

**CHAPTER - III**

Human Resources and Infrastructure Facilities in  
Rural Orissa.

The principal objective of the present study is to assess the impact of human resource development and available infrastructure facilities on the rural economic activities. In keeping with this broad objective, the Chapter is devoted to examine the availability and level of developed human resource and infrastructure facilities in the rural region in Orissa-State. The empirical exercises relate to the 77 Community Development (C.D.) blocks of three districts of Orissa State, viz., Cuttack, Balasore and Mayurbhanja for the years, 1971 and 1981, separately. A brief account of the three districts and the reasons underlying their selection are given below.

1. Coverage and Data

Selection of units of study:

The study empirically tests the major objective and related aspects by using community development block as the macro unit of investigation. Every community block is intended to be an area of intensive effort in which all development agency of the government work together as a team in cooperation with the local leadership represented in Panchayates. The activities to be undertaken in Community block are viewed as an integral part of a programme for improving all aspects of rural life, and above all, for establishing a sound economic

<sup>1</sup>  
1. Government of India, Planning Commission. The Third Five Year Plan. Draft Outline, p.153.

base through rapid agricultural development . The Community block is an appropriate macro unit of investigation for undertaking a study pertaining to rural areas.

The empirical exercises relate to the State of Orissa. Orissa with its past glory and rich cultural heritage is a land of paradox. In spite of its rich natural and other resources, the state is languishing in poverty. It is one of the poorest states of the country with per capita income of Rs.860/- (at current prices) as against the national average of Rs.1267/- in 1978-79<sup>2</sup>. The population lying below poverty line in the state is 67.5 per cent in 1977, the highest in the country<sup>3</sup>. Selecting such a state where rural transformation is almost in the initial stage, is really interesting to examine the impact of human resource development and available infrastructure facilities on the process of development.

The study is undertaken in three districts of Orissa State, viz., Cuttack, Balasore and Mayurbhanja. The selection of these three districts is based on their relative level of development along with due consideration to the population representation of the three districts to the state population. The district, Cuttack is relatively one of the advanced districts of the state, while Balasore and Mayurbhanja districts are rated as backward.<sup>4</sup> Further, according to 1981 Census, the

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2. Bureau of Statistics and economics, Orissa, The Economic Survey of Orissa, 1980-81, P. 6.

3. Bureau of Statistics and Economics, State Economy in Figures 1981, p.25.

4. Bureau of Statistics and Economics, Economic Survey of Orissa, 1980-81, p.34.

total population and total rural population of the three districts are 32 and 33 per cent of the respective population of the state<sup>5</sup>. The study makes, also, a fair representation of scheduled castes and scheduled tribes population by including Mayurbhanja district. The population of the backward communities constitutes around 65 per cent of the total population in the District<sup>6</sup>.

These three districts constitute the north eastern region of the state. While Cuttack and Balasore ( a border district) are two coastal districts, Mayurbhanja is a land-locked border district bounded by W. Bengal in the north and Bihar in the West. Although hilly regions are commonly located in the three districts, relatively a large part of area of Mayurbhanja district is covered by a group of hills and thereby, making it rich in mineral and forest resources. Rainfall (above 1500 mm) and nature of the soil (red alluvial and laterite) are almost similar in the three districts. Agriculture is the most dominant sector of the economy and paddy accounts for the highest percentage of cropped area. Flood havoc is frequent in the region during the rainy season.

The study, thus conducted in the three districts is expected to represent the state adequately. It is undertaken

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5. Source: obtained from the Census of India-1981. Final Population Total, Series 16, Orissa, Paper 1 of 1982.

6. The same as 5\* (Ibid).

in taking 77 C.D. blocks. Of the 77 blocks, 32 of 41\* blocks of Cuttack district and all the blocks of Balasore and Mayurbhanja district are included.

Data Base:

The study is conducted by using cross-section data of 77 blocks of the above mentioned three districts of Orissa-State in two points of time, viz., 1971 and 1981. The collection of blockwise data which are mainly unpublished, is indeed a herculean task involving enormous time, energy and money, besides a bit of humiliation and insultation. However, sympathy and encouragement are not infrequent. The block-level data on the various variables used in the present study are obtained normally from the official records of the concerned district offices.

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\*Of the 41 C.D. blocks of Cuttack district, 9 C.D. blocks are to be excluded for non-availability of agricultural statistics, since Kendrapada Agricultural district of Cuttack comprising the 9 blocks was submerged by a recent flood and thereby, spoiling the records.

The blockwise data on population with its occupational classification for 1971 Census are available from the various annual issues of District Statistical Handbook published by the Bureau of Statistics and Economics, Orissa, since mid seventies. The data on population in 1981 with its occupational classification at the block level are to be collected and compiled from the record of provisional Primary Census Abstract of the District Census Handbook<sup>7</sup> available at the Directorate of Census Operations, Orissa, which furnishes villagewise population data with their occupational classification. Blockwise compilation is made by using the village register of the three districts maintained by the Census office which enlists the name of villages in each of blocks with their respective location code numbers for both 1971 and 1981 Censuses. The data at the block level on the number of the students (absolute) enrolled, the number of teachers and the number of Schools for 1971 and 1981 are obtained from the official records of the Community Development Department of the Government of Orissa, and the Directorate of Public Instruction, Orissa ( and in some cases from the concerned offices of the Circle Inspector of Schools of the three districts) respectively. The data on the number of doctors and nurses and the number of hospitals, dispensaries and primary health centres for 1971

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7. Census of India 1981. Series-16 Orissa Part X. A & B. Village and Town Directory, District Census Hand Book- Village and Townwise primary Census Abstract(Provisional)

and 1981 are collected from the office of the Chief District Medical Officers (Vital Statistic Section), Inspectors of Ayurved and Inspectors of Homeopathy. The data in Veterinary personnel and veterinary hospitals, dispensaries, Livestock Inspection Centres, and Key village Centres are obtained from the offices of the Chief District Veterinary officers of the three districts. The data on the number of bullocks used for work, number of ploughs and pumpsets are also available from the records of the quinquennial livestock Censuses for 1972 and 1977 of the offices of the Chief District Veterinary offices. The District Agricultural Offices (one revenue district is divided into two or more agricultural districts) provide the data on area under different crops, the number of village agricultural workers, the number of fertilizer depots and fertilizer consumption. The road length data are obtained from the District Panchayat office, District Panchayat Samiti office and the offices of the Executive Engineers, Rural Engineering, Roads and Building, and National High Ways of the three districts. The offices of the Superintending Engineers, Electrical Circle of the three districts furnish the data on the number of villages electrified. The data on bank offices in each block are provided by the offices of the Lead Bank Officers of the three districts. The data on post offices for each block are

to be compiled. The District Census Handbooks of the three district provide the village-wise availability of post offices for 1971. For 1981, the offices of the Superintendent of Postal Services of the three districts and in some cases, concerned Head Post Offices provide the list of the post offices in their respective district with the name of the village where the post office is located. With the help of the village register of the Directorate of Census Operations, the number of post offices in each block are obtained. The block-wise data on irrigated land for 1971 and 1981 are collected from the Community Development Department of the Government of Orissa, and the Bureau of Statistics and Economics, ( Crop Survey Cell), Orissa, respectively. The Central Co-operative Banks of the three districts provide the data on the members of Cooperative (primary agricultural) credit societies in each block. The yield rate statistics of different crops for each of the agricultural districts for 1971 and 1981 are available in Orissa Agricultural Statistics, published annually by the Directorate of Agriculture and Food Production, Orissa. The price statistics for the district are obtained from the Bureau of Statistics and Economics (Price Cell) Orissa.



## 2. Characteristics of Population:

Having discussed the rationale for the selection of samples, and the data base, we proceed to blockwise analysis by highlighting, at the outset, a broad outline of the characteristics of population of the 77 C.D. blocks given in Table III-1. for the year, 1981. Of the 77 blocks, the first 32 (i.e. Sl. No.1 to 32), the next 19 (i.e. Sl. No. 33 to 51 ) and the last 26 ( i.e., Sl. No. 52 to 77 ) in the table belong to Cuttack, Balasore and Mayurbhanja districts respectively\*. The table shows that almost all the blocks of Cuttack district are densely populated followed by the blocks of Balasore and Mayurbhanja district. However, Population density of the blocks of Mayurbhanja district are observed to be even much lower than the regional average of 302 per square K.M. of area. The blockwise population growth rate appears to be as interesting as the districtwise population growth rate discussed in Chapter II in revealing the realtive level of development of the C.D. blocks. The blocks of Mayurbhanja district which is observed to be associated with the lowest population growth rate in the state are associated with population growth rate even lower than that of the district average of 10.3%, not to speak of the regional average of 16.4%. The low population growth rate, as asserted earlier, is indicative of the relatively low level of

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\* The above pattern of arrangement of blocks in the tables is followed in the rest of the Chapters.

	Electoral Area	1951	1956	1961	1966	1971	1976	1981	1986	1991	1996	2001	2006	2011	2016	2021
1.	Alwar	109	641	17.4	45	22.9	27.1	26								
2.	Bharatpur	89	494	13.3	57	23.7	34.6	20								
3.	Bharatpur	108	609	20.0	40	32.7	25.0	19								
4.	Bharatpur	122	589	18.2	45	28.7	32.8	24								
5.	Bharatpur	82	178	19.8	30	20.9	33.6	41								
6.	Bharatpur	111	308	12.2	45	36.4	28.0	24								
7.	Bharatpur	50	555	14.8	38	36.0	17.2	13								
8.	Bharatpur	114	518	18.1	49	36.1	21.6	16								
9.	Bharatpur	85	354	21.1	43	21.8	25.9	26								
10.	Bharatpur	146	374	29.7	38	22.2	32.9	31								
11.	Bharatpur	111	411	28.9	40	16.9	24.6	19								
12.	Bharatpur	109	389	23.5	42	15.0	35.0	25								
13.	Bharatpur	130	317	18.5	40	16.3	13.4	21								
14.	Bharatpur	125	391	23.0	45	20.6	26.0	24								
15.	Bharatpur	84	591	21.5	49	12.2	24.2	22								
16.	Bharatpur	174	527	30.0	45	17.1	25.1	15								
17.	Bharatpur	92	329	21.9	44	15.7	23.4	29								
18.	Bharatpur	136	174	18.4	42	11.2	18.4	18								
19.	Bharatpur	126	525	18.0	44	18.4	25.7	21								
20.	Bharatpur	122	349	21.4	37	13.1	37.1	30								
21.	Bharatpur	108	318	20.8	38	13.2	23.2	26								
22.	Bharatpur	77	344	9.2	32	13.9	41.5	60								
23.	Bharatpur	62	172	19.4	37	17.7	24.2	31								
24.	Bharatpur	112	361	17.0	40	20.9	42.2	35								

1. Alibagarn	95	226	18.9	42	24.6	32.6	21
2. Ballakuda	125	595	19.5	45	17.5	20.5	16
3. Banki	79	439	14.3	40	26.0	25.1	14
4. Baromalia	141	303	19.8	43	24.7	26.3	23
5. Barabdi	99	443	13.7	38	31.4	21.4	18
6. Baranga	60	429	16.0	46	40.3	24.9	27
7. Bari	105	617	17.7	44	20.5	32.1	25
8. Binjharpur	114	569	14.4	45	20.2	34.2	28
9. Birilul	91	505	13.0	49	24.4	37.0	29
10. Cuttack-Sagar	95	633	17.8	49	41.8	34.6	25
11. Dampada	66	244	16.7	39	24.9	26.0	23
12. Dargadi	67	146	15.1	28	16.8	33.3	53
13. Deserathpur	132	547	20.8	46	17.8	33.0	33
14. Dharwasala	141	427	20.1	37	29.9	26.6	22
15. Erana	93	258	12.6	45	13.0	23.0	15
16. J.O.Pur	118	656	27.9	49	25.2	30.6	25
17. Jajpur	105	525	17.8	40	23.8	31.2	27
18. Kantayana	67	558	27.9	46	21.0	35.7	27
19. Keral	95	264	16.0	38	19.4	21.9	29
20. Kujang	117	468	13.9	46	26.1	10.9	16
21. Mananga	133	633	17.0	45	20.2	23.5	20
22. Narsilugpur	107	324	13.5	40	22.6	25.7	17
23. Naugan	60	512	17.7	46	20.9	22.9	16
24. Niali	106	526	17.3	43	18.9	29.1	21

development of the blocks of Mayurbhanja district compared with the rest. With regard to Literacy percentage, the blocks of Cuttack and Balasore districts are distinctly ahead of, and those of Mayurbhanja district are far below the regional average of 36%. The percentage of Schedule Caste and Scheduled Tribe population are observed to be higher in all the blocks of Mayurbhanja district, and in the blocks, namely, Dangadi and Sukuida (in Cuttack district) and Nilgiri (in Balasore district) than the regional average of 39% and state average of 37%. While the blocks of Cuttack district are associated with higher percentage of non-agricultural workers, those of Mayurbhanja district are seen to have higher percentage of agricultural labourers. The blocks of Cuttack district appear to be relatively more advanced if percentage of non-agricultural workers were taken to be an index of development. The following correlation coefficients derived from the table-III-1, are of interest in this regard:

Correlation between:

Population growth and Literacy+.721\*\*

Population growth and S.C. & S.T. Population-.771\*\*

Population growth and Non-Agricultural workers +.200

Percentage of S.C. & S.T. Population and  
Percentage of literate Population - .905\*\*

Percentage of S.C. & S.T. Population and

Percentage of Agricultural Labourers. +.518\*\*

Percentage of literate population and

Percentage of Agricultural Labourers -.364\*\*

(\*\* Significant at 1% level).

The population growth rate of the blocks are positively and significantly correlated with literacy percentage - an important indicator for promoting growth and development and reflecting level of social wellbeing<sup>8</sup>. The percentage of scheduled castes and scheduled tribes population - the most economically and socially backward population of the society, are seen to be negatively correlated with population growth rate and literacy percentage and positively with agricultural labourers and the coefficients are statistically significant at a very high level of confidence. It appears that population growth rate and literacy among the scheduled castes and scheduled tribes population are very low and they probably do not possess material means of production adequately and are, therefore, forced to participate largely as agricultural labourers. The high negative and significant correlation between agricultural labourers and literacy percentage indicates that agricultural labourers are generally illiterate.

The brief account of the general characteristics of population is indicative of the existence of the wide variations in the level of development among the blocks and thus, induces to undertake further investigation into the problems.

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8. Government of Gujarat, Op. Cit., p.6

### 3. Human Resource Development in the Region.

The present section deals with the availability and level of developed human resource in each of the blocks for the years, 1971 and 1981. In the developing countries, the inadequacy in the availability of developed human resource in the rural areas is considered as one of the causes of the lagging pace of rural development. However, even in the rural areas in the developing countries, developed human resources are available in different categories. To determine the level of developed human resource, there arises the need to select its indicators and to combine them into a single unit through the technique of a composite index.

#### Indicators of Human Resource Development:

The indicators selected for determining the level of developed human resource in the region are given as follows:

- i) the number of literate persons as percentage of total population;
- ii) the number of students enrolled in primary and middle schools per 1000 population;
- iii) the number of teachers per lakh population;
- iv) the number of village agricultural workers per 10,000 cultivators;
- v) the number of village agricultural workers per 100 square K.M. of areas;
- vi) the number of veterinary personnel per 1000 square K.M. of areas;

- vii) the number of doctors\* per 1000 square K.M. of area; and
- viii) the number of nurses\* per 1000 square K.M. of area.

Table IIL-2. presents the blockwise availability of these indicators for the years, 1971 and 1981. The table indicates that the percentage of literacy are 27.75 in 1971 and 35.87 in 1981 in the region. The literacy level of the blocks with high percentage of backward population is at a very low level in the region. The reason is that the people of backward communities are generally illiterate.<sup>9</sup> However, the literacy level in the region is a little higher than the state level of literacy. The coefficient of variation, as given in table, is seen to be declining from 31% to 28% during 1971 to 1981, and thereby, indicating that the disparities existing among the blocks in this respect are gradually and rather slowly coming down. In other words, the people are realising the importance of being literate and educated, and thus, the lagged blocks have shown higher percentage rise in

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\* The number of doctors and nurses available in the public health institutions (hospitals, dispensaries-Allopathic, Ayurvedic and Homeopathic, and P.H.Cs., ) are included in the present study. A measure for each of doctors and nurses per lakh population is to be eliminated due to high negative correlation with other indicators.  
See-Gujarat Institute of Area Planning, Ahmedabad. Development of Social Indicator, Phase I, p.40

9. Kothari V.N., Op., Cit., P.23.

the literacy rate. The observations in regard to rate of human capital formation as indicated in the enrollment of students per 1000 population is strikingly similar to those of literacy percentage. The coefficient of variation has declined from 35% to 26% during the decade.

[that The availability of the other indicators of developed human resource, viz., teachers, village agricultural works, Veterinary personnel, doctors and nurses is largely determined by the activities of the public agencies. However, their presence is equally important in the process of rural transformation. The table indicates that all these indicators have registered an increase from 1971 to 1981. The table also indicates [the disparities existing among the blocks in regard to most of the indicators (except village agricultural workers in terms of cultivators and veterinary personnel) have declined from 1971 to 1981. However, in cases of most of the indicators, the existing disparities are still significantly large.

#### Level of Developed Human Resource:

The above selected indicators are, individually, incapable of representing the level of human resource development in a given area. To determine the level of developed human resource, efforts are, therefore, made to combine them into a single representative unit through the



technique of composite index. The First Principal Components Method of Factor Analysis is used in constructing the Composite index for the available indicators of developed human resource.

#### Methodology:

The principal components method is the special case of the more general form of factor analysis.<sup>10</sup> The technique justifies its application as it does explicitly take into account the problem of multi-collinearity among the original indicators by orthogonalising the whole set of variables through a process of linear transformation.<sup>11</sup> The method itself assigns objective weights to the included variables for constructing a composite index.<sup>12</sup>

The objective of the principal components method is to construct out of a set of observed variates,  $X_j (j=1...k)$  a new set of variates,  $P_i (i=1...k)$  called principal components which are linear combinations of  $X$ 's.<sup>13</sup>

$$P_1 = a_{11}X_1 + a_{12}X_2 + \dots + a_{1k}X_k$$

$$P_2 = a_{21}X_1 + a_{22}X_2 + \dots + a_{2k}X_k.$$

$$P_k = a_{k1}X_1 + a_{k2}X_2 + \dots + a_{kk}X_k.$$

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10. Harman, H.H. - Modern Factor Analysis, University of Chicago Press, Chicago and London, 1968, p. 136.
  11. Lawley, D.N. and Maxwell, A.F., Factor Analysis: A Statistical Method, Butterworth and Co., London, 1963, p.45.
  12. Mishra, S.K., Mohanti, T.K. and Pattnaik, G.R., Op. cit., p. 28-31.
  13. Koutsoyannis, A. Theory of Econometrics, Macmillan, London, 1977, p. 424.

The principal components method can be applied by using the original values of  $X_i$ 's<sup>14</sup>. As the method involves in the total variance of the original variables, it is customary to express the variables in standardised form<sup>15</sup>. We have obtained the standardised variables,  $Z_i$ 's by dividing the original variables by their respective standard deviations, i.e.  $Z_i = \frac{X_i}{SDX_i}$ .

The  $a$ 's, called factor loadings, are so selected that the constructed principal components satisfy two conditions: i) that the principal components are uncorrelated (orthogonal) ; and ii) the first principal component absorbs and accounts for the maximum amount of variance of the  $X$ 's, the second principal component, uncorrelated with the first, contributes a maximum to the residual variance and so on until the total variance is analysed.<sup>16</sup>

We have obtained the estimates of factor loadings by applying the methods provided by Koutsoyannis<sup>17</sup> which is as follows:

- 1) we obtain the simple correlation coefficients between  $K$ -explanatory variables and present them in a matrix form. The correlation matrix is symmetrical since:  $r_{X_i X_j} = r_{X_j X_i}$ .

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14. Ibid. p. 424.

15. Harman, H.H., Op. cit., p. 136.

16. Ibid. p. 136.

17. Koutsoyannis, A. Op. cit., P. 425-428

ii) By summing up each column ( or row) of the correlation table we obtain K sums of simple correlation coefficients  $\sum_j^k r_{xi x_j} = \sum_i^k r_{x_j x_i}$ .

iii) We get the sum total of the column or (row) sums;  $\sum_i^k \sum_j^k r_{xi x_j}$ .

iv) Finally, we derive the factor loadings ( $a_{ij}$ 's) for the first principal component  $P_1$  by dividing each column (or row) sum by the square root of the grand total, i.e.,  $a_{ij} = \sum_j^k r_{xi x_j} / \sqrt{\sum_i^k \sum_j^k r_{xi x_j}}$  where  $i$  refers to the  $i$ th variable  $X$ .

v) Thus, we obtain the first principal component which is linear combinations of standardised variables with weights in terms of factor loadings. The first principal component.

$$P_1 \text{ is given as } P_1 = a_{11}Z_1 + a_{12}Z_2 + \dots + a_{1k}Z_k$$

vi) We obtain the latent root denoted by  $\lambda$ , by summing up the squares of the factor loadings of each principal component. The latent root of the first principal component is,  $\hat{\lambda}_1 = \sum_i^k a_{1i}^2 = a_{11}^2 + a_{12}^2 + \dots + a_{1k}^2$ .

The sum of latent roots of all principal components is equal to the number of  $X$ 's, i.e.,  $\sum \lambda_i = k$ . It is, thus, clear that the latent root of any principal component,  $P_i$  indicates its importance, i.e., the amount of actual variation it extracted from the set of  $X$ 's. Therefore, the

first principal component is regarded as better index, since it accounts for a maximum amount of variance of the selected variables.

#### Computation:

Following the above procedure, composite indices for human resource development are computed for each of the blocks separately for the years, 1971 and 1981. The correlation matrices for 8 selected indicators are presented in Tables III-3. and III-4 for the years, 1971 and 1981, respectively. It may be noticed from the tables that almost all the indicators have statistically positive and significant correlation with each other except  $X_3$  and  $X_4$ , (i.e., teachers per lakh population and village agricultural workers per 10,000 cultivators) in 1981. The correlation of each of the two, separately with some indicators is nonsignificant (both positive and negative) in 1981. Thus, the composite index which is the first principal component, constructed out of the 8 selected variables is expected to represent the level of human resource development adequately in the region. The composite indices, thus obtained, are given in equations (1) and (2) respectively for 1971 and 1981.

$$\text{H.R. } I_{71} = 0.79 Z_1 + 0.66Z_2 + 0.63Z_3 + 0.41Z_4 + 0.85Z_5 + 0.82Z_6 + 0.63Z_7 + 0.59Z_8 \dots \dots \dots (1)$$

$$H.R.I._{81} = 0.73Z_1 + 0.56Z_2 + 0.33Z_3 + 0.26Z_4 + 0.79Z_5 + 0.78Z_6 \\ + 0.79Z_7 + 0.79Z_8. \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

H.R.I. stands for human resource development index with subscript for the given year. The largest roots of the first principal components of the 8 indicators for 1971 and 1981 are 3.765 and 3.504 respectively. The first principal components, therefore, account for 47% and 44% of total variation of the selected variables for the years 1971 and 1981 respectively.

#### Composite Indices for Human Resource Development.

The composite indices are obtained on the basis of the equations, (1) and (2) for the years, 1971 and 1981 respectively for each of the blocks, and are presented in Table III.5. The table also provides the rank in descending order assigned to each of the blocks in regard to the level of human resource development. It may be noticed from the table that 39 blocks in 1971 and 35 blocks in 1981 remain above the respective regional average of human resource development index. Of the 39 blocks in 1971, 23 belong to Cuttack\*, 15, to Balasore district and a lone one, to Mayurbhanja district. Similarly, of the 35 blocks in

1981, 21 belong to Cuttack-district, 11, to Balasore

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\* Blocks from serial number 1 to 32 belong to Cuttack district, 33 to 51, to Balasore district and 52 to 77 to Mayurbhanja district.

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1. Athagarh	16.7 (38.5)	13.9 (35)	17.4 (45)	19.5 (48)	18.4 (41)	33. Mahabanga	17.0 (34)	15.1 (46)	20.3 (15)	18.5 (20)	18.5 (20)
2. Ballikunda	19.6 (22)	19.3 (14.5)	18. Kantapada	21.4 (8)	22.2 (3)	34. Malabar Sadar	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
3. Banki	17.3 (32)	16.6 (31)	19. Koral	15.1 (50)	12.4 (65)	35. Ballapal	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
4. Barabani	16.1 (45)	15.2 (44.5)	20. Kujanga	16.9 (35.5)	17.3 (28)	36. Basta	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
5. Barabati	16.2 (46)	15.3 (43)	21. Mahabanga	22.7 (5)	22.1 (4)	37. Barabati	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
6. Baranga	23.2 (6)	18.8 (19)	22. Narasingh- pur	15.9 (47)	16.7 (30)	38. Barabati	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
7. Bari	20.8 (10.5)	21.4 (7)	23. Nangan	19.9 (18.5)	17.8 (26)	39. B.	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
8. Binjharpur	20.6 (11)	18.9 (17.5)	24. Nalli	17.8 (29)	16.5 (32)	40.	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
9. Biridi	22.5 (6)	20.3 (9)	25. Misra Koli	21.3 (9)	19.5 (12)	41. Bonth	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
10. Cuttack Sadar	25.5 (1)	25.1 (1)	26. B.N.Pur	21.7 (7)	19.3 (14.5)	42.	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
11. Daspada	13.5 (34.5)	11.3 (71)	27. Masulpur	20.7 (12)	17.7 (27)	43.	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
12. Danagadi	12.8 (64)	11.4 (70)	28. Ballapur	24.1 (2)	22.3 (2)	44. Jalas	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
13. Deogarh	20.2 (16)	19.6 (11)	29. Sukla	10.4 (76)	9.1 (76)	45	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
14. Deogarh	16.6 (40)	15.7 (36)	30. Sengli	17.1 (31)	13.8 (35)	46. N	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
15. Deogaon	16.0 (46)	13.7 (36)	31. Tigra	18.8 (27)	19.4 (33)	47.	17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)
16. J.S.Pur	20.8 (10.5)	21.6 (5)	32. Tatal	20.0 (21.5)	21.5		17.7 (30)	16.3 (33)	19.9 (18.5)	18.1 (25)	16.8 (29)

district and one, again to Mayurbhanja district. Thus, in regard to the level of human resource development, the districts, viz., Cuttack and Balasore are found to be leading ahead, while the district, Mayurbhanja is seen to be lagging behind. The study of the rank order assigned to the blocks in this respect shows that although the districts, namely, Cuttack and Balasore are relatively advanced, the district, Cuttack has an edge over Balasore district in this regard, since almost all the above 23 blocks of Cuttack district are seen to lie above in the rank order. It is worthwhile to note that all the blocks with high percentage of backward population except two (Nilagiri in both the years, Sukruli in 1971 and Khunta II in 1981) are laggards in this respect.

For having a keener insight into the inter-district variations in the level of human resource development, the blocks are brought under quartile groups in the descending order of the human resource development index, so that the blocks remaining in the first quartile are the blocks having the highest value of human resource development index and the blocks lying in the fourth quartile have the lowest value of the index. Table III.6 indicates that, of the 19 blocks in the first quartile in both the years, 15 blocks belong to Cuttack district, and 4 blocks, to Balasore district,

and none, to Mayurbhanja district. Similarly, in the second quartile, almost all the blocks barring a very few belong to Cuttack and Balasore districts. The blocks in Mayurbhanja district are found to be in the third and fourth quartile. The table shows that more than 50% of the total blocks of Mayurbhanja district are in the fourth quartile.

Table III-6 :  
Quartile Groups of Blocks according to  
Level of Human Resource Development.

District	$Q_1$		$Q_2$		$Q_3$		$Q_4$		Total
	1971	1981	1971	1981	1971	1981	1971	1981	
1	2	3	4	5	6	7	8	9	10
Cuttack	15	15	8	9	6	4	3	4	32
Balasore	4	4	11	8	4	5	-	2	19
Mayurbhanja	-	-	1	2	8	10	17	14	26
Total	19	19	20	19	18	19	20	20	77

N.B. -  $Q_i$  stands for the  $i$ th quartile.

Further, although the blocks are found to change their rank order, to some extent, from 1971 to 1981, their relative position is found to remain more or less similar in both the years. Because, the rank correlation coefficient between the composite index of 1971 and that of 1981 is



worked out to be +0.91 which is statistically at a very high level of significance. However, the decline in the coefficient of variation from 1971 to 1981 (though marginal) is an indication that the backward blocks are slowly improving their position. But the disparities existing among the blocks in this respect are still wide.

The existing disparities in the level of human resource development are expected to be reflected in the uneven performances on the level of economic activities among the blocks. But human resource development has been hypothesised to have more effective influence on economic activities along with the availability of infrastructure facilities. Therefore, there is a need to study the level of available infrastructure facilities among the blocks.

#### 4. Rural Infrastructure

The non-availability of infrastructure facilities in the rural areas in our country is considered to be one of the major impediments in the path of rural transformation. Although infrastructure requirements for urban and rural development are similar, most of the infra-structure facilities are to be provided in the rural areas in varying degrees of priority and manner.<sup>18</sup> Any talk of rural regeneration will remain a pious hope as long as these facilities are not created in the rural areas adequately in a planned manner.<sup>19</sup>

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18. Patel, H.M., "Infrastructure for Villages" in Dagli Vadital (ed.) Infrastructure for the Indian Economy, Vora and Co., Bombay, 1970, p. 145.

19. Dagli Vadital, "Infrastructure for Indian Economy", in Dagli Vadital (ed.) Op. Cit., p. 10.

For a self generating process of economic development, the rural areas even need infrastructure facilities of various kinds. Land infrastructure like irrigation and drainage is essential for modernizing agriculture. A well-thought-out system of transport and communication facilities like a net work of all weather roads together with a system of approach roads and other means of communication which connect rural areas with rest of the economy is considered to be the integral part of the process of rural development.<sup>20</sup> Transport and communication facilities will widen market, fetch remunerative prices for the products, deliver supplies of factor inputs at reasonable prices and catalize the process of dissemination of innovational informations in new production technologies in the rural areas. A marketing infrastructure in the form of marketing centres at reasonable distance, and a net work of processing, grading and storage facilities needs hardly any emphasis in the development process. Marketing facilities prevent losses and increases returns to the producers and level of production and economic activities.<sup>21</sup> Rural electrification is considered, at present to be the most useful source of power supply which will stimulate and encourage private irrigation system as well as medium, small and village industries in the rural areas. Banks and other credit agencies for providing much needed credit, an extension system for

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20. Patel, H.M. *Op. Cit.*, p. 145-146.

21. Mellor John W., The Economics of Agricultural Development Cornwell University Press, Ithaca and London, 1971, p.320.

disseminating information of new production technologies in farming and off-farm activities, infrastructure for livestock protection, etc., are also important for rural transformation. Similarly, schools, hospitals and safe water supply are imperative necessity for human resource development.

All these infrastructure facilities are neither adequately available nor totally absent even in the rural areas. They are available in varying magnitude in different regions. In order to determine the level of available infrastructure facilities in a given region, all these facilities are needed to be combined into a single unit to represent their level.

**Indicators of Infrastructure Facilities:**

To assess the level of infrastructure facilities in each of the blocks the following indicators of the available infrastructure facilities are selected. These indicators are selected for two points of time, i.e., for 1971 and 1981. The selected indicators are:

- i) Net irrigated area as percentage of net area sown - a proxy indicator for irrigation infrastructure;
- ii) Road length per 100 square K.M. of areas;
- iii) Villages electrified as percentage of total inhabited villages.
- iv) \*Primary and Middle Schools\* per 100 square K.M. of area.

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\* A measure for each of these indicators per lakh population shows highly significant and negative correlation with most of the remaining indicators and thus, is eliminated.

(i) Primary and Middle Schools include junior basic and senior basic schools, and Sevashram, Ashram and Kanyashram.

(ii) Hospitals, dispensaries, and P.H.Cs. are public health institutions covering allopathic, homeopathic and Ayurvedic institutions.

- v) \*Hospitals, dispensaries and P.H.Cs.\*<sup>+</sup> per 1000 Sq. K.M. of area;
- vi) Veterinary hospitals, dispensaries and livestock inspection centres per 1000 sq. K.M. of area;
- vii) Bank offices per 1000 sq. K.M. of area;
- viii) Bank offices per lakh population;
- ix) Members of primary agricultural credit societies as percentage of total cultivators- a proxy measure for infrastructure of co-operative credit institutions;
- x) Post offices per 100 sq. K.M. of area;
- xi) Post offices per lakh population; and
- xii) Fertilizer depots per 1000 sq. K.M. of area.

The Selected indicators of infrastructure facilities are presented in Table IIL-7, for each of blocks in the years, 1971 and 1981. The table indicates that irrigation facilities are not adequately available in the region. The percentage of net irrigated area to the net area sown are seen to be 9 and 19 in 1971 and 1981 respectively. The irrigation facilities among the blocks are found to be too much unevenly distributed. However, the decline in the coefficient of variation from 184% to 107% during 1971 to 1981 shows a trend of convergence among the

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\* A measure for each of these indicators per lakh population shows highly significant and negative correlation with most of the remaining indicators and thus, is eliminated.

- (i) Primary and Middle Schools include junior basic, and senior basic schools, and Sevashram, Ashram and Kanyashram.
- (ii) Hospitals, dispensaries, and P.H.Cs. are public health institutions covering allopathic, homeopathic and Ayurvedic institutions.

blocks in this regard. Yet the divergences are very wide. In the matter of rural electrification one may have a similar observation. Electrified villages constitute only 5% and 52% of the total inhabited villages in 1971 and 1981 respectively. In the matter of rural electrification, the region appears to be a little more favourably placed than the other rural regions of the state. Inter-block variations are seen to be wide in both the years, but they are declining. There seems to be a significant increase in road length in the region from 1971 to 1981. However, these roads are mainly Kuchha roads. The existing disparities among the blocks in this respect are wide, but they show falling trend from 1971 to 1981. The expansion of the remaining indicators of infrastructure facilities from 1971 to 1981 may be seen from the table. Some of these facilities are seen to be either nonexistent or inadequately available in 1971. However, the increasing availability of these facilities within a decade indicates the concern growing gradually for rural development. Further, it is worthwhile to mention that in regard to as many as 10 selected indicators (except veterinary personnel per 1000 sq. K.M. and Post offices per lakh population) the disparities existing among the blocks are decreasing from 1971 to 1981. This indicates that lagging regions receive a degree of priority in the provision of infrastructure facilities. In spite of that, it may be concluded that the rural

Table III - contd....

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
21. Bahanga	62	77	70	177	3	71	70	107	6	15	15	13	34	72
22. Karsalingpur	1	38	50	132	0	60	65	49	6	15	15	13	33	33
23. Barga	8	22	69	175	0	65	64	81	3	17	26	26	59	59
24. Hali	19	25	46	131	2	42	62	85	8	15	24	24	69	69
25. Nischinta Kollida Kollida	42	68	262	19	71	82	115	42	24	30	30	83	83	83
26. B.H.Pur	62	90	39	105	9	93	69	51	21	21	63	63	65	65
27. Basalyar	0	22	95	227	9	49	65	96	13	24	19	39	39	39
28. Gallyar	63	70	50	175	13	100	76	102	10	29	29	112	112	112
29. Barinda	1	5	35	77	2	27	14	18	2	7	6	11	11	11
30. Tungi	25	57	33	95	12	67	31	52	6	8	11	25	25	25
31. Tigaria	1	15	43	80	2	87	47	78	20	21	12	87	87	87
32. Tirtol	31	45	52	135	9	76	73	89	24	27	21	103	103	103
33. Bahanga	0	3	20	67	7	54	46	62	10	27	21	39	39	39
34. Balasore Badiar	0	2	24	81	6	74	40	49	5	19	23	37	37	37
35. Ballapal	0	4	39	129	7	56	42	58	15	22	19	32	32	32
36. Barta	1	6	36	99	6	72	51	64	14	28	22	29	29	29
37. Basudpur	0	4	44	136	1	48	42	54	7	17	20	34	34	34
38. Boudrak	15	53	26	63	5	71	50	67	5	31	24	42	42	42
39. B.Pokhari	1	40	54	157	1	80	96	128	20	21	35	57	57	57

Table

Contd....

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
42. Chandabail	0	0	1	64	114	1	17	18	22	7	9	17	0	0
43. Manmangar	4	19	26	89	3	76	79	100	22	21	41	0	0	0
44. Jalaur	3	6	29	101	3	93	41	52	29	14	29	3	3	3
45. Khair	0	12	56	172	1	9	46	54	40	18	26	0	0	0
46. Bilagiri	0	4	23	53	0	40	45	59	44	18	46	0	0	0
47. Gupada	0	1	22	68	2	15	24	36	25	8	21	0	0	0
48. Barama	0	5	27	96	7	63	38	49	23	13	31	0	0	0
49. Simulia	0	10	49	152	6	69	45	60	28	24	24	0	0	0
50. Baro	0	2	13	93	3	59	41	64	24	20	23	0	0	0
51. Tihadi	0	7	22	56	7	49	31	36	19	11	19	0	0	0
52. Bodanahi	0	1	48	69	5	72	43	56	15	6	26	0	0	0
53. Bahalda	0	3	23	83	5	45	25	37	10	11	11	0	0	0
54. B. Peshi	12	35	100	272	1	22	32	39	13	13	24	0	0	0
55. Baryada	2	12	22	62	9	25	17	30	16	8	23	0	0	0
56. Betnoti	0	7	31	88	6	49	27	13	12	12	12	3	3	3
57. Bijatala	1	1	24	92	0	12	19	13	7	10	13	0	0	0
58. Bimal	0	2	19	58	0	5	18	26	5	8	11	0	0	0
59. Janda	2	2	50	204	1	21	23	40	9	13	13	0	0	0
60. Joshipur	5	18	98	207	1	39	19	29	11	6	8	2	2	2
61. Kaptipada	0	3	29	56	0	36	14	27	7	10	13	0	0	0

III-7 Contd....

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
66. Kuzumi	2	9	33	93	1	61	23	39	0	0	0	0	0	0	0
67. Narda	1	17	36	188	2	37	30	46	0	0	0	0	0	0	0
68. B.A.Pur	0	3	48	183	3	34	27	38	0	0	0	0	0	0	0
69. B.A.Pur	1	9	30	73	0	29	11	44	0	0	0	0	0	0	0
70. B.A.Pur	0	16	38	96	1	67	13	63	0	0	0	0	0	0	0
71. Sankharia	1	2	46	161	4	23	27	42	0	0	0	0	0	0	0
72. Sankharia	1	14	22	53	0	23	26	31	0	0	0	0	0	0	0
73. Sakralli	2	4	50	151	0	57	49	79	0	0	0	0	0	0	0
74. Sallapada	2	4	26	69	0	38	24	39	0	0	0	0	0	0	0
75. T. Nanda	3	37	15	26	0	9	10	15	0	0	0	0	0	0	0
76. Tiring	0	1	51	163	1	61	28	47	0	0	0	0	0	0	0
77. VQa	1	3	27	105	4	38	38	55	0	0	0	0	0	0	0
78. Regional Average	9	19	39	108	5	60	43	59	0	0	0	0	0	0	0
79. G.V. (5)	184	107	45	44	128	45	45	44	0	0	0	0	0	0	0



blocks in this regard. At the divergences are very wide. In the matter of rural electrification one may have a similar observation. Electrified villages constitute only 5% and 52% of the total inhabited villages in 1971 and 1981 respectively. In the matter of rural electrification, the region appears to be a little more favourably placed than the other rural regions of the state. Inter-block variations are seen to be wide in both the years, but they are declining. There seems to be a significant increase in road length in the region from 1971 to 1981. However, these roads are mainly Kuchas roads. The existing disparities among the blocks in this respect are wide, but they show falling trend from 1971 to 1981. The expansion of the remaining indicators of infrastructure facilities from 1971 to 1981 may be seen from the table. Some of these facilities are seen to be either nonexistent or inadequately available in 1971. However, the increasing availability of these facilities within a decade indicates the concern growing gradually for rural development. Further, it is worthwhile to mention that in regard to as many as 10 selected indicators (except veterinary personnel per 1000 sq. K.M. and Post offices per lakh population) the disparities existing among the blocks are decreasing from 1971 to 1981. This indicates that lagging regions receive a degree of priority in the provision of infrastructure facilities. In spite of that, it may be concluded that the rural

rural regions in the state are still starved of many critical forms of infrastructure facilities and divergences are quite wide. This appears to be one of the important causes of the backwardness of the state economy.

Level of Available Infrastructure Facilities.

To determine the level of available infrastructure facilities, the above selected indicators ought to be brought into a single representative unit. Thus, the First Principal components Method of Factor Analysis, as has been discussed before, is applied to construct a composite index out of the 12 selected indicators of infrastructure facilities.

The composite index is constructed for each of the blocks for the years 1971 and 1981 separately. In order to construct the composite index, the correlation matrices for the 12 selected indicators for the years, 1971 and 1981 are presented in Tables III-8 and III-9 respectively. The tables indicate that most of the indicators show positive and significant correlation with each other in both the years. Although in a few cases negative correlations are observed, such correlations are almost/non-significant. It is, therefore, expected that the composite index, prepared out of the selected indicators will be representative of the available infrastructure facilities in the region. The

composite indices for 1971 and 1981 which are the first principal components of the selected indicators for the respective year are obtained through the equations (1) and (2) respectively and they are given as follows:

$$ID_{71} = 0.63Z_1 + 0.35Z_2 + 0.57Z_3 + 0.76Z_4 + 0.32Z_5 + 0.76Z_6 + 0.65Z_7 \\ + 0.53Z_8 + 0.41Z_9 + 0.73Z_{10} + 0.26Z_{11} + 0.60Z_{12} \dots \dots \dots (1)$$

$$ID_{81} = 0.63Z_1 + 0.15Z_2 + 0.82Z_3 + 0.87Z_4 + 0.74Z_5 + 0.82Z_6 + 0.82Z_7 \\ + 0.51Z_8 + 0.56Z_9 + 0.69Z_{10} + 0.12Z_{11} + 0.59Z_{12} \dots \dots \dots (2)$$

(ID stands for Infrastructure development index with subscript for the given year).

The largest roots of the equations (1) and (2) are 3.934 and 5.056 respectively. Thus, the first principal components accounts for 33% and 42% of total variation of the 12 selected indicators for 1971 and 1981 respectively.

The composite indices thus obtained out of the 12 selected indicators of available infrastructure facilities are given in Table III-10 for each of the blocks separately for 1971 and 1981. It may be seen from the table that the regional averages of the composite indices are 10.6 and 14.8 for 1971 and 1981 respectively. The table indicates that 35 blocks in 1971 and 32 in 1981 remain above the respective regional average. Thus the blocks considered as developed in regard to infrastructure facilities constitute only 45% in 1971 and 42% in 1981 of the total number of the blocks under study. Of the 35 blocks lying above the regional average

in 1971, 21 blocks belong to the district, Cuttack, 11, to the district Balasore and only 3, to the district Mayurbhanja. Thus, 66 per cent of the 32 blocks of Cuttack district, 53 per cent of the blocks of Balasore district and only 12 per cent of the blocks of the Mayurbhanja district in 1971 are found to be relatively advanced in regard to infrastructure availability. Of the 32 blocks remaining above the regional average in 1981, 22 blocks belong to Cuttack district, 10, to Balasore district, and none to Mayurbhanja district. Thus, 69% of the 32 blocks in Cuttack district and 53% of the blocks in Balasore district in 1981 are found to be relatively developed in regard to infrastructure facilities. Further, a detailed examination of the ranks ( in descending order) assigned to the blocks in this respect indicates that most of the blocks in Cuttack district occupy very high positions in the rank order in both the years. Thus, in regard to infrastructure development, Cuttack district moves ahead, Balasore district follows behind and the district, Mayurbhanja is the most backward in the region.

To have a better insight into the inter-district differences, we have divided the blocks into four quartiles in descending order of the composite index of available

infrastructure facilities, so that blocks belonging to the first quartile are the blocks with the highest values of infrastructure index and the blocks belonging to the fourth quartile are the blocks with the lowest values of infrastructure index. From Table III-11 it may be noticed that out of 19 blocks in the first quartile, 14 and 16 blocks belong to Cuttack district, 5 and 3 blocks, to Balasore district and none, to Mayurbhanja district, in 1971 and 1981 respectively. Similarly, the table indicates that in the second quartile, most of the blocks belong to Cuttack and Balasore district. Almost all the blocks of Mayurbhanja district except a few are in the third and fourth quartiles.

Table III - 11.1

Quartile Groups of Blocks according  
to Level of Infrastructure Development

District	Q <sub>1</sub>		Q <sub>2</sub>		Q <sub>3</sub>		Q <sub>4</sub>		Total
	1971	1981	1971	1981	1971	1981	1971	1981	
1	2	3	4	5	6	7	8	9	10
Cuttack	14	16	7	8	6	5	5	3	32
Balasore	5	3	8	9	3	4	3	3	19
Mayurbhanja	-	-	4	3	10	9	12	14	26
Total	19	19	19	20	19	18	20	20	77

N.B. Q<sub>i</sub> stands for <sup>th</sup><sub>i</sub> quartile.

Moreover, from 1971 to 1981, the blocks are to some extent, found to alter their ranks, but their relative position does not appear to have changed. The rank correlation coefficient between the composite index of 1971 and 1981 are calculated to be +0.91 which is significant at a high level of confidence. However, lagging regions do not appear to be entirely neglected in regard to the provision of infrastructure facilities. It seems that attention is gradually being paid to provide these facilities in these blocks. It is observed from the marginal decline in the coefficient of variation of the composite indices from 1971 to 1981. But the disparities appear to be still wide. Although providing these facilities are costly and time consuming, the lagging regions require a little more increasing attention to reduce the existing disparities.

The foregoing analysis indicates that there are disparities in regard to human resource development and available infrastructure facilities among the blocks in both the years. And also, they appear to be directly associated. A further investigation, therefore, appears to be necessary to ascertain the relationship between human resource development and level of available infrastructure facilities in the region.

3. Inter-relationship between Human Resource Development and Available Infrastructure Facilities in rural Orissa.

To understand the relationship between developed human resources and infrastructure facilities in rural Orissa, the cross-section data for 77 blocks are used. The inter-relationship between human resource development and each of its indicators on the one hand, and infrastructure index and each of its indicators on the other, are presented in a matrix form for the years, 1971 and 1981 in Table III-12. It can be seen from the table that the association between human resource development index and infrastructure index is positive and significant at a very high level of confidence in both the years. The rise of the coefficient of variation further indicates that with the passage of time, such relationship gets stronger and thus, probably pave the way for onward march of a region on the path of economic development. Table also shows that correlation coefficient of human resource development index with infrastructure index and each of its indicators, and infrastructure index with human resource development index and each of its indicators are positive and in almost all cases, are significant in both the years.

However, it is worth-while to note that each of bank offices and post offices in terms of population shows

non-significant correlation (both positive and negative) with the index of human resource development and most of its indicators separately, while each of the formers in terms of area bears not only positive but also significant correlation with each of the latter. This indicates that in providing infrastructure facilities in the rural area, space factor rather than population factor should be accounted for. Providing those facilities exclusively with space consideration will be costly. However, such consideration cannot be disregarded for accelerating the pace of rural development.

A few negative coefficients of correlation between some of human resource development indicators and few of infrastructure indicators separately can also be observed from the table. Such stray findings are not improbable, because during the process of transformation, one indicator may rise a little faster in a short period than the other in a given area. However, the coefficients are non-significant.

The analysis of human resource development and available infrastructure facilities in rural regions reveals that the regions seen to be developed in regard to human resource are also the regions developed in regard to infrastructure facilities. In the region under study, Cuttack, Balasore and



Mayurbhanja districts are found to remain in the descending order in succession with respect to the level of human resource development and available infrastructure facilities. Further, all the blocks with high percentage of the people of backward communities are generally found to lag behind in both the respects. It will be interesting to observe as to how the differential levels of human resource development and available infrastructure facilities effect the levels of economic activities among the blocks. However, we assert a positive relationship.