-----------------|-----|------|
| | | SO ₂ | NO _x | SPM | RSPM |
| ANUGUL | | | | | |
| Angul | I | L | L | M | M |
| Nalco Nagar | R | L | L | M | H |
| TTPS Colony | I | L | L | L | M |
| ROURKELA | | | | | |
| Regional Office, Udit Nagar | R | L | L | H | H |
| IDL Outpost Sonaparbat | R | L | L | H | C |
| RAYAGADA | | | | | |
| Rayagada | R | L | L | M | H |
| Jaypaypur | I | L | L | L | M |
| BHUBANESWAR | | | | | |
| IRC Village | R | L | L | M | M |
| Capital Police Station | R | L | L | H | H |
| CUTTACK | | | | | |
| Badambadi | R | L | M | C | H |
| Regional Office, Link Road | R | L | L | H | H |
| SAMBALPUR | | | | | |
| Modipara | R | L | L | M | M |
| BALASORE | | | | | |
| Sahadevkhunta | R | L | L | M | M |

I-Industrial, R-Residential *Source: Orissa State Pollution Board, Orissa*

From the table it is observed that the problem of air pollution in urban area is not very acute and varies depending on the functional characteristics of the towns. The figures of the table indicate that gaseous pollution like SO₂ and NO_x remain within the low pollution level. Only in some areas of Cuttack, these pollutants remain at a moderate

level. SPM vary from low to medium pollution level in most of the stations. High pollution level of SPM was noticed at Cuttack and Balasore area. The Ambient air quality data of different stations of Orissa is also not that alarming as in evident from the following *Table-7.9*.

TABLE: 7.9
Ambient Air Quality data of different stations of Orissa-2005

| Place | Location | Category | Annual Average Value($\mu\text{g}/\text{m}^3$) | | | |
|-------------|--------------------------|----------|--------------------------------------------------|-----------------|------|-----|
| | | | SO ₂ | NO _x | RSPM | SPM |
| Anugul | Anugul Industrial Estate | I | 6.0 | 12.4 | 100 | 214 |
| | NALCO Township | R | 5 | 20 | 65 | 116 |
| | TTPS Township | I | 6.0 | 19 | 68 | 140 |
| Rourkela | Uditnagar | R | 11 | 11 | 82 | 167 |
| | IDL Outpost | R | 5 | 10 | 93 | 162 |
| Rayagada | Rayagada | R | BDL | 11 | 75 | 137 |
| | J.K. Pur | I | BDL | 14 | 87 | 167 |
| Bhubaneswar | Capital Police Station | R | BDL | 19 | 83 | 172 |
| | IRC Village | R | BDL | 15 | 58 | 106 |
| Cuttack | Badambadi | R | BDL | 49 | 76 | 251 |
| | RO, Link Road | R | BDL | 24 | 67 | 155 |
| Sambalpur | Modipada | R | BDL | 9.0 | 43 | 105 |
| Balasore | Sahadev Khunta | R | BDL | 10 | 58 | 124 |

BDL: Below Detachable Limit

Source: Orissa State Pollution Board, Orissa

However, inspite of low pressure and impact of urban air pollution in the state, it is necessary to create awareness and initiative proactive steps. The proactive responses should be designed for the state to ensure effective management of air quality referring to all activities, that are directed towards creating and maintaining clean air for good health.

7.2.8 Urban Planning and Management

Presently the Directorate of Town Planning of the State Government is making the master plans for the urban areas mainly highlighting the land use patterns and recommending the future direction of growth of towns. There are mainly two Acts, namely, Orissa Development Authority Act, 1982 and Orissa Town Planning and Improvement Trust Act, 1956 which are in force for planning and implementation of the plans prepared by the Directorate of Town Planning. There are three institutional frameworks to implement the town plans, namely, Development Authority, Improvement Trust and Special Planning Authority. The Housing and Urban Development Department notifies the institutions depending on

the population and other factors where Development Authority, Improvement Trust and Special Planning Authorities are constituted to enforce and implement the provisions of master plans. In some cases, the Development Authorities make the Development Plans directly without depending on the Directorate of Town Planning. In preparation of the master plans, it has been observed that there is a missing link between the plans prepared and the development undertaken by different departments of the Government in the urban areas. This process result in divergence of activities and programmes which are not in the right direction to provide balance growth of the towns and cities.

Master Plans for 75 towns have been prepared by Directorate of Town Planning, Govt. of Orissa. At present, there are 8 Development Authorities under O.D.A .Act, 1982 and 6 Improvement Trusts and 33 Special Planning Authorities in the State. The Orissa Development Authorities Act 1982 can be extended to all the towns for effective management of development inputs bringing some amendments to the Act. Because of lack of co-ordination between ODA Act 1982/OTPIT Act 1956 and Municipal Act, there is adverse impact on the process of planned development of the towns creating spatial, economic, environmental and social problems. Although the Orissa District Planning Committee Act 1998 has been enacted, no concerted efforts are initiated to prepare District Plans. This exercise should be taken up immediately to prevent of ill-conceived and fragmented plans. The present responses of urban planning and management process are not in conformity with the principles of sustainable development.

7.3 Response Strategy

7.3.1 The broad proposed strategy for improving responses of urban population and to bring about evenness to distribution of urban population for strengthening the base of urban ecology can be designed with rational determinants some of which are like (a) use of local resources to generate employment and increase productivity of local areas (b) providing more connectivity (c) focusing on easy and equitable access to resources for development (d) capacity building at local level to increase human skills to create a knowledge society (e) increasing value of contents of local area highlighting local tradition, culture and local commerce and trade (f) increasing creativity by adopting technology to local needs and opportunities (g) increasing collaboration by establishing effective networking of habitats (h) generate and mobilize more funds from the local areas etc.

7.3.2 The broad strategy of development for slums to create sustainable response towards urban environment should recognise informal economy

and convert it in formal economy, formulation proactive urban poor policy to help slum dwellers to generate income and increase productivity through upgrading their skills, linking their economic activity to market and credit facilities and upgrade their physical environment in co-operation with community initiatives and to provide legal access to land, urban services, infrastructure, amenities etc.

7.3.3 In order to improve the responses of urban transport to contribute to quality of the environment, some of the measures like encouraging public-private investment, developing efficient mass transport system, segregation of fast and slow moving traffic, promotion of mass-motorised transport, restriction of automobiles use during transit, bus system by attracting rider ship by car users, proactive integration of transport network with land use pattern etc. are required.

7.3.4 It is observed that in the development of urban water supply sector of the state (a) there is unsatisfied demand or need (b) constraints in the development process due to shortage of funds (c) there are unused or under utilised materials of human resources and opportunities for their conversion towards more productive purposes; or conversely, over utilised water resource which needs to be preserved or restored (d) reluctance to accept appropriate new environmentally sustainable technologies including rain water harvesting (e) the need to complement other investments etc.

Some of the determinants of the strategy to build sustainable supply system to generate appropriate responses to satisfy water need of urban people of the State are:

- (a) To establish banking institutional arrangement for urban development in which funding of water supply project should be a critical component.
- (b) Sustainable project preparation considering the impact of technological, and institutional choices.
- (c) Effectiveness of the projects should be determined considering relationship between choices of technology, administration and benefits accrued. In particular, the extent to which source development and equity in water distribution is achieved. The availability and development of local capabilities and other factors etc influence the selection of technology and administration of the projects.
- (d) The relationship between the institution and physical components can be made mutually supporting and the priority on strategy of institutional efforts are clarified.

- (e) Knowledge of traditions and attitudes of the intended beneficiaries should be incorporated into the project for designing their capacity building programmes to accept changes without any resistance, resulting in smooth implementation of project proposals.
- (f) At the micro level (i) improving the operating efficiency of the sector through capacity development of staff and beneficiaries and reduction of water wastage (ii) improving the financial management of the sector through implementation of sound accounting systems, keeping in view the cost-recovery targets (iii) upgrade and extend the distribution of piped water supply in the especially to meet the need of the urban poor (iv) assisting low-income households to install house connections through a loan revolving fund.

7.3.5 It is time that the state readopt “ecological engineering” technology for developing sewerage schemes in all the towns of the states. Adequate sanitation measures should be provided in the urban areas by implementing the recommendations of Millennium declaration so that locally developed solutions will contribute towards achieving the global goals to create a sanitized and sustainable urban environment. The State may stress on local actions by addressing issues like (a) setting out the scale of inadequate provision of water and sanitation (b) analyzing the impacts on health and economic performance (c) analyzing the proximate and underlying causes of poor provision and identify information gaps affecting resource allocation (d) working out the consequences of further deterioration; explaining how resources and institutional capacities-public, private and community can be used to deliver proper services through integrated water and sanitation management.

7.3.6 In order to generate appropriate response for increasing the efficiency of solid waste management systems, it is essential to bring about reforms in activities like (a) refuse collection (b) street cleaning (c) disposal, garages and workshops for vehicles and plants, their operation, repairs and maintenance (d) administration, budgeting control, establishment, stores and record keeping (e) technology use for collection, transportation and disposal of solid waste (f) planning and designing for future needs. Besides, assessment of quantity and quality of wastes generated, community need, technical aspects of collection, transportation and disposal, institutional capacity, financial management and cost recovery aspects are to be integrated as a package to generate environmentally sustainable responses from this sector. Processing of



solid waste should also be explored to produce fuel pellets, bio-fertilizer, electricity etc.

7.3.7 Development of New Towns and Satellite towns

Development of new towns viz proposed port and industrial towns should be taken up in a holistic manner in collaboration with public-private partnership, which will contribute to effective economic growth of the area and the region along with environmental sustainability.

Planning of high-rise blocks within the crowded built-up area should be discouraged. For corporations like Cuttack and Bhubaneswar, depending on the demand, satellite townships can be developed with high rise block beyond the green belt area, providing all the required infrastructure. A set of guidelines should be formulated for high-rise blocks so that environment of existing built-up areas is not adversely affected.

Keeping in view the above vision of “Proactive Sustainable Urban Development Management” (PSUDM), detailed action programmes should be formulated by the department and the concerned agencies. The Orissa Urban Agenda will usher a new era of urbanisation process in the state, in conformity with environmental standards and laws of ecology.

7.4 Improving Urban Productivity

7.4.1 Strengthen the Management of Urban Infrastructure

The level of infrastructure of almost all the towns/cities of the state is inadequate, limiting the productivity of firms and household in producing goods and services. This also seriously constraint the productivity of private investment. Traffic congestion impedes the movement of goods and services and thus reduces the economy of agglomeration of urban markets. It is also necessary to improve the composition of infrastructure investment. Effective action should be taken for improving operational performance of investment and improving the maintenance and rehabilitation of existing investments.

For example, to improve the traffic situation of the city of Cuttack, a central arterial road should be developed over the main drainage channel of the town connecting the ring road, while ensuring zero-flow of water in the drainage channel by adopting appropriate viable disposal system of the wastewater. Such a step will not only ease the traffic situation but will also promote a healthy environment in the town. Similarly to improve the traffic and transportation in the capital city Bhubaneswar, a by-pass road originating after Khurda should be developed via Nandanakanan and connecting ring road of Cuttack by the side of river Kathajodi. This will facilitate development of Cuttack and Bhubaneswar as one urban complex. Similarly for other towns of the State, appropriate solutions should be worked out to strengthen the urban infrastructure.

7.4.2 Increase Market Efficiency and Private Sector Participation.

The limited approach of municipal building bye-laws, master Plans and zoning regulations should be supplemented by a city-wise approach of regulation, which will play a key role in expanding supply and lowering costs of housing, finance, infrastructure and developable land and increasing business opportunity, simultaneously enhancing quality of environment. Two techniques viz, market assessment and regulatory audit should be initiated. A sensible alternative to regulatory reform should encourage private sector participation in infrastructure related activities. Private participation should be promoted not only for development activities but also for maintenance, distribution and collection of goods and services including financial related activities.

7.4.3 Improving the Financial & Technical Capacity of Urban Institutions

In order to implement the provisions of 74th Constitution Amendment Act already incorporated in the Orissa Municipal Act, steps should be initiated to strengthen the municipal and other urban institutions, so that effective linkages are established between state Government and urban institutions.

7.4.4 Improving Financial Service for Urban Development.

Resource Mobilisation programme for urban projects should be taken up with HUDCO, ILFS (Infrastructure Leasing Finance Services Ltd.) and other financial agencies like World Bank, DFID (Department for International Development) and private international funding organisations to meet the deficiencies in urban infrastructure.

In order to strengthen the task of resource mobilisation, “Orissa Urban Infrastructure Finance Corporation” under the company Act should be constituted in the model of Karnataka. Besides, state resource mobilization and expenditure strategies should incorporate the potential contribution of urban household, communities and local governments. Financial policies should also complement user charges, “polluter to pay” and other cost recovery mechanisms in mobilizing private saving, thereby reducing the level of dependence on the state government.

7.4.5 Reducing Urban Poverty

Urban poverty is to be reduced by adopting strategies to increase labour productivity, to invest in human capital for capacity building of the urban

poor to target “safety net” assistance to the poor and to integrate informal sector of economy with the formal sector.

The demonstration project based on the concept of “Building Center” and “Community Management Group” implemented for sustainable development of urban poor in Bhubaneswar should be replicated in all the towns of the state. “Communitarian” concept of development is the key to reduce poverty in urban areas, which should be adopted with all seriousness.

II. Travel and Tourism

7.5 Introduction

Tourism as a dynamic phenomenon comprises three elements: (1) Human (tourist’s need and desire) (2) Physical (geographical aspects and accessibility) (3) Time (trip duration and stay). The demand for tourism throughout the globe including India is increasing at a rapid rate due to changes in demographic structure, social pattern, technological innovations and consumer behaviour. The tourism and travel sector is in the process of globalization to cater to the varied interests and values of society.

The impact of tourism is both positive and negative. Tourism brings to the tourists benefits like relaxation, recuperation, recreation, changes of environment, widening of horizons and social contacts. When promoted as a major force, it upgrades the standard of living & values, fosters international understanding and preservation of cultural heritage.

Social tension, distortion of life style and cultural decay will be the unfortunate consequences if development of tourism is allowed to be haphazard and /or unregulated. Quite often international tourism leads to inevitable commercialization of ethnic arts and crafts, cheapening of the artistic values, and the pattern of consumption in the host population tends to change due to the commercialization brought about by the international tourist. Instances of social hazards like prostitution, immoral traffic, gambling casinos, drug trafficking and crimes often send wrong signals against the concept that tourism fosters and improves international understanding.

7.6 Travel Circuits

Prior to National Tourism Policy, 2002, the Govt. of Orissa have formulated Tourism Policy 1997, which was notified on 10th March, 1998.

The State Tourism Policy has strong linkages with National Policy, the objectives of which are:

- a) Optimum harnessing of the resources to attract maximum number of domestic and foreign tourists with increase average duration of their sojourn in Orissa.
- b) Development of Tourism related industries, which also lead to increased employment opportunities.
- c) Promotion of rich handicrafts and handlooms of Orissa through tourism.
- d) Promotion of national grandeur and cultural heritage of Orissa through tourism.
- e) Promotion of cross cultural interaction, socio cultural amity and economic development through tourism.
- f) Involvement of private sector, autonomous bodies, local authorities and the people at large in promotion of tourism.

The State policy has pinpointed and recommended target segments of Orissa for tourism development which are:

- (a) The Golden triangle of Puri-Konark-Bhubaneswar and Chilika which will continue to be the prime thrust areas for intensive promotion and development of tourism.
- (b) The Special Tourism Area (STA) identified near Puri extending towards Chilika and other areas, declared by the Orissa Govt. as Special Tourism Areas, will receive the top most priority to be specially planned and developed to provide integrated facility of international standard.

In addition, the following eight travel circuits have also been identified:

- a) Gopalpur-Chatrapur-Berhampur-Taptapani-Mahendragiri.
- b) Jharsuguda-Deogarh-Sambalapur-Burla-Hirakud(including Hirakud Reservoir)
- c) Rourkela-Darjeeling-Tensa-Barbil-Joda.
- d) Jeypor-Sunabeda-Koraput-Rayagada.
- e) Nursimhanath-Harishankar-Ranipur-Jharial-Bhawanipatna
- f) Lalitagiri-Udayagiri-Ratanagiri.

- g) Dhenkanal-Kapilas-Saptasajya-Angul-Tikarpara.
- h) Balsore-Chandipur-Chadeneswar-Panchalingeswar-Baripada-Similpal

The policy has declared tourism as an industry for availing the benefits under State Industrial Policy, 1996. Development approach has been spelled out in the policy relating to land, finance, road, air, water and rail transport etc. Intra-state and Inter-state travel circuits also have been identified considering the spiritual aspects of tourism. The inter-state Buddhist circuit will, in particularly, be promoted linking

Lalitagiri-Udyagiri-Ratangiri and Dhauli in Orissa with Rajgir, Bodhgaya and Nalanda in Bihar. A circuit linking famous seats of Hindu culture like Varanasi, Khatmandhu and Puri will be developed for intensive promotion in the overseas market. Package air travel circuits may also be attempted linking Bhubaneswar with Delhi-Agra-Jaipur-Bombay-Goa.

7.7 Places of Tourist importance and Tourist flow

There are 292 identified tourist centers in Orissa, the details of which is given in **Table-7.10**. They include religious centers, waterfalls, scenic spots, ecotourism, historical sites, Buddhist shrines, fort, sea beaches and ports, wild life, lakes, national parks, hot springs, archeological marvels like the Sun Temple etc.

Inspite of huge tourism potential in the State as identified by State Tourism Policy, the flow of tourist is lowest as compared to adjoining states like Andhra Pradesh, West Bengal, Bihar and Madhya Pradesh. Low figures for Orissa tourism highlight the gaps in potential tourism resource and service provided.

TABLE: 7.10
Identified Tourist Centres in Orissa
(292 as on October 2003)

| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|-----------------|---------------------|--------------------------|
| <u>Angul</u> | | |
| | 1. Angul | : District Head Quarters |
| | 2. Banarpal | : Strategic Point |
| | 3. Bhimkand | : Sleeping Bishnu |
| | 4. Binikei | : Religious Centre |
| | 5. Bulajhara | : Scenic Point |
| | 6. Deulajhari | : Hot Spring |
| | 7. Handapapatrapada | : Scenic Spot |



| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|------------------------|---------------------|------------------------------------------|
| | 8. Hunguli Pitha | : Religious Centre |
| | 9. Khuludi | : Waterfall |
| | 10. Rengali | : Scenic Spot |
| | 11. Talcher | : Industrial Area |
| | 12. Tikarpara | : Scenic Spot & Wildlife |
| <u>Balangir</u> | | |
| | 1. Balangir | : District Headquarters |
| | 2. Gaikhai M.I.P | : Scenic Spot |
| | 3. Harishankar | : Religious Centre |
| | 4. Jogisarada | : Religious Centre |
| | 5. Patnagarh | : Religious Centre |
| | 6. Ranipur Jharial | : 64 Jogini Shrine |
| | 7. Saintala | : Religious Centre |
| | 8. Turekela | : Scenic Spot |
| <u>Balasore</u> | | |
| | 1. Ayodhya | : Religious Centre & Archaeological Site |
| | 2. Balaramgadi | : Sea Beach & Fish Trading Centre |
| | 3. Balasore | : District Headquarter |
| | 4. Bardhanpur | : Religious Centre |
| | 5. Bhusandeswar | : Religious Centre |
| | 6. Chandaneswar | : Religious Centre |
| | 7. Chandipur | : Vanishing Beach |
| | 8. Chasakhanda | : Baghjajatin Memorial |
| | 9. Chowmukh Dagara | : Sea Beach |
| | * 10. Inchudi | : Historical (Freedom Movement) |
| | 11. Kasaphal | : Sea Beach |
| | 12. Kupari | : Religious Centre |
| | 13. Langaleswar | : Religious Centre |
| | 14. Laxmananath | : Welcome Spot |
| | 15. Panchalingeswar | : Scenic Spot |
| | 16. Raibania | : Fort |
| | 17. Remuna | : Religious Centre |
| | 18. Sajanagarh | : Religious Centre |
| | 19. Talasari | : Sea Beach |
| | 20. Tripisagadia | : Religious Centre |
| <u>Baragarh</u> | | |
| | 1. Baragarh | : Sambalpur Handlooms |
| | 2. Debrigarh | : Wildlife |
| | 3. Devdarha | : Scenic Spot |
| | 4. Gaisima | : Religious Centre |
| | 5. Ganipali | : Historical Site |
| | 6. Nrusimahanath | : Religious Centre |
| | 7. Papanga | : Scenic Spot |

| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|-------------------------|-----------------------------|-------------------------------------|
| <u>Bhadrak</u> | | |
| | 1. Aradi | : Religious Centre |
| | 2. Aharapada(Bhadrakali) | : Religious Centre |
| | 3. Bhadrak | : District Headquarter |
| | 4. Chandabali | : Entry Point to Bhitarkanika |
| | 5. Dhamanagar | : Religious Centre |
| | 6. Dhamara | : Scenic Spot |
| | 7. Guamala Nuasasan | : Religious Centre |
| | 8. Iswarpur (Dappanaikani) | : Religious Centre |
| <u>Boudh</u> | | |
| | 1. Boudh | : Buddhist Centre |
| | 2. Charichhak (Purna katak) | : Strategic Point |
| | 3. Charisambu | : Religious Centre |
| <u>Cuttack</u> | | |
| | 1. Amageikuda | : Scenic spot |
| | 2. Ansupa | : Picturesque Lake |
| | 3. Banki | : Religious Centre |
| | 4. Bhattarika | : Religious Centre |
| | 5. Chhapachikina | : Religious Centre |
| | 6. Choudwar | : Industrial area |
| | 7. Cuttack | : Historical Site & Silver Filigree |
| | 8. Dhabaleswar | : Religious Centre |
| | 9. Kakudiapada | : Religious Centre |
| | 10. Kukudanga | : Religious Centre |
| | 11. Lalitgiri | : Buddhist Shrine |
| | 12. Naraj | : Scenic Spot |
| | 13. Nemala | : Religious Centre |
| | 14. Niali Madhab | : Religious Centre |
| | 15. Paramahansa | : Religious Centre |
| | 16. Satakosia | : Scenic Spot |
| | 17. Simhanath | : Religious Centre |
| <u>Deogarh</u> | | |
| | 1. Pradhanpat | : Waterfall |
| <u>Dhenkanal</u> | | |
| | 1. Dhenkanal | : District Headquarter |
| | 2. Joranada | : Mahima Shrine |
| | 3. Kapilas | : Religious Centre |
| | 4. Kualo | : Cluster of Temples |
| | 5. Ladagarh | : Religious Centre |
| | 6. Ramial | : Scenic Spot |
| | 7. Saptasajya | : Scenic Spot |
| | 8. Saranga | : Sleeping Vishnu |
| <u>Gajapati</u> | | |
| | 1. Gandahati | : Scenic Spot & Waterfall |



| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|----------------------|-------------------------------------|----------------------------------------|
| | 2. Harabhangi | : Scenic Spot |
| | 3. Mahendragiri | : Religious Centre & Scenic Spot |
| | 4. Parakhemundi | : District Headquarter |
| <u>Ganjam</u> | 1. Aryapalli | : Sea Beach & Port |
| | 2. Athagada Patna | : Historical Site |
| | 3. Berhampur | : Tie & Dye Tasaar Textiles |
| | 4. Buguda | : Religious Centre |
| | 5. Chilika(Rambha) | : Lake & Bird Centre |
| | 6. Girisola | : Welcome Point |
| | 7. Gopalpur | : Sea Beach |
| | 8. Huma-Kantigada | : Scenic Spot |
| | 9. Jaigada | : Buddhist Shrine (Ashokan Rock-Edict) |
| | 10. Kulada | : Religious Centre |
| | 11. Mahurikaula | : Religious Centre |
| | 12. Mantridi | : Religious Centre |
| | 13. Narayani | : Religious Centre |
| | 14. Nirmalajhar | : Scenic Spot |
| | 15. Pati-Sonapur | : Sea Beach |
| | 16. Potagarh | : Fort |
| | 17. Taptapani | : Scenic Spot & Hot Spring |
| | 18. Taratarini | : Religious Centre |
| <u>Jagatsinghpur</u> | 1. Jagatsinghpur | : District Headquarter |
| | 2. Garh Kujanga (Kunjabehari Matha) | : Religious Centre |
| | 3. Jhankada | : Religious Centre |
| | 4. Paradeep | : Sea Port & Fish Trading Centre |
| | 5. Paradeepgarh(Sandhakuda) | : Historical Site |
| <u>Jajpur</u> | 1. Ashokajhar | : Scenic Spot |
| | 2. Baruneswar Pitha | : Religious Centre |
| | 3. Chandikhol | : Religious Centre |
| | 4. Chhatia | : Religious Centre |
| | 5. Gokarnika | : Religious Centre |
| | 6. Jajpur | : Religious Centre |
| | 7. Kuransa | : Religious Centre |
| | 8. Mahavinayak | : Religious Centre |
| | 9. Patharajpur | : Strategic Point |
| | 10. Ratnagiri & Udyagiri | : Buddhist Shrine |
| | 11. Satyapira | : Religious Centre |
| | 12. Singhapur | : Religious Centre |

| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|--------------------------|--------------------------------|-----------------------------|
| | 13. Vysa Sarobara(Jajpur Road) | : Religious Centre |
| <u>Jharsuguda</u> | 1. Jharsuguda | : District Headquarter |
| | 2. Gujapahar | : Scenic Spot |
| | 3. Kuilighugar | : Scenic Spot |
| | 4. Pikalghugar | : Scenic Spot |
| | 5. Vikramkhol | : Pictographic Inspections |
| <u>Kalahandi</u> | 1. Amathagarh | : Fort |
| | 2. Ampani | : Scenic Spot |
| | 3. Asugarh | : Historical Site |
| | 4. Belkhandi | : Religious Centre |
| | 5. Bhawanipatna | : District Headquarter |
| | 6. Dharmagarh | : Historical Site |
| | 7. Gudahandi(Dokrichanchara) | : Pictographic Inscriptions |
| | 8. Jakam | : Scenic Spot |
| | 9. Junagarh | : Historical Site |
| | 10. Karlapat | : Wildlife |
| | 11. Kusurla | : Religious Centre |
| | 12. Mardiguda | : Scenic Spot |
| | 13. Phurlijharan | : Waterfall |
| | 14. Rabandarh | : Scenic Spot |
| | 15. Sapagaranda | : Religious Centre |
| | 16. Talguda | : Fort |
| | 17. Thuamul-Rampur | : Scenic Spot |
| <u>Kandhamal</u> | 1. Balaskumpa | : Religious Centre |
| | 2. Belghar | : Wildlife |
| | 3. Chakapada | : Religious Centre |
| | 4. Daringibadi | : Scenic Spot |
| | 5. Phulbani | : District Headquarter |
| | 6. Putudi | : Waterfall |
| <u>Kendrapara</u> | 1. Aul (Ali) | : Religious Centre |
| | 2. Bhitarakaniaka | : Wildlife |
| | 3. Kendrapara | : Religious Centre |
| | 4. Tamala Sasan | : Religious Centre |
| <u>Keonjhar</u> | 1. Badaghagra | : Waterfall |
| | 2. Deogan (Kosaleswar) | : Religious Centre |
| | 3. Ghatagaon | : Religious Centre |
| | 4. Gonasika | : Religious Centre |
| | 5. Gundichaghai | : Scenic Spot |
| | 6. Hadagada | : Scenic Spot |

| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|--------------------------|-------------------------------------------|-------------------------------|
| | 7. Handibhanga | : Waterfall |
| | 8. Kanjipani | : Scenic Spot |
| | 9. Keonjhar | : District Headquarter |
| | 10. Khandadhar | : Waterfall |
| | 11. Murga Mahadev | : Religious Centre |
| | 12. Podasingidi (GarChandi, Chakratirtha) | : Religious Centre |
| | 13. Rajnagar | : Religious Centre |
| | 14. Sanaghagra | : Waterfall |
| | * 15. Sarai (Keshari Kunda) | : Religious & Scenic Spot |
| | 16. Sitabinji | : Fresco Painting |
| <u>Khurda</u> | | |
| | 1. Atri | : Hot Spring |
| | 2. Banpur | : Religious Centre |
| | 3. Barunei (Khurda) | : Religious Centre |
| | 4. Bhubaneswar | : State Capital & Temple City |
| | 5. Bhusandapur | : Religious Centre |
| | 6. Chilika (Barkul) | : Idyllic Lake |
| | 7. Dhauli | : Buddhist Site |
| | 8. Gadamantri | : Religious Centre |
| | 9. Hirapur | : Yogini Shrine |
| | 10. Jayadev Kenduli | : Birth Place of Jayadev |
| | 11. Khandagiri & Udyagiri | : Jain Caves |
| | 12. Kosalsuni Thakuranipitha | : Religious Centre |
| | 13. Nadanakanan | : Biological Park |
| | 14. Rameswar | : Strategic Point |
| | 15. Mundipara (Mandangiri) | : Scenic Spot |
| | 16. Salia Dam & Berbera Hills | : Scenic Spot |
| <u>Koraput</u> | | |
| | 1. Bagra | : Waterfall |
| | 2. Deomali | : Scenic Spot |
| | 3. Duduma (Machhakund) | : Scenic Spot |
| | 4. Gupteswar | : Religious Centre |
| | 5. Jalaput | : Scenic Spot |
| | 6. Koraput | : District Headquarters |
| | 7. Nandapur | : Historical Site |
| | 8. Suai | : Scenic Spot |
| | 9. Sunabeda | : Scenic Spot & HAL |
| <u>Malkangiri</u> | | |
| | 1. Balimela | : Scenic Spot |
| | 2. Chitrakonda | : Scenic Spot |
| | 3. Malkangiri | : District Headquarters |
| | 4. Motu | : Scenic Spot |



| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|--------------------|---------------------|--------------------------------|
| | 5. Raja-Rani Bandha | : Scenic Spot |
| | 6. Satiguda | : Scenic Spot |
| <u>Mayurbhanj</u> | 1. Bangiriposi | : Strategic Point |
| | 2. Baripada | : District Headquarters |
| | 3. Bhimakunda | : Scenic Spot |
| | 4. Bisoi | : Strategic Point |
| | 5. Deokunda | : Waterfall |
| | 6. Haripur | : Historical Site |
| | 7. Jamsola | : Welcome Point |
| | 8. Jashipur | : Entry Point to Similipal |
| | 9. Khiching | : Religious Centre |
| | 10. Kuchai | : Historical Site |
| | 11. Kuliana | : Historical Site |
| | 12. Manatri | : Religious Centre |
| | 13. Rairangpur | : Strategic Point |
| | 14. Similipala | : National Park |
| | * 15. Samibrukhya | : Religious Centre/Scenic Spot |
| <u>Nawapara</u> | 1. Budhikomna | : Religious Centre |
| | 2. Nawapara | : District Headquarter |
| | 3. Patalaganga | : Religious Centre |
| | 4. Patora | : Scenic Spot |
| | 5. Sindursil | : Scenic Spot |
| | 6. Thipakhola | : Scenic Spot |
| | 7. Yogimatha | : Cave Paintings |
| <u>Nawarangpur</u> | 1. Kelia | : Religious Centre |
| | 2. Nawarangpur | : District Headquarter |
| | 3. Papadahandi | : Religious Centre |
| | 4. Podagarh | : Historical Site |
| | 5. Umakote | : Religious Centre |
| <u>Nayagarh</u> | 1. Baramul | : Scenic Spot |
| | 2. Odagaon | : Religious Centre |
| | 3. Jamupatna | : Religious Centre |
| | 4. Kantilo | : Religious Centre |
| | 5. Kuturi | : Scenic Spot |
| | 6. Kuanria | : Scenic Spot |
| | 7. Nayagarh | : District Headquarter |
| | 8. Ranapur | : Religious Centre |
| | 9. Sarankul | : Religious Centre |
| | 10. Tarabalo | : Hot Spring |
| <u>Puri</u> | | |



| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|-------------------|------------------------------------------|-------------------------------------|
| | 1. Astaranga | : Sea Beach |
| | 2. Balighai | : Sea Beach |
| | 3. Baliharachandi | : Religious Centre |
| | * 4. Barala (Balukeswar Pitha) | : Religious Centre |
| | 5. Biswanath Hill | : Religious Centre |
| | 6. Beleswar | : Sea Beach |
| | 7. Brahmagiri | : Religious Centre |
| | 8. Chaurasi | : Religious Centre |
| | 9. Chilika (Satapada) | : Lake (Dolphins) |
| | 10. Jahaniapira | : Religious Centre |
| | 11. Kakatpur | : Religious Centre |
| | 12. Konark | : Sun Temple |
| | 13. Kuruma | : Buddhist Shrine |
| | 14. Manikapatna | : Religious Centre |
| | 15. Pipili | : Applique Works |
| | 16. Puri | : Jagannath Temple & Sea Beach |
| | 17. Raghurajpur | : Craft Village |
| | 18. Ramchandi | : Religious Centre |
| | 19. Styabadi (Sakhigopal) | : Religious Centre |
| | 20. Baligaon (Bhakta Dasia Smriti Pitha) | : Birth Place of Dasia Bauri |
| <u>Rayagada</u> | | |
| | 1. Bissamkatak | : Scenic Spot |
| | 2. Chatikona | : Scenic Spot |
| | 3. Devagiri | : Scenic Spot |
| | 4. Hatipathar (Rayagada) | : Scenic Spot |
| | 5. Minajhola | : Scenic Spot |
| | 6. Niyamgiri Hills | : Scenic Spot |
| | 7. Padmapur | : Religious Centre |
| <u>Sambalpur</u> | | |
| | 1. Chipilima | : Religious Centre |
| | 2. Gudguda | : Scenic Spot |
| | 3. Hirakud | : Scenic Spot |
| | 4. Huma | : Religious Centre (Leaning Temple) |
| | 5. Kendhara | : Birth Place of Bhimabhoi |
| | 6. Sambalpur | : Sambalpuri Handlooms |
| | 7. Ushakothi (Badarama) | : Wildlife |
| <u>Subarnapur</u> | | |
| | 1. Binika (Papakshya Ghat) | : Religious Centre |
| | 2. Chandaliput Puja Dunguri | : Religious Centre |
| | 3. Charada | : Historical Site |
| | 4. Khaliapali | : Mahima Shrine |

| <u>District</u> | <u>Place</u> | <u>Importance</u> |
|--------------------------|---------------------------------------|------------------------|
| | 5. Kotsamlai (Patali Jagannath Pitha) | : Religious Centre |
| | 6. Sonepur | : Temple Town |
| <u>Sundergarh</u> | | |
| | 1. Chhatri Hill | : Scenic Spot |
| | 2. Darjeeng | : Scenic Spot |
| | 3. Deodara | : Scenic Spot |
| | 4. Ghogar | : Religious Centre |
| | 5. Junagarh | : Fort |
| | 6. Khandadhar | : Waterfall |
| | 7. Mandira | : Scenic Spot |
| | 8. Miriglotah | : Waterfall |
| | 9. Rourkela | : Steel Plant |
| | 10. Sundagarh | : District Headquarter |
| | 11. Ushakothi | : Scenic Spot |
| | 12. Vedavyasa | : Religious Centre |

* indicates newly identified tourist centres during 2003

SOURCE: Directorate of Tourism, Govt. of Orissa.

7.8 Eco Tourism in Orissa

(Source: Eco Tourism Destinations in Orissa, Forest Department, Govt. of Orissa, 2004)

Ecotourism is “sustainable, nature tourism” involving the indigenous stake holders, while forging partnership with existing tourism industry. The World Tourism Organisation (WTO) defines ecotourism as “tourism that involves traveling to relatively undisturbed natural areas with the specified object of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural aspects (both of the past or the present) found in these areas”.

With eighteen notified sanctuaries including a marine sanctuary and the national park, ecotourism has immensed potential in Orissa, which can provide considerable socio economic benefits to rural population by additional employment opportunities to local communities. This would reduce resource dependency on forests and enhance stake of the local people in conservation of the protected areas. Main ecotourism circuits are given in **Table - 7.11**.

TABLE: 7.11
Main Ecotourism Circuits in the State

| Sl. No. | Circuit | Possible Activities and Visual Treats in the Circuit |
|---------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Satkoshia-Baisipalli | Rafting, boating, trekking, jungle patrol and elephant trekking; view of enchanting lush forests on both sides of the groove and chance sighting of crocodile. |
| 2. | Mahanadi Delta | Boating/ Bird watching/ walking through mangroves, trekking at Batighar and Hukitola; experiential learning. |
| 3. | Bhitarkanika | Boating/ Bird watching/ moving through Mangroves; sighting crocodiles, kingfisher; experiential learning. Boating, beach trekking. |
| 4. | Chilika | Boating, beach trekking, sighting of Dolphin, wetland birds. |
| 5. | Similipal | Tiger and Elephant trekking, tiger pugmark trekking, jungle patrol; experiential learning. |
| 6. | Debrigarh | Boating, cycling, trekking, bird watching, sighting of four horned antelope (Chowsingha), bison (Gaur, Wetland birds). |
| 7. | Chandaka | Elephant sighting trip along with cycling, trekking etc. |
| 8. | Kuldiha | Elephant and Sal forest. |
| 9. | Sunabeda | Tiger, Gaur, Waterfalls. |
| 10. | Karlapat | Elephant, Tiger, Gaur. Massive Sal and Bamboo forest. |
| 11. | Lakhari | Elephant, Tiger, Giant Squirrel |