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APPRAISAL OF ROAD INFRASTRUCTURE OF BACKWARD DISTRICTS IN WEST BENGAL IDENTIFIED BY NITI AAYOG

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ABSTRACT :

There are no absolute standards of ‘backwardness’ as there are not such standards for 'development'. Hence the concept is relative one and in the ranking of areas, as perceived by people, all but the ones at the top are seen to be 'relatively backward'. The root of the problem lies in the lack of clarity on the concept of backwardness and its relevance for the processes of planned development. In multitier democracy it is also necessary that there should be some degree of consensus behind the specific definitions used to make the concept operational (GOL.1981). The problem of regional balance and of backwardness has attracted the attention of planners, academicians and decision makers. NITI Aayog (2017) has identified 115 backward districts by addressing their specific developmental goals. The 115 backward districts have been identified based on select indicators of backwardness. Amongst these 115 backward districts, 5 districts are in West Bengal. NITI Aayog ranked these 115 districts on the basis of indices: Poverty Index, Health Index, Education Index and Infrastructure Index. The main objectives of the study are to make a deeper insight into the Infrastructure Index, especially on the road infrastructure facilities of the five backward districts of West Bengal.

KEYWORDS : *Multitier Democracy Planned Development, NITI Aayog, Regional Balance, West Bengal.*

INTRODUCTION

The problem of backwardness has attracted the attention of planners, academicians and decision makers from the very beginning of our plan periods. NITI Aayog in 2017 has identified that the five districts of West Bengal, viz., Birbhum, Murshidabad, Malda, Nadia and Dakhsin Dinajpur Bengal , are amongst the most backward in India. The ranking of these districts in respect of infrastructure index is quite miserable. All these 5 districts of West Bengal are more or less rural based. Transport infrastructure is a critical success factor for competitive performance and inter-nationalization of backward areas. Road infrastructure is clearly a critical enabling condition for improving living conditions in rural areas of these 5 backward districts of West Bengal.

STUDY AREA

The district of Birbhum is situated at the central-western part of the state of West Bengal. It is surrounded by the state of Jharkhand, erstwhile Santhal Parganas district of Bihar, in the north and west, the district of Murshidabad in the east and by the district of Bardhaman in the south. Latitudinal extension of Birbhum district is between 23^{0}32’30’’North and 24^{0}35’00’’North and the longitudinal extension is between 87^{0}05’25’’East and 88^0 01’40’’East. Murshidabad is situated on the eastern peripheral plains of the state of West Bengal and it is the northernmost district of Presidency division. It formed the eastern international boundary of state bordering Bangladesh .Murshidabad is in the middle of West Bengal lying between 23º43’N and 24º52’N latitude and 87º49’E and 88º44’E longitude. Maldah is the southernmost of the North

Bengal districts and is included under the Jalpaiguri Division. The District is situated between the Latitude and Longitude figures of $24^0 40'20''$N to $25^0 32'08''$N and $88^0 28'10''$E to $87^0 45'50''$E respectively and surrounded by Bangladesh and South Dinajpur in the east, Santal Parganas of Jharkhand state in the west, Uttar Dinajpur in the north and Murshidabad in the south. Malda, the southern most of the North Bengal district is comprised within the Jalpaiguri Division. The district consists with two subdivisions, that is Sadar and Chanchal, and Englishbazar is the headquarters station of the district as well as the Sadar subdivision. The district of Nadia falls under the Presidency Division of West Bengal and is situated between 22º53″ and 24º11″ North latitude and 88º09″ and 88º48″ East longitude geographically. Dakshin Dinajpur is situated on the north-eastern part of the state of West Bengal and is included in the Jalpaiguri division. The latitude of Dakhsin Dinajpur district is 25° 13' 12.00" N and the longitude of Dakhsin Dinajpur district is 88° 45' 36.00" E. NITI Aayog (2017) has identified that there are 5 backward on the basis of indices: Poverty Index, Health Index, Education Index and Infrastructure Index whose rankings are shown in Table 1:

Table 1: Backward Districts in West Bengal

SL. NO	State	Districts	Poverty Rank	Health Rank	Education Rank	Infra Rank
1	West Bengal	Birbhum	5	75	75	96
2	West Bengal	Murshidabad	6	74	67	25
3	West Bengal	Maldah	12	56	90	43
4	West Bengal	Nadia	13	112	101	50
5	West Bengal	D. Dinajpur	37	99	78	62

Source: Govt. of India (2017)

PRESENT ART OF THE STUDY

In recent years, there has been a resurgence of the interest in the role of transport infrastructure and changes in accessibility on regional economic development. Although it is clear that there is at least some association between transport infrastructure quality and economic development, it has often been extremely difficult to identify the precise nature of such association. More particularly, it has proved difficult to quantify it in a way, which can be satisfactorily incorporated in economic evaluations, especially of road programmes. It is needed therefore to set out carefully a more detailed economic analysis of the impacts of infrastructure. As an integral part of national production and distribution system, an adequate and efficient transport network system is necessary to provide means of serving domestic and international markets. This is the primary importance even in the early stages of development because it promotes accumulation of capital, which allows the economy to progress from subsistence level. The prospects for development can be summed up in one word, transport (Lugard, 1922).

The significance of transport network not only lays in the specific service it renders but also in unifying and integrating the influence it exerts upon the economy and society. Nijkamp (1986) examined the role of physical infrastructure in determining regional development. He used cluster and scaling methods and a quasi-production function to develop a multi-dimensional typological analysis of regional development in the Netherlands during the 1970s. He identified transportation infrastructure as an important determinant of regional output for both urban and rural areas. Transport has also been critical in the diffusion and acceptance of ideas and innovations (Leinbach and Chia, 1989). Indeed, it is difficult to overestimate the importance of transport in the dynamics of regional development. Transport acts as a catalyst for interactions over space and through time among individuals and communities, and between them and the physical and cultural environment. The reciprocal relationship between transport, space, and time forms the basis for the widely accepted proposition that transport is a fundamental component of regional development (Voight, 1984; Dugonjic, 1989). The relevance of transport network to the regional development has also been recognized by the geographer like Berry (1989), who related transport network to the development of an area showing that the transport network measures the degree of development. Deichmann et al (2002) found that the quality of transport infrastructure makes a difference in growth performance of different areas. Hence the transport network is considered as the indicator of the degree of development.

Road transport offers more flexibility, reliability, choice of routes and delivers door-to-door service ((NCRET, 2003). Raychaudhuri (2004) discussed the role of roads in the state of west Bengal. He dealt with several explanatory variables to explain the change in agricultural productivity of rice. Apart from land reform related variables, rural roads maintained by the local level administration happened to be the major variable, which influences the agricultural productivity the most. The reason is that better connectivity helped the farmers to sell their surplus crops in time as well as procure the inputs with relative ease. It not only helped growth of agriculture but also indirectly helped in the reduction of poverty of small farmers. The rural transport study carried out for two different periods in 1979 and 1989 (GOI, 2006) revealed that after the development of rural roads, there was a change in transport modes in rural areas and also an increase in economic activities.

ROAD INFRASTRUCTURE IN BACKWARD DISTRICTS OF WEST BENGAL

Here only the surfaced road has been considered, as un-surfaced roads are of little significance in goods transportation and, moreover, the data of un-surfaced roads are quite unreliable. In Table 1 it is found that that the state has total road coverage of 53251.57 km through its 18 districts, leaving Kolkata metropolitan city as another district. The maximum road length of 8959 km is found in Medinipur-West followed by Medinipur-East (7983 km.) and Burdwan (6174.72 km.). The lowest surfaced road length of 927 km is found in Nadia. The second lowest district in surfaced road is Darjeeling (1088 km.) and the third lowest is Dakhsin Dinajpur district (1121.2 km).

In respect of the surfaced road only the three districts, e.g. Medinipur-W, Medinipur-E and Burdwan enjoy 43.4 percent of total surfaced road in the state. All the districts of North Bengal, except Jalpaiguri are in poor condition in terms of their share of road length – e.g. Darjeeling (2.04 percent), Coochbehar (2.12 percent), Uttar Dinajpur (2.52 percent), and Malda (2.22 percent). In South Bengal most of the districts were in better position than the North Bengal except Nadia.

Table 2 Surfaced Road in Districts

Districts	Road length	Percentage	Rank
Darjeeling	1088.00	2.04	17
Jalpaiguri	2314.65	4.35	8
Coochbehar	1126.80	2.12	15
U. Dinajpur	1341.87	2.52	13
D. Dinajpur	1121.20	2.11	16
Malda	1182.30	2.22	14
Murshidabad	3319.19	6.23	6
Birbhum	2126.00	3.99	11
Burdwan	6174.72	11.6	3
Nadia	927.00	1.74	18
N 24 Pgs	3614.50	6.79	4
Hooghly	2511.42	4.72	7
Bankura	1615.08	3.03	12
Puruliya	2307.35	4.33	9
Medinipur-E	7983.00	14.99	2

Howrah	2160.90	4.06	10
S 24 Pgs	3378.59	6.34	5
Medinipur-W	8959.00	16.82	1
Total	53251.57	100.00	

Source: District Statistical Handbook of West Bengal, 2004.

The surfaced road length per block in the state was 161.4 km. This study tries to identify the blocks with highest surfaced road and the blocks with lowest surfaced road in every district. This study mainly counted the percentage of blocks of five backward districts of West Bengal having the surfaced road above the average surfaced road of the state and the percentage of blocks having below per block surfaced of the state.

Dinajpur-S District

Out of 8 blocks of this district, Gangarampur block with 237.32 km of surfaced road was in the highest position followed by Balurghat block (191.37 km) and Tapan block (189.66 km). Only these 2 blocks of this district had the surfaced road higher than per block surfaced road length of the state. The lowest coverage of surfaced road was in Hili block (44.35 km). The second lowest coverage of the same was in Harirampur block (89.96 km) and the third was in Kumarganj block (115.94 km).

Malda District

Habibpur block had 9.22 percent of total surfaced road in Malda district. This block occupied the highest position in this district. The second highest surfaced road coverage of 97 km was in Gazole block and third highest surfaced road coverage of 87 km was in Harischandrapur-1 block. Manikchak block with 53 km surfaced road was in lowest position. All the blocks of this district had the surfaced road less than per block surfaced road length of the state.

Murshidabad District

The blocks of Nabagram (7.81 percent), Msd-Jiaganj (6.78 percent), Raghunathgang-1 (6.64 percent), Sagardighi (6.43 percent), Lalgola (6.36 percent) and Samsergang (6.00 percent) in Murshidabad district were in better position. The positions of the blocks of Bharatpur-11(4.20), Kandi (4.13 percent), Khargram (4.10 percent), Suti-11(4.04 percent), Domkal (4.04), Berhampore (3.65 percent) and Beldanga-1(3.40 percent) were not so bad. The residual 15 blocks were in bad position. The lowest position was occupied by Bhagobangola-1 block (1.51 percent). The situations of Raninagar-11 (1.54 percent) and Bhagabangola-11 (1.75 percent) block were also as like as that of Bhagabangola-1 block. Six blocks of this district had the surfaced road higher than per block surfaced road of the state.

Birbhum District

Bolpur-Shantiniketan block had 197 km of surfaced road. This block had the highest surfaced road in the district. The second highest surfaced road of 160 km was in Sainthia block and the third highest of the same was in Suri-1 & Illambazar (133 km). Mayureshwar-11 block (2.87 percent), Md. Bazar block (3.43 percent), Rampurhat-1 (3.53 percent), Murarai-1 (3.67 percent) and Rampurhat-11 (3.90 percent) were in relatively bad position. Only one block of Bolpur-Shantiniketan had the surfaced road higher than per block surfaced road length of the state.

Nadia District

Krishnanagar-11 and Chakdah block had the highest percent (8.85) of surfaced road followed by Chapra block (7.87 percent) and Hanskhali block (6.80 percent). In this district the lowest percent of 2.48

was in Nabadwip block. All the blocks of this district had the surfaced road below per block surfaced road of the state.

Accessibility of Road Infrastructure in Backward Districts of West Bengal

Improvement of road infrastructure leads to a reduction of travel time/cost and hence to an improvement of accessibility of markets or inputs. This may in turn lead to a relocation of labour and capital.

Accessibility of a certain variable Z in regions can be defined as:

$$ACC_r (Z) = \sum_{r'} Z_r f (c_{r' r})$$

Where, $c_{r' r}$ is an index of travel costs between regions r' and r, and f $(c_{r' r})$ is a distance decay function (Botham, 1983).

Illeris and Jakobson (1991) used the accessibility concept to study the effects of a fixed link across the Great Belt in Denmark. They concluded that the competitive position of the regions concerned will not change much by the fixed link so that relocation will remain of limited importance. Mills and Carlino (1989) showed that accessibility has a positive impact on employment growth in US countries.

The accessibility ratios of backward districts are shown in Table 3. In this Table accessibility ratio of all the districts of West Bengal as well as the state as a whole are shown.

Table 3 Accessibility Ratios in the Backward Districts of West Bengal

District	No. of block	Road length (km)	No. of villages	Villages connected by	Accessibility ratio (A)	Rank of A
D. Dinajpur	8	1121.20	1625	370	22.77	18
Malda	15	1182.30	1799	591	32.85	14
Murshidabad	26	3319.19	2210	891	40.32	10
Birbhum	19	2126.00	2478	813	32.81	15
Nadia	17	927.00	1346	785	58.32	6
All Block	341	53251.57	40528	17333	42.77	

Source: Calculated from data of West Bengal Administrative Atlas, 2001 and District Statistical Handbooks of West Bengal, 2004, BAES.

In the state of West Bengal the accessibility ratio is 42.77. The accessibility ratio is highest in Howrah (84.46 per cent), where the total number of villages is 708, of which 598 villages are near surfaced road. The accessibility ratio is worst in Dakhsin Dinajpur (22.77 per cent). The accessibility ratios in the districts – Dakhsin Dinajpur (22.77), Malda (32.85), Murshidabad (40.32) and Birbhum (32.81) are less than that of the state as whole.

Road Infrastructure Densities in Backward Districts of West Bengal

The other conventional measure of road network development is the measure of road density. The results are shown in Table 4. The road density per 100 sq. km in the state as a whole is 67.53. In respect of it

Medinipur-East is in first position with the road density. The worst position is of Bankura (23.68). The road densities in, Nadia (24.41), Malda (32.36), Birbhum (47.29), Dakhsin Dinajpur (50.28) and Murshidabad (62.92) are lower than the state average.

Table 4 Road Densities in the Districts of West Bengal

District	R_A	Rank of R_A	R_P	Rank of R_P	R_V	Rank of R_V
D. Dinajpur	50.28	9	0.85	6	0.69	14
Malda	32.36	16	0.39	15	0.66	15
Murshidabad	62.92	8	0.61	12	1.50	8
Birbhum	47.29	10	0.77	9	0.86	13
Nadia	24.41	17	0.24	16	0.69	14
All Block	67.53		0.91		1.31	

Source: Same as Table 2

The road density per 1000 population (R_P) in the state of West Bengal is 0.91. Medinipur-West is in the best position in terms of road density per 1000 population. The worst position is in Malda district. For the state of West Bengal the average the road density per village (R_v) is 1.31. The districts of Malda (0.66), Dakhsin Dinajpur (0.69) and Birbhum (0.86) have the road density per village lower than that of state average. The district of Murshidabad (1.5) has the road density per village higher than that of the state as a whole.

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