

## CHAPTER - II

### INFRASTRUCTURAL DEVELOPMENT

World Development Report 1994 published by the World Bank under the title “**Infrastructure for Development**” rightly mentions that “the adequacy of infrastructure helps determine one country’s success and another’s failure – in diversifying production, expanding trade, coping with population growth, reducing poverty, or improving environmental conditions” (World Bank 1994:2). Mody (1997: xii) aptly suggests that in any modern society, infrastructure plays a pivotal role- often decisive role in determining the overall productivity and development of a country’s economy, as well as the quality of life of its citizens”. According to him infrastructure can be defined as activities that provide society with the services necessary to conduct daily life and to engage in productive activities. It is an established fact that states of the Indian Union are placed at an uneven level of development notwithstanding the measures taken by the Central Government to maintain balanced development of regions and to reduce socio-economic disparities across space and people through Five Year Plans. Among the 15 major states of India in the early 1990s, the rank position of the composite development index of Orissa was found to be 14 in the descending order according to relative deprivation method. Bihar’s development position was 15th at the bottom. Interestingly, among the 15 major states of the country, the three states of eastern India namely Bihar, Orissa and Assam have continued to remain at the bottom positions of development since 1970s (Meher 1999:205).

In this chapter an attempt is made to provide a comparative picture of development status of economic infrastructure of Orissa vis-à-vis the country at the aggregate level and the inter-district picture of infrastructural development at the state level, so as to throw light on infrastructural bottlenecks affecting growth and performance of Orissa’s economy during all these years.

## **DEVELOPMENT STATUS OF INFRASTRUCTURE: ORISSA AND INDIA**

In a country like India, the seven major infrastructural factors that are most significant in accelerating the pace of economic development are: energy, transport, irrigation, finance, communication, education and health. While the first five refer to economic infrastructural facilities, the latter two relate to social infrastructure. Needless to say, the degree of usefulness and importance of these seven major infrastructures towards economic development of the country cannot be of equal weight. So, after assessing the importance and contribution of these seven infrastructures towards economic development of the country, the Centre for Monitoring Indian Economy (CMIE), Mumbai has worked out their individual values. According to CMIE the respective weighted value of the major infrastructures are: (i) Transport facilities-26; (ii) Energy-24; (iii) Irrigation-20; (iv) Banking facilities-12; (v) Communication facilities-6; (vi) Education facilities-6; and (vii) Health facilities-6. Further, in order to measure infrastructure development the CMIE has chosen the following 11 development indicators relating to these seven major infrastructures to form composite development index (CDI).

These indicators are: (i) surfaced roads per 100 sq. km. area; (ii) unsurfaced roads per 100 sq. km. area; (iii) railway route length per 100 sq. km. area; (iv) percentage of villages electrified; (v) gross cropped area; (vi) bank branches per lakh population; (vii) post offices per lakh population; (viii) telephone lines per 100 persons; (ix) primary schools per lakh population; (x) primary health centres per lakh population; and (xi) hospital beds per lakh population.

On the basis of composite development index of CMIE relating to infrastructure development of 15 major states of India in the early 1990s, Orissa's rank was found to be 12 in the descending order. The CDI value of Orissa was 101.45 and this was just above the national average. There were only three states namely Bihar, Rajasthan and Madhya Pradesh, which were infrastructurally most underdeveloped occupying the last three positions in the descending order. The co-efficient of variation (C.V.) value of CDI of these 15 states showing interstate level disparity in infrastructure development was 22.97 per cent (Table- 2.1).

**Table - 2.1****Infrastructure Development Index of Major States in India, 1991**

Sl. No.	Name of State	CDI Value	Rank
1	2	3	4
1.	Andhra Pradesh	104.01	10
2.	Assam	104.39	9
3.	Bihar	91.31	13
4.	Gujarat	105.33	8
5.	Haryana	133.12	4
6.	Karnataka	106.12	7
7.	Kerala	162.42	2
8.	Madhya Pradesh	86.66	15
9.	Maharashtra	106.77	6
10.	Orissa	101.45	12
11.	Punjab	171.92	1
12.	Rajasthan	87.27	14
13.	Tamil Nadu	145.62	3
14.	Uttar Pradesh	112.04	5
15.	West Bengal	102.09	11
India		100.00	--
C.V. Value (%)		22.97	--

Source: CMIE (2000). **Profiles of Districts**, October, CMIE, Mumbai.

When we look at the picture of composite development index value of infrastructure among the 15 major states of India, the position of Orissa is almost akin to the country's infrastructural development status. So, the question automatically comes up about the poor development status of Orissa despite a favourable infrastructural development index. Needless to say, Orissa is one of the poorest and most backward states in India. According to latest estimates of the Planning Commission the percentage of below poverty line population (BPL) in Orissa during 1999-2000 was 47.15 as against 26.10 at the all-India level. Interestingly the incidence of poverty in the state is recorded to be highest among all other states of the country (**The Times of India**, 24 February, 2001).

Composite development index is formed on the basis of quantitative information of certain development indicators. Their distributions across space and people as well as their quality across space do not get reflected when the composite development index is formed by aggregating the weighted value of different development indicators. This becomes more clear

when we look at the qualitative aspects of seven major socio-economic infrastructures taken by the CMIE to form composite development index of the different states in India.

### **Roads, Transport and Railways**

The importance of good roads and transport networks in accelerating the pace of economic development of a state cannot be belittled. When we look at the figures of total road length of different types of roads in Orissa vis-a-vis all-India, the picture of the state looks much better. In 1996-97 the road density per 100 km. of land area for Orissa was 1687.13 km. as against 750.13 km. at the all-India level. However, there is a great deal of difference between surfaced and unsurfaced roads. In the year 1996-97 while the percentage of unsurfaced road to total road length at the all-India level was 43.47, this was found to be 66.91 in the case of Orissa. The other major states having higher percentage of unsurfaced roads than Orissa are: (i) Assam (83.06) and (ii) Kerala (68.94).

Similarly, the state sharing 4.79 per cent landmass of the country shared 1625 km (4.66%) of national highways (NH) out of a total of 34,849 km. in 1996-97. Further, out of a total of 1,37,119 km. road length of state highways (S.H.) in the country, the S.H. road length shared by Orissa was 3.34 per cent (4,584 km). Its share of major district roads was 5.12 per cent (39,329 km.) out of a total road length of 7,68,257 km at the all-India level (CMIE, January 2001). It may be noted that usually the road quality of N.H. and S.H. is relatively better than the MDR and such highways are usually made of asphalt. However, share of such roads length in the state is found to be lower than the landmass. Also, when comparison of different N.Hs. and S.Hs. of the state is made with the N.Hs./S.Hs. of many other developed states of the country such as Punjab, Haryana, Maharashtra, Gujarat, Tamil Nadu, Kerala, etc. the poor quality of roads in Orissa becomes evident. As the state has been a victim of frequent and recurring natural calamities like droughts, floods and cyclones in recent years, the road quality of N.H. and S.H. shows marked deterioration. In a scenario of worsening fiscal resources and increasing revenue expenditure on non-plan and non-development heads, the state has failed to maintain its existing socio-economic infrastructures in the proper serviceable state (Box 2.1).

**Box 2.1: Pitiabale Condition of N.Hs. and S.Hs. in Orissa**

In October 1999, the coastal districts of the state were worst hit by the super cyclone. This was followed by acute drought situation in the highland districts of the state during 2000-01 and devastating floods in both coastal and highland districts during July 2001. It is observed that the recent flood has damaged all major N.Hs. S.Hs. and MDRs. of the State. Both the major N.Hs. of the state connecting Howrah-Mumbai and Howrah Chennai are affected due to flood and heavy rain covering more than 300 km. road length in both coastal and highland districts of Orissa. Added to these many new N.H. such as Bargarh to Borigumma covering the backward KBK districts are yet to be developed as N.H. The road condition of the state's main S.Hs. connecting Bhubaneswar with the districts like Nayagarh, Boudh, Sonapur, Phulbani, Kalahandi, Ganjam etc is found to have remained worse for years together. In this situation, it is better not to speak of the road condition of MDRs in the state.

It is because of the worsening condition of the major roads in Orissa that the state has the lowest motor vehicles density in the country. In the year 1997-98, according to CMIE data the motor vehicle density per sq. km land area was only 4.98 in Orissa, as against 46.53 in Punjab and 12.31 at the all-India level (CMIE, January 2001).

Railways have always played an important role in economic development and rapid social transformation in all parts of the globe. It is one of the key economic infrastructures. However, it is most unfortunate that in a poor and backward state like Orissa, development of rail networks has received much less attention of the Central Government in the post-independence period. There are as many as seven districts like Boudh, Kandhamal, Deogarh, Nayagarh, Kendrapara, Malkangiri and Nabarangpur out of the 30 districts of the state, which do not have any railway line passing through them. In the year 1998-99, the density of railway route length per 1000 sq. km of area in Orissa was only 15.03 km as against 42.66 km in West Bengal and 19.11 km. at all-India level.

**Energy/Rural Electrification**

Modern economic development is closely interrelated with the development of the energy infrastructure. In order to bridge the development gap between space and people and also to lay the foundation of a modern agricultural economy by the application of modern inputs and

technology the country has been striving for generation of more electricity, cent per cent electrification of the villages and progressive increase in per capita consumption of electricity. However, it is found that according to the CMIE data only 69.86 per cent of the villages were electrified in Orissa as against 85.95 per cent at the all-India level during 1995. By the end of 1970s while states like Haryana and Punjab could achieve the target of cent per cent electrification of their villages, states like Maharashtra, Gujarat, Tamil Nadu, Kerala, Karnataka, etc. were able to provide electricity connection to more than 90 per cent of their villages by the early 1990s.

Orissa has a significant percentage of tribal population (roughly 23%) and they live in dispersed settlements of several hamlets constituting together one revenue village. In such scenario it is not uncommon to find many hamlets in the tribal areas remaining unconnected by electricity, whereas electrification of a portion covering the main revenue village is shown electrified in the official record. Hence, if such hamlets are counted to make a comparison of the development status of energy sector in Orissa then the actual state of electrification in the state is worse than many other states of the country. This evidently becomes clearer when the state of electrification of the villages in different districts of Orissa is analysed in the subsequent sections.

### **Irrigation**

Orissa's economy is predominantly characterized by the backward and uncertain agriculture. The state is frequently affected by drought in the highland districts and floods in the coastal districts due to erratic behaviour of the monsoon rain. In such a scenario the development need of irrigation infrastructure to mitigate the twin problems of drought and flood cannot be understated. According to the CMIE data, in the late-1990s the percentage of gross irrigated area to gross cropped area at the all-India level was 38.45, whereas it was only 27.35 at the all-Orissa level. Further, due to improper maintenance of the canals, dug wells, drainage channels, etc. there exists a wide gap between the official record of irrigation potential created in the state and effective coverage of land under irrigation. Very recently it was reported in the leading Oriya daily, **The Samaja** that the state's largest multi-purpose dam Hirakud on river Mahanadi may become a burden on the Orissa economy. This dam has not only failed to control flood in the downstream coastal districts of the state, but also it has failed to achieve its planned objective to generate 350 M.W. electricity and to provide irrigation facility to a

minimum of 11 lakh acres of land in the catchment area of Hirakud canal system. It is reported that the effective irrigation facility provided by the Hirakud dam at present is only 3.88 lakh acres during **Kharif** season and 2.47 lakh acres during **Rabi** season (**The Samaja**, 7 August, 2001). If this is the state of irrigation in the largest irrigation project of the state, one can well imagine the actual percentage of gross irrigated area to gross cropped area of land in Orissa vis-a-vis its officially stated percentage figure of 27.35 during late-1990s.

### **Banking**

The infrastructural status of banking and finance facilities of the state is found to be equally bad vis-a-vis the availability norm of such facilities at the all-India level. According to the CMIE data, the number of bank branches per lakh population at the all-India level in the late-1990s was 6.65, whereas this was 6.11 at the all-Orissa level. Similarly, it was found that there was wide disparity in the per capita level of mobilization of deposit and disbursement of credit. At the all-India level while the per capita mobilisation of deposit by the banks was Rs.6,967 and disbursement rate of credit was Rs.3,816, the respective figures of deposit and credit for the state were Rs.2,827 and Rs.1,250 in the late 1990s.

### **Communications**

In order to assess the status of communication infrastructure the CMIE data put emphasis on the number of post offices per lakh population and number of telephone lines per 100 persons. In the late 1990s the number of post offices per lakh population in Orissa was 22.88 as against 18.14 at the all-India level. However, Orissa was found to be lagging behind as compared to the country insofar as the distribution of the number of telephone lines per 100 persons was concerned. This was only 0.91 at the all-Orissa level as against 2.15 at the all-India level.

### **Education**

In contrast to the status of economic infrastructure, the social infrastructural status of Orissa relating to number of primary schools per lakh population was found to be much better than the country's average. The data compiled by the CMIE during late 1990s show that there were 64.94 primary schools per lakh population at the all-India level as against 119.17 primary schools per lakh population in Orissa. Notwithstanding this the general literacy rate of the population in the state was 49.1 per cent only as compared to 52.1 per cent at the all-India level at the time of 1991 census.

The state has a quite higher level of depressed category population comprising scheduled castes and scheduled tribes. According to 1991 census the scheduled castes and scheduled tribes populations of the state respectively constituted 16.20 per cent and 22.21 per cent of the total as against 16.48 per cent and 8.08 per cent at the all-India level. It is because of higher concentration of depressed category population the state has failed to bridge the literacy gap despite better distributional advantage of number of schools per lakh population as compared to the all-India level figures.

### **Health**

As discussed earlier, like education health constitutes a part of the social infrastructure and combinedly they reflect the development scope of human capital. It is found that Orissa has more number of primary schools per lakh population. Similarly, when we look at the distribution pattern of number of health centres per lakh population, the position of Orissa vis-à-vis the national average is found to be relatively better. According to the CMIE data, in the late 1990s the number of health centers per lakh population in Orissa was 3.10 as against 2.34 at the all-India level. However, the number of medical beds per lakh population was only 48.91 in Orissa, whereas this was 94.47 at the national level.

It may be noted that the actual provision of health services in Orissa is worse than that of the country. In the tribal highland districts of the state health centres merely exist in pen and paper. Not to speak of doctors even the paramedical staff including auxiliary nurse midwife (ANM) do not like to stay there to render requisite medical services to the poor and hapless tribal population. It is frequently reported in the local newspapers that the tribal districts have high infant mortality rate, general morbidity rate as well as death rate as compared to the relatively developed coastal districts like Cuttack, Puri, Baleswar, etc.

Our analysis and comparison of the development of Infrastructure sector in Orissa vis-a-vis the country's present state of development clearly shows that although according to composite development index the state's development status is almost at par with the national picture, the actual picture of distribution, nature of development as well as access of the different social and economic infrastructures across space and people are quite different. This becomes

clearer when we analyze the development disparity picture of infrastructure in the different districts of Orissa in the subsequent section.

### **INTER-DISTRICT LEVEL DISPARITY AND QUALITY OF INFRASTRUCTURE**

Our analysis of the status of infrastructural development in Orissa vis-a-vis India reveals that the state's infrastructure picture is much worse than the national level, although according to composite index of development its index value is at par with the national level. Also, like the case of inter-state level development disparity in infrastructure, the development picture of the infrastructure among the districts of Orissa is found to be equally elusive and highly imbalanced.

Following the CMIE pattern, the composite development index is formed to measure development disparity in the infrastructure sector of the districts in Orissa. For the purpose, apart from the 11 development indicators taken by the CMIE to focus on the development status of seven sub-sectors of infrastructure three new indicators have been added. These are: (i) High way road length per 100 sq. km. area; (ii) Number of primary schools per 100 sq. km. area; and (iii) Number of health centres per 100 sq. km. area. The reason behind inclusion of these three indicators is that there exists wide variation in the settlement pattern and density of human population at the spatial level of both the highland and plain coastal districts of the state. In such scenario if we calculate the index value of number of primary schools and number of health centers per lakh population only by ignoring their spatial distribution then the backward high land districts mostly resided by the depressed category population are likely to provide a picture of unusually high index values of those two development indicators. Similarly, it is found that Orissa has a very high index value of road length per 100 sq. km. area as compared to all-India level because of large many unsurfaced roads. The value significantly comes down when index value for the N.H. and S.H. per 100 sq. km. area is computed and compared with that of all-India figure.

Thus, by taking seven sub-sectors of the infrastructure such as transport, energy, irrigation, banking, communication, education and health, when we compute the composite development index of infrastructure for the different districts of Orissa by assigning weights to the different sub-sectors according to the CMIE value, it is found that among the old undivided districts the level of development disparity has been reduced over the years. In the early 1990s among the

13 old and undivided districts, six were found to be infrastructurally developed with a CDI value of more than 100. It may be noted that the average CDI value of infrastructure for the state is taken as 100 and on this basis by assigning different values given to the seven sub-sectors by the CMIE, the respective CDI value of the old districts has been worked out accordingly. It is found that in the early 1990s the infrastructurally developed districts among the 13 old and undivided districts of Orissa were, Puri, Cuttack, Sundargarh, Baleswar, Sambalpur and Bolangir in the descending order. Among the seven infrastructurally backward districts, Kalahandi was the most backward followed by Koraput, Phulbani, Dhenkanal, Kendujhar, Ganjam and Mayurbhanj in the descending order. The co-efficient of variation (C.V.) value reflecting inter-district level development disparity in infrastructure was found to be 22.15 per cent. However, in the year 2000-01 when the C.V. value of those 13 undivided districts of the state is computed for the infrastructure sector, it is found to have come down to 15.62 per cent. At the turn of the century, there has been a marked shift in the infrastructural development positions of the old undivided districts. Ganjam among the backward districts of the early 1990s is now elevated to fifth position in the rank order, whereas the rank position of Sundargarh, which was third in the early 1990s is slid down to seventh position. Among the old undivided districts of the state the number of infrastructurally developed districts during 1990-91 to 2000-01 has increased to six from seven. Those are: Puri, Cuttack, Baleswar, Sambalpur, Ganjam, Bolangir and Sundargarh in the descending order. Similarly, the backward districts in the descending rank order of infrastructural development are: Dhenkanal, Phulbani, Koraput, Kendujhar, Mayurbhanj and Kalahandi. This implies that during 1990-2000 while the rank positions of the most developed and most backward districts of the state have remained unchanged, the infrastructural development scenario of other districts has either shown some improvement like the case of Ganjam or deterioration like the cases of Sundargarh, Mayurbhanj and Kendujhar. Further, it is revealed that according to CDI value of the infrastructure, all the four undivided coastal districts of the state and three highland districts namely, Sambalpur, Bolangir and Sundargarh are developed in the state's development parameter. In contrast, the backward tribal dominated districts of easternghats region comprising Koraput, Kalahandi and Phulbani as well as Kendujhar and Mayurbhanj of the northern plateau region are found to be infrastructurally backward (Tables - 2.2 & 2.3).

It may be noted that the old 13 districts of the state were reorganized into 30 districts in 1992. So, it is essential to make a focus on infrastructural development positions of the newly

reorganized 30 districts of Orissa in more detail. According to the composite development index of infrastructure in the year 2000-01 half of the total number of districts in the state are found to be developed with an index value of more than 100. Among the developed districts, Khurda's position is found to be at the top followed by Puri, Jagatsinghpur, Cuttack, Bhadrak, Ganjam, Sambalpur, Baleswar, Sonapur, Jajpur, Bargarh, Jharsuguda, Kendrapara, Sundargarh and Bolangir in the descending order. The backward districts of the state from the top to bottom in the descending order of the rank positions are: Nabarangpur (30), Kandhamal (29), Nuapada (28), Malkangiri (27), Nayagarh (26), Kalahandi (25), Kendujhar (24), Rayagada (23), Mayurbhanj (22), Boudh (21), Deogarh (20), Gajapati (19), Angul (18), Koraput (17) and Dhenkanal (16). The C.V. value reflecting inter-district level disparity in the development of infrastructure among the newly organized 30 districts of Orissa is found to be 23.45 per cent (Table- 2.4).

When we look at the infrastructural development status of the 30 new districts vis-à-vis the old undivided 13 districts in Tables 2.3 and 2.4, it is found that both the developed as well as the backward districts among the old districts depicted a picture of intra-district level development disparity of infrastructure. It is observed that the so-called developed among the old undivided districts also contained many backward pockets/ new districts such as Nayagarh in the case of Puri, Deogarh in the case of Sambalpur and Gajapati in the case of Ganjam. However, the infrastructural development position of the backward old and undivided districts is so low that none of the newly carved districts among them has been able to earn the status of developed or advanced. Rather, owing to uneven development at the intra-district level the inter-district level development disparity in infrastructure among the newly organized 30 districts of the state has shown marked increase as compared to the old and undivided districts.

## **DEVELOPMENT STATUS OF KEY INFRASTRUCTURE**

Our analysis of the composite development index value of infrastructure in the both old and undivided districts as well as the newly organized 30 districts of Orissa and also the comparison of the state's position with that of the country's average position clearly show that Orissa has to put more thrust on the development of certain key infrastructure on priority basis in order to enable the state to cross the thresh-hold point of built-in-depressor of economy and society.

Orissa is dominated by the backward subsistence oriented agricultural economy with a significantly higher percentage of depressed category population. In such a situation the development of infrastructure should not only aim at sustainable growth of agriculture, but also the self-sustaining growth of rural industries including handlooms and handicrafts. For the purpose, the thrust is needed to be put on development of the highly deficient infrastructure sub-sector on priority basis at the district level in order to reduce inter-district level development disparity and also to overcome the general backwardness status of the state economy. According to index method, the index value of a particular development indicator for the state is assigned as 100 and this is considered the average status of development. On this basis the index value of any development indicator having less than 100 in the case of a district/region is taken as backward. Hence, in order to determine acute backwardness of a district, we may classify the districts' degree of backwardness according to their respective index value of CDI. These are: (i) 100 and above : developed; (ii) 90-100 : marginally backward; (iii) 80-90 : moderately backward and (iv) less than 80 : most backward.

According to this type of classification out of present 30 districts of Orissa the following 15 districts are found infrastructurally developed in the descending order: (i) Khurda, (ii) Puri, (iii) Jagatsinghpur, (iv) Cuttack, (v) Bhadrak, (vi) Ganjam, (vii) Sambalpur, (viii) Baleswar, (ix) Sonepur, (x) Jajpur, (xi) Bargarh, (xii) Jharsuguda, (xiii) Kendrapara, (xiv) Sundargarh and (xv) Bolangir. The marginally backward districts are: (i) Angul, (ii) Dhenkanal, and (iii) Koraput. The moderately backward districts are: (i) Boudh, (ii) Deogarh, (iii) Gajapati, (iv) Kendujhar, (v) Mayurbhanj and (vi) Rayagada. The most backward districts in the descending rank order are: (i) Nabarangpur, (ii) Kandhamal, (iii) Nuapada, (iv) Malkangiri, (v) Nayagarh and (vi) Kalahandi (Table - 2.4).

It may further be noted that Orissa is one of the most backward states among the 15 major states of India. As discussed earlier, there exists a wide gap in the CDI value of the infrastructure vis-a-vis the actual quality of the infrastructure developed in the state. In such a situation, it is felt that irrespective of the present CDI value of infrastructure in the different districts of Orissa, there is a need for the development of the different sub-sectors relating to infrastructure at the individual district level, where the computed index value of the particular sub-sector is found to be less than 80. Accordingly, we may say that the following districts are highly deficient in roads and transport sub-sector : Those are namely, Kalahandi, Kandhamal, Kendrapara, Kendujhar, Malkangiri, Nabarangpur, Nayagarh, Nuapada and Sonepur. This means the developed districts like Kendrapara and Sonepur are most backward in their roads

and transport networks like the other backward districts. In the energy sector the districts having most backward status are: Boudh, Deogarh, Gajapati, Kalahandi, Kandhamal, Koraput, Malkangiri, and Rayagada. The districts having most backward status of irrigation infrastructure are: Angul, Bolangir, Dhenkanal, Jharsuguda, Kalahandi, Kandhamal, Kendujhar, Mayurbhanj, Nabarangpur, Nayagarh, Nuapada, Rayagada and Sundargarh. In the banking and finance sub-sector only three districts namely Bhadrak from the developed category and Malkangiri and Nabarangpur among the most backward category have highly deficient banking services. In the communication sub-sector the most backward districts are: Bargarh, Deogarh, Jajpur, Kalahandi, Kendrapara, Malkangiri, Nabarangpur, Nayagarh, Nuapada and Sonepur. Among them Bargarh Jajpur, Kendrapara and Sonepur are found to be infrastructurally developed. In the education sub-sector only Rayagada is found to be most backward. The districts showing most deficient services of health infrastructure are Angul, Boudh, Deogarh and Nabarangpur (Table- 2.4).

**Table-2.2**

**Infrastructural Development Index of Old and Undivided Districts of Orissa, 1990-91**

Sl. No.	Name of District	Transport	Energy	Irrigation	Banking	Communi- cation	Education	Health	Weight ed IDI value	Rank
1	2	3	4	5	6	7	8	9	10	11
1	Baleswar	114.98 (29.89)	121.44 (29.16)	123.38 (24.68)	89.31 (10.72)	90.73 (5.44)	131.38 (7.88)	111.10 (6.67)	114.4	4
2	Bolangir	123.62 (32.14)	114.65 (27.52)	99.16 (19.83)	90.44 (10.85)	71.12 (4.27)	117.65 (7.06)	64.88 (3.89)	105.56	6
3	Cuttack	124.85 (32.46)	130.07 (31.22)	172.48 (34.50)	100.17 (12.02)	105.32 (6.32)	152.16 (9.13)	119.58 (7.17)	132.82	2
4	Dhenkanal	80.99 (21.06)	114.36 (27.45)	64.47 (12.89)	99.84 (11.98)	81.37 (4.88)	89.92 (5.40)	89.05 (5.34)	89.00	10
5	Ganjam	77.03 (20.03)	99.38 (23.85)	107.23 (21.45)	108.76 (13.05)	84.54 (5.07)	77.08 (4.62)	97.23 (5.83)	93.00	8
6	Kalahandi	68.53 (17.82)	79.54 (19.09)	37.93 (7.59)	100.82 (12.10)	68.09 (4.09)	86.46 (5.19)	70.39 (4.22)	70.10	13
7	Kendujhar	71.29 (18.54)	118.25 (28.38)	74.74 (14.95)	97.25 (11.65)	91.20 (5.47)	93.95 (5.64)	101.94 (6.12)	90.75	9
8	Koraput	74.06 (19.26)	63.23 (15.27)	58.95 (11.79)	79.91 (9.59)	71.49 (4.29)	101.00 (6.06)	86.51 (5.19)	71.45	12
9	Mayurbhanj	100.10 (26.03)	88.27 (21.18)	97.19 (19.44)	103.89 (12.47)	100.12 (6.01)	111.31 (6.68)	72.02 (4.32)	96.13	7
10	Phulbani	74.35 (19.33)	43.05 (10.33)	73.95 (14.79)	101.95 (12.23)	110.06 (6.60)	122.19 (7.33)	121.00 (7.26)	77.87	11
11	Puri	140.34 (36.49)	126.73 (30.42)	198.63 (39.73)	116.21 (13.95)	137.54 (8.25)	100.46 (6.03)	134.57 (8.07)	142.94	1
12	Sambalpur	104.34 (27.09)	109.11 (26.19)	119.62 (23.92)	100.65 (12.08)	102.59 (6.16)	84.38 (5.06)	101.60 (6.10)	106.60	5
13	Sundargarh	146.26 (38.03)	124.68 (29.92)	64.74 (12.95)	107.46 (12.900)	160.56 (19.63)	86.02 (5.16)	152.51 (9.15)	117.74	3
	<b>Orissa</b>	100.00 (26.00)	100.00 (24.00)	100.00 (20.00)	100.00 (12.00)	100.00 (6.00)	100.00 (6.00)	100.00 (6.00)	100.00	--
	C.V. (in %)	27.70	26.05	46.21	9.29	27.27	20.93	25.49	22.15	--

N.B. Figures in parentheses refer to weighted value.

Source: Government of Orissa, State Statistical Abstract and District Statistical Handbooks (Different districts and different years), Directorate of Economics and Statistics, Bhubaneswar.

**Table-2.3**

**Infrastructural Development Index of Old and Undivided Districts of Orissa, 2000-01**

Sl. No.	Name of District	Transport	Energy	Irrigation	Banking	Communication	Education	Health	Weighted IDI value	Rank
1	2	3	4	5	6	7	8	9	10	11
1	Baleswar	119.82 (31.15)	119.16 (28.60)	132.84 (26.57)	87.77 (10.53)	94.03 (5.64)	128.55 (7.71)	128.13 (7.69)	117.89	3
2	Bolangir	110.63 (28.76)	111.47 (26.75)	109.97 (21.99)	88.92 (10.67)	76.61 (4.60)	118.32 (7.10)	89.47 (5.370)	105.24	6
3	Cuttack	128.00 (33.28)	112.42 (26.98)	123.23 (24.65)	101.98 (12.24)	91.14 (5.47)	149.58 (8.97)	137.27 (8.24)	119.83	2
4	Dhenkanal	100.88 (26.22)	109.40 (26.26)	60.79 (12.16)	99.01 (11.88)	113.21 (6.79)	87.38 (5.24)	80.44 (4.83)	93.38	8
5	Ganjam	114.81 (29.85)	99.36 (23.850)	132.42 (26.48)	98.18 (11.78)	96.60 (5.80)	103.61 (6.22)	109.09 (6.55)	110.53	5
6	Kalahandi	74.40 (19.34)	78.62 (19.11)	66.23 (13.25)	93.88 (11.27)	77.93 (4.68)	95.99 (5.76)	98.57 (5.91)	79.32	13
7	Kendujhar	56.79 (14.77)	119.05 (28.57)	68.12 (13.62)	92.07 (11.05)	96.45 (5.79)	91.30 (5.48)	94.02 (5.64)	84.92	11
8	Koraput	89.58 (23.29)	82.29 (19.75)	85.24 (17.05)	73.22 (8.79)	77.50 (4.65)	105.47 (6.33)	84.86 (5.09)	84.95	10
9	Mayurbhanj	91.91 (23.90)	55.26 (13.26)	70.23 (14.05)	98.18 (11.78)	95.81 (5.75)	109.38 (6.56)	100.84 (6.05)	81.35	12
10	Phulbani	62.75 (16.31)	98.31 (23.59)	63.80 (12.76)	98.68 (11.84)	113.43 (6.81)	125.41 (7.52)	107.20 (6.43)	85.26	9
11	Puri	124.18 (32.29)	114.42 (27.46)	115.15 (23.03)	132.23 (15.87)	142.27 (8.53)	100.99 (6.06)	128.11 (7.69)	120.93	1
12	Sambalpur	115.15 (29.94)	97.53 (23.41)	136.06 (27.21)	109.26 (13.11)	97.36 (5.84)	86.29 (5.18)	105.73 (6.34)	111.03	4
13	Sundargarh	118.37 (30.78)	120.00 (28.80)	69.37 (13.87)	107.60 (12.91)	136.29 (8.18)	88.14 (5.29)	86.28 (5.18)	105.01	7
	<b>Orissa</b>	100.00 (26.00)	100.00 (24.00)	100.00 (20.00)	100.00 (12.00)	100.00 (6.00)	100.00 (6.00)	100.00 (6.00)	100.00	--
	C.V. (in %)	23.57	18.94	31.92	13.92	20.59	17.78	17.35	15.62	--

N.B. Figures in parentheses refer to weighted value.

Source: Same as Table 2.2.

**Table - 2.4**

**Infrastructural Development Index of Districts in Orissa, 2000-01**

Sl. No.	Name of District	Transport	Energy	Irrigation	Banking	Communication	Education	Health	Weighted IDI value	Rank
1	2	3	4	5	6	7	8	9	10	11
1	Angul	99.46 (25.86)	105.31 (25.27)	54.97 (10.99)	100.17 (12.02)	121.64 (7.30)	82.71 (4.96)	71.28 (4.280)	90.68	18
2	Baleswar	127.72 (33.21)	133.47 (32.03)	102.57 (20.51)	95.54 (11.46)	98.30 (5.90)	127.24 (7.63)	128.62 (7.72)	118.46	8
3	Bargarh	83.30 (21.66)	133.62 (32.07)	175.30 (35.06)	87.27 (10.47)	68.84 (4.13)	91.54 (5.49)	85.58 (5.13)	114.01	11
4	Bhadrak	108.38 (28.18)	111.32 (26.72)	174.59 (34.92)	75.70 (9.08)	87.96 (5.28)	131.97 (7.92)	128.41 (7.70)	119.80	5
5	Bolangir	115.03 (29.91)	115.09 (27.62)	71.87 (14.37)	90.41 (10.85)	84.20 (5.05)	117.41 (7.04)	90.08 (5.40)	100.24	15
6	Boudh	86.42 (22.47)	75.85 (18.20)	92.24 (18.45)	97.52 (11.70)	94.00 (5.64)	100.28 (6.28)	64.66 (3.86)	86.34	21
7	Cuttack	126.37 (32.86)	131.20 (31.49)	153.11 (30.62)	120.00 (14.40)	125.25 (10.85)	142.89 (7.51)	157.06 (8.57)	134.87	4
8	Deogarh	106.85 (27.78)	46.10 (11.06)	98.32 (19.66)	120.66 (14.48)	53.06 (3.18)	93.38 (5.60)	79.81 (4.79)	86.55	20
9	Dhenkanal	102.77 (26.72)	119.71 (28.73)	66.58 (13.32)	97.85 (11.74)	88.85 (5.33)	91.90 (5.51)	92.15 (5.53)	96.88	16
10	Gajapati	96.37 (25.06)	65.67 (15.76)	100.11 (20.02)	89.42 (10.73)	87.05 (5.22)	118.84 (7.13)	92.14 (5.53)	89.45	19
11	Ganjam	124.53 (32.38)	116.13 (27.87)	137.92 (27.58)	99.67 (11.96)	98.30 (5.90)	106.92 (6.41)	117.56 (7.05)	119.15	6
12	Jagatsinghpur	191.29 (49.74)	126.22 (30.29)	114.76 (22.95)	111.06 (13.33)	84.51 (5.07)	179.32 (10.76)	137.62 (8.26)	140.40	3
13	Jajpur	145.88 (37.93)	124.36 (29.85)	82.84 (16.57)	80.64 (10.04)	67.66 (4.06)	137.40 (8.24)	125.03 (7.50)	114.19	10
14	Jharsuguda	131.16 (34.10)	133.65 (32.08)	61.76 (112.35)	107.11 (12.85)	112.84 (6.77)	106.57 (6.39)	84.23 (5.05)	109.59	12
15	Kalahandi	75.89 (19.73)	77.29 (18.55)	70.62 (14.12)	96.69 (11.60)	79.86 (4.79)	95.46 (5.73)	87.16 (5.23)	79.75	25
16	Kandhamal	53.84 (14.00)	63.08 (15.40)	42.89 (8.58)	99.67 (11.96)	125.54 (7.53)	137.26 (8.24)	120.44 (7.83)	73.28	29
17	Kendrapara	71.37 (18.56)	118.89 (28.53)	142.46 (28.49)	85.12 (10.21)	64.06 (3.84)	147.88 (8.87)	117.02 (7.02)	105.52	13
18	Kendujhar	56.72 (14.75)	111.37 (26.73)	68.13 (13.63)	92.07 (11.050)	80.65 (4.84)	90.66 (5.44)	94.25 (5.65)	82.09	24
19	Khurda	245.37 (63.80)	124.27 (29.82)	94.64 (18.93)	161.49 (19.38)	205.34 (12.32)	112.28 (6.74)	150.76 (9.05)	160.04	1
20	Koraput	119.64 (29.81)	68.82 (16.52)	106.65 (21.32)	84.30 (10.12)	100.99 (6.06)	107.48 (6.45)	93.95 (5.64)	95.93	17
21	Malkaniri	53.22 (13.84)	55.27 (13.26)	117.23 (23.45)	65.45 (7.85)	51.55 (3.09)	110.14 (6.61)	125.80 (7.55)	75.65	27
22	Mayurbhanj	81.16 (21.10)	87.40 (20.98)	70.23 (14.05)	98.18 (11.78)	95.81 (5.75)	109.86 (6.59)	101.00 (6.060)	86.31	22
23	Nabarangpur	60.95 (15.85)	101.22 (24.29)	42.17 (8.43)	47.11 (5.65)	51.99 (3.12)	97.08 (5.82)	48.34 (2.90)	66.06	30
24	Nayagarh	63.28 (16.45)	93.94 (22.55)	46.60 (9.32)	101.49 (12.18)	69.11 (4.15)	81.00 (4.86)	130.92 (7.85)	77.36	26
25	Nuapada	61.99 (16.12)	82.23 (19.73)	58.01 (11.60)	87.27 (10.47)	72.68 (4.36)	95.15 (5.71)	123.31 (7.40)	75.39	28
26	Puri	163.29 (42.46)	130.22 (31.25)	184.31 (36.86)	113.72 (13.65)	102.33 (6.14)	117.74 (7.06)	276.99 (16.62)	154.04	2
27	Rayagada	106.58 (27.71)	51.68 (12.40)	75.05 (15.01)	94.38 (11.33)	89.93 (5.40)	117.02 (7.02)	91.60	84.37	23
28	Sambalpur	142.21 (36.97)	88.61 (21.27)	105.72 (21.14)	139.01 (16.08)	143.98 (68.64)	75.16 (4.51)	(5.50) 163.38	119.01	7
29	Sonepur	78.69 (20.46)	104.70 (25.13)	219.19 (43.840)	85.79 (10.29)	58.11 (3.49)	121.59 (7.30)	(9.80) 88.49	115.82	9
30	Sundargarh	118.50 (30.81)	116.13 (27.87)	69.37 (13.87)	107.60 (12.91)	136.54 (8.19)	88.62 (5.32)	(5.31) 86.64 (5.20)	104.17	14
<b>Orissa</b>		100.00 (26.00)	100.00 (24.00)	100.00 (20.00)	100.00 (12.00)	100.00 (6.00)	100.00 (6.00)	100.00 (6.00)	100.00	--
C.V. (in %)		43.85	27.07	45.69	21.40	34.71	20.62	37.26	23.45	--

N.B. Figures in parentheses refer to weighted value.

## CONCLUSION

It is important to note that in a poor and backward state like Orissa mere creation of the infrastructure has not helped much for balanced development of the state's economy and society. Further, due to lack of proper maintenance and supervision many infrastructures created with a view to accelerating the pace of economic development have failed to generate intended effects. It is observed from our village survey done in the 30 villages of six districts covering four different geographical regions that there exists a wide gap in the official figures of different infrastructures and their actual status. In the case of irrigation infrastructure it is found that in majority of the cases only less than 50 per cent of the irrigation potential created in the different parts of the state is effectively generating desired benefit to the people. The canals and drainage channels are shabbily maintained. Wherever at the village level irrigation facility is created under minor irrigation project like water shed, water harvesting structure, etc., those have mostly benefited the large land owners and well-to-do farmers of the village. As a result, the small and marginal farmers in the backward tribal and highland districts of the state fail to earn their annual subsistence needs by solely depending upon agriculture.

Electrification of the villages is a myth. It is observed that in majority of the villages the supply of electricity is highly erratic and irregular. The average rate of availability of power in the interior and backward villages of highland and tribal districts is only four to six hours a day. Further, it is not at all uncommon that while a portion of the village is electrified for the rural well-to-do households, the neighbourhood settlements predominantly being resided by the downtrodden might have been left unelectrified.

Service scenario of both education and health infrastructures is equally bad in the rural areas of backward highland districts. The schools and health centres exist in namesakes only. In many of the surveyed villages the school buildings were found in dilapidated condition. The teachers do not take much interest in teaching. They are regularly irregular in their duties. Their effective stay in the school premise is hardly for two to three hours a day. Similarly, the health centres located in the backward and tribal areas hardly serve any interest of the poor. The doctors' posts are invariably found vacant in all such places. Wherever a doctor is posted, he or she prefers to stay in the district headquarters and commutes to the health centre at his/her own sweet will. The paramedical staff also do not prefer to stay in the backward village.

However, in comparison to the 1960s and 1970s the roads and transport as well as the communication infrastructures in the villages of Orissa have shown satisfactory improvement despite poor quality of the roads. Banking services also, particularly after the nationalization of the commercial banks have shown satisfactory result. Nevertheless, it is needless to mention that the state has still a lot to do for the improvement of its infrastructure sector. The gap between the composite development index value of the infrastructure sector and the actual access of such services across space and people needs to be bridged in order to enable the state to abolish rural poverty and to accelerate the pace of economic development.

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