

A Peep into Spatial Variation in the Level of Development in South 24 Parganas District, West Bengal

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Abstract: *The district South 24 Parganas in west Bengal is a laggard one in terms of development. Both the quality of life and standard of living are not up to the mark in almost all 29 C.D. Blocks and seven municipalities. Spatial variation also persist in terms of level of development. The main cause in this type of disparity is unequal distribution of natural resources and difference in natural and cultural environment. Livelihood pattern in Sundarban region and its adjacent areas is totally different. In Sundarban region involving 13 C.D.Blocks of the district, life sustaining activities are fully based on natural resources, but outside the jurisdiction of this region dependence on natural assets is relatively lesser. Inequality, poverty and deprivation exist in every aspect of life both in Sundarban and other parts of the district concerned. Present endeavour is an attempt to find out the level of development, the nature of its spatial variation and the causes of such variation in all the blocks.*

Keywords: disparity, economic prospect, level of development, social wellbeing, Z- score in development

1. Introduction

Development is a continuous process by which man can enjoy freedom to choose type of shelter, education, employment, recreation, political attachment and cultural activities. The main objective of development is to abolish the root causes of backwardness which exist in the form of inequality, poverty, deprivation, and lack of access to resource base.

The level of development reflects the economic, social, political, cultural advancement and physical environment of a region. Measurement of the advancement of these aspects of development is executed by the various parameters which are closely related to one other. The concept involves comparison of the neighbouring areas in terms of these parameters. (Chandna-2008)

The spatial variation in the level of development takes place due to various physical and socio-economic factors. Statistical and quantitative measurement of the level of development are the important tools for resource appraisal. (K.Singh-2009).

The district South 24 Parganas is unique in all aspects of physical and socio-economic characteristics. The total district is the part of Lower Ganga Delta. Southern part is active in nature where delta formation is still continuing, whereas northern part is considered as mature delta. As the region is deltaic in nature it suffers from various types of natural and quasi-natural hazards. Sunderban Biosphere Reserve is located in the southernmost area spreading over island part of the district, whereas northern part of the district is adjacent to the Megacity of Kolkata. The parameters for measuring the level of development are same in case of island and mainland portion of the district; in fact livelihood pattern, standard of living and quality of life have a sharp difference between the mainland and the island part of the area under

study. So disparities in the level of development prevail in both the segments of the district.

The present study has been conducted mostly in the rural areas. C.D blocks adjacent to the city of Kolkata have experienced a spread effect of urbanisation but due to non-flourishing of tertiary activities in the fringe areas, the local people depend mainly on primary activities along with limited secondary activities and consequently the economy has become stunted. The district is also characterised by rural-urban dichotomy in terms of development.

The constraints of development are twofold involving both physical and socio-economic issues. The major constraints include soil salinity, impoverishment of soil, tropical cyclone, inadequacy of irrigation facilities, poor infrastructure, inclusive of transportation network and lack of job opportunities etc.

2. Literature Review

The literary works by eminent authors, scholars and different Government reports have thrown lights on spatial variation and level of development.

O'Mally Lewis Sydney Steward (1874) in his book "History of Bengal, Bihar, and Orissa under British Rule" explained the history of the particular region. In his writing the socio-economic conditions, and historical perspective of the particular area have been elaborated. The political, social, and economic constraints of development were also considered. Explanation of different resources are not mentioned in this book.

In his book entitled "Statistical Accounts of Bengal" by W.W. Hunter (1897), provided an idea of resource potential of the district. The different chapters of his works revealed

the physical, economic and human resource of the district in detail. The problems of development are not discussed here.

In the book "Regional Planning and Development" the author R.C. Chandna (2006) analysed the methodology and techniques of regional development. Regional disparities and strategies were also explained. Role of population in development, some case studies and problems of regional planning were illustrated elaborately. The obstacles of development are not mentioned in this book.

In the book entitled "Geostatistical and Quantitate Approaches for Resource Estimation", Dr. Abhisek Santra (2012) assess the natural, as well as socio-economic resources of the Rupnarayan- Dwakeshwar basin. This book also highlights the theoretical base on the applied techniques of geo-statistics and quantitative techniques. The way out to overcome the constraints of development in the area are not discussed in this book.

In "Introduction to Development Studies" (2016), B.K. Pattanaik presents a balanced mix of economic, social, political, cultural and administrative premises of development through the examples from developing countries. This book also narrate the development process, governance, communication and planning. The relationship between resource and development are not discussed in this book.

3. Objectives

The main objective of the study are:

- To assess the level of development of the C.D. blocks in the District concerned
- To indicate the extent of economic prospect and social wellbeing of the rural people
- To estimate the disparities that persist in spatial level among the different C.D.blocks
- To identify the factors responsible for the existing disparities
- To suggest the future action plan to reduce such disparities

4. Study Area

The District South 24 Parganas of West Bengal has latitudinal extension between 21°29'N and 22°33'45"N and longitudinal extension between 88°3'45"E and 89°4'50"E. Area of the district is 9,960 sq.Km encompassing seven municipalities and 29 community development blocks. Bangladesh is located in the east of the district, East Medinipur and Haora Districts of West Bengal are in the west, Kolkata city and North 24 Parganas District lie in the north while Bay of Bengal touches the southern part of the study area.

5. Materials and Methods

The present study was conducted with the help of both primary and secondary data. Secondary data have been collected from District Statistical Handbook (2013), Census of India (2011) and District Human Development Report (2009). Primary data were collected through field visit in

several blocks of the district based on pre-designed questionnaire following purposive method of sampling.

Six steps have been followed to arrive at the composite index of development (Social Development Report-2010):

- 1) Selection of parameters-- Four parameters namely a) economic, b) educational c) health and sanitation as well as d) infrastructural facilities have been selected to assess the level of development. Each parameter is composed of different variables which are strongly correlated with level of development.
- 2) Negative variables have been made positive by taking inverse values.
- 3) To make the variables scale free, range equalisation technique has been adopted.
- 4) Scale free values of the variables have been added up.
- 5) The composite index has been computed through summation of all dimension values divided by the number of dimensions.
- 6) Finally the blocks have been divided into four categories on the basis of composite index of development.

Estimation of the level of development is based on two major steps, first, Z score of the parameters have been calculated to show the block level divergence from mean value and secondly, the block-wise composite index of development have been calculated.

Z score or standard score indicates how many standard deviations separate a parameter from mean value of the particular parameter (A. Santra-2012). The formula of Z score is:

$$Z_i = (X - X_{\text{mean}}) / s$$
 where Z_i = Z score, X is the value of observation, X_{mean} is the mean of the observation, s is the standard deviation of the observation.

Parameters and variables: Level of development has been calculated on the basis of following four parameters and composed of 14 variables. Since the indicator is related to development, the negative parameters were made positive by taking the inverse value of the indicator.

a) Economic Parameter: Economic parameter reveals the economic prospect of a region. This parameter consists of four variables, such as:

- 1) Percentage of households above poverty line: This is a strong indication of the level of development (Kamle and Adhikari-2013). The data have been collected from District Human Development Report, 2009.
- 2) Percentage of working population: It reflects percentage share of the people engaged in any type of economic activity. Working population has a great contribution in economic development of a region and the related data have been collected from Census of India, 2011.
- 3) Level of urbanisation: This depicts the percentage of urban population to total population indicating the level of development. Census of India 2011 is the main source of this data base.
- 4) Percentage of households with mobile connections: A man can afford mobile connection by means of sufficient income, so it is directly related to economic achievement. Emphasis was given on collection of primary data for the purpose.

b) Educational attainment parameter: It consists of two variables:

- 1) Literacy rate: The literacy rate is defined as the proportion of literates to the population in the age group of seven and above in the level of general education. Census of India, 2011 is again the main source of data.
- 2) Pupil-teacher ratio: This is the ratio of number of students to a teacher in primary schools in different blocks for which data have been collected from District Statistical Handbook, 2013.

c) Health and Sanitation parameter: This particular aspect includes four variables:

- 1) Percentage of households with safe drinking water, for which data have been obtained from State Human Development Report, 2009.
- 2) Percentage of institutional delivery, data of which have been procured from Human Development Report, 2009
- 3) Age at marriage, for which data have been gathered through field investigation.
- 4) Doctor-population ratio which reflects the number of doctors per one lakh population. District Human Development Report, 2009 provided such a database.

d) Infrastructural parameter: This includes as many as four variables:

- 1) Road density: It is nothing but the length of the road per sq. km area. Data for this purpose have been compiled from the District Statistical Handbook, 2013.

- 2) Distance of nearest railway station from the concerned block have been collected from District Statistical Handbook, 2013.
- 3) Number of schools and colleges: Total number of primary, secondary and higher secondary schools along with number of colleges present in each block is counted for assemblage of data for this variable. District Statistical Handbook, 2013 is the main source of data for the purpose.
- 4) Hospital bed- population ratio: This is the ratio between numbers of hospital beds per 10,000 population. Human Development Report, 2009 provided data for necessary calculation.

6. Results and Discussion

The overall performance of the blocks in terms of Z score of the parameters and composite index of development is different from each other. For comparison among the blocks in terms of various parameters, Z score has been computed for each parameter which shows deviation from mean value.

The chart given below shows that in terms of economic parameter, Thakurpukur-Maheshtala, Bishnupur Block-I and II, Budge Budge I and II, Sonarpur, Baruipur, Canning- I, Gosaba, Mograhat I and II remain above the average.

All other blocks are lagging behind the average while Canning II and Basanti are far behind, which indicate sluggish progress of the economy there.

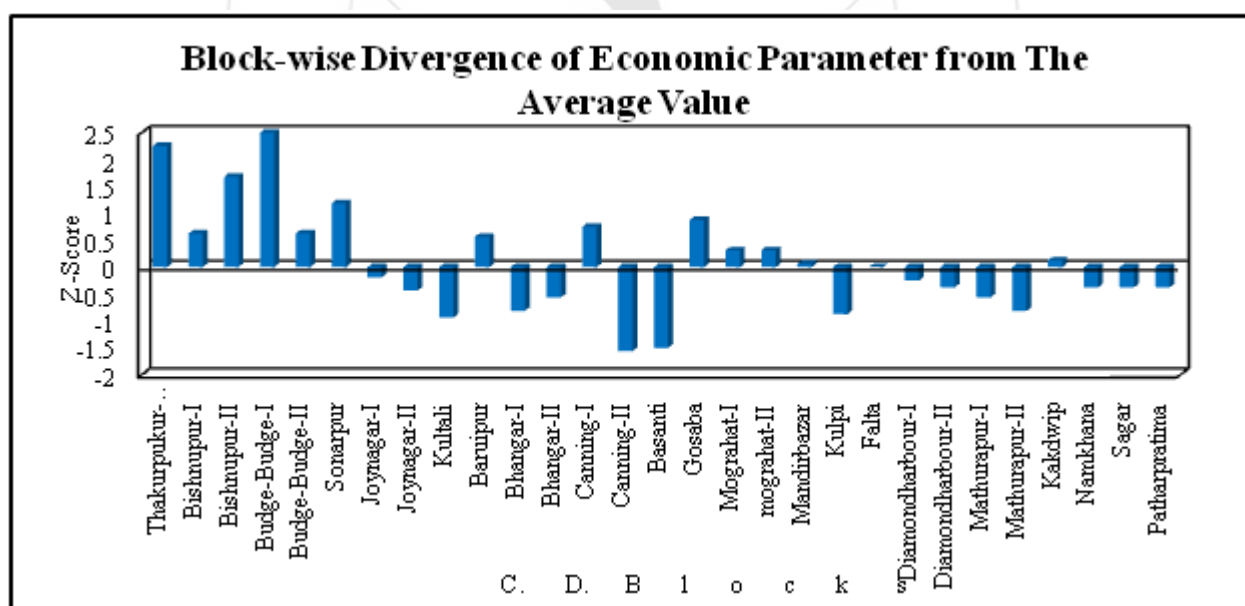


Figure 1: Data Sources: Human Development Report-2009
Census of India-2011 and Primary Data-2016

In terms of educational attainment the Blocks adjacent to Kolkata, such as Thakurpukur-Maheshtala, Budge Budge I and II, have scored above the average, while Gosaba, Diamond-Harbour II, Mathurapur I and II, Kakdwip,

Namkhana, Sagar and Patharpratima located away from Kolkata have scored above the mean value. Remaining 18 blocks are lying below the block average.

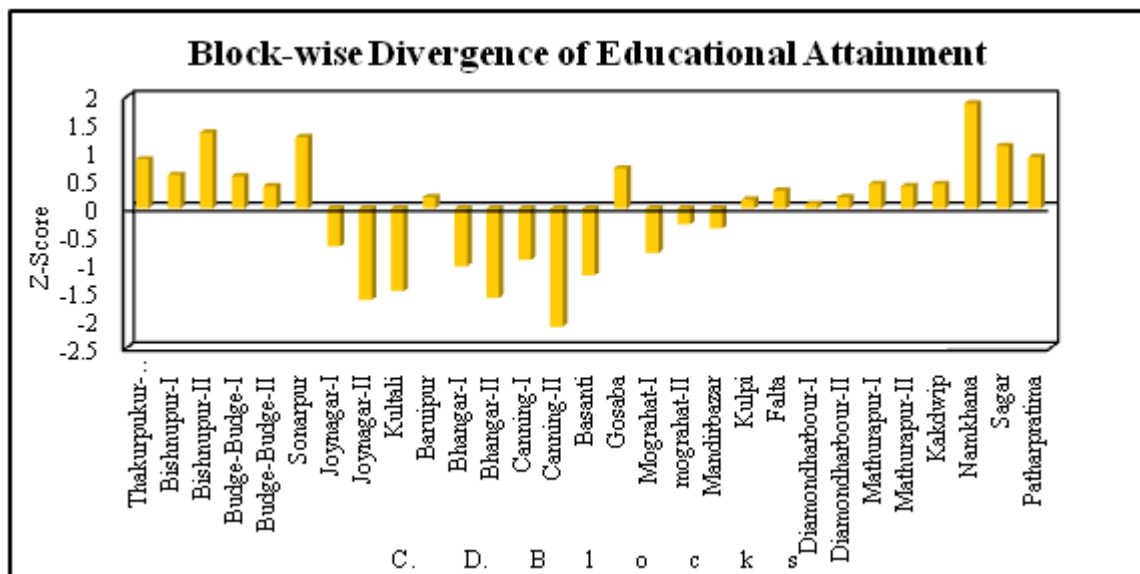


Figure 2: Data Sources: Census of India, 2011 and District Statistical Handbook, 2013

The Z score value of health and sanitation parameter reveals a miserable condition. Out of 29 C.D. blocks only 10 blocks have performed well and thus they are staying above the average mark. Remaining blocks are lagging behind.

Joynagar-I block has become the best performer followed by Barupur, Mograhat II, BudgeBudge-I, and Sonarpurblock.

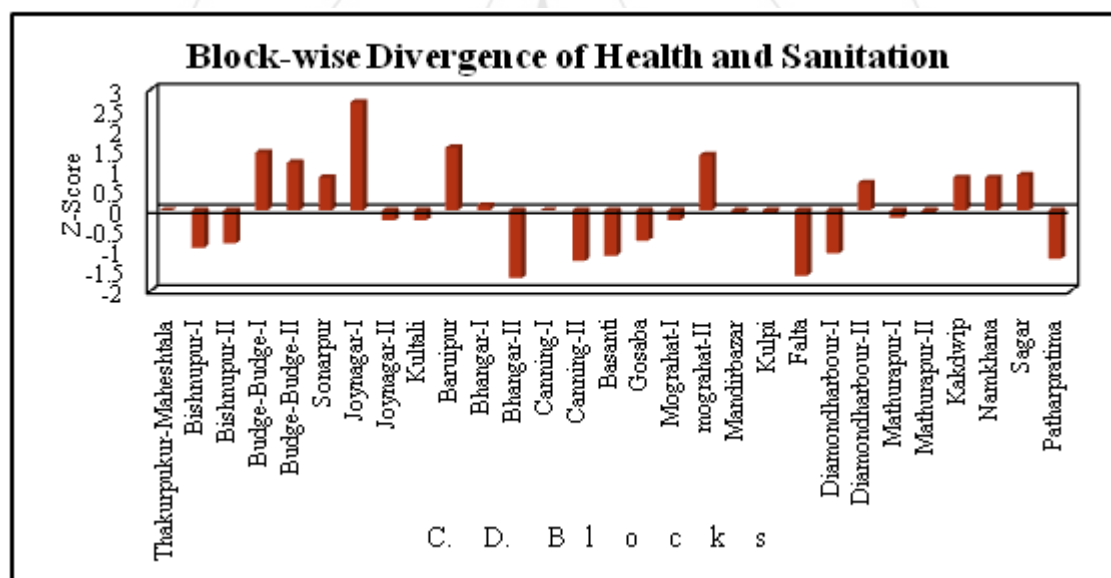


Figure 3: Data Sources: Human Development Report-2009, District Statistical Handbook, 2013 and Primary Data, 2016

In terms of infrastructural facilities only five blocks, Joynagar-I, Canning-I, Mograhat-II, Diamond Harbour-I and

Kakdwip have performed well. As many as twelve blocks have scored above the average Z score value.

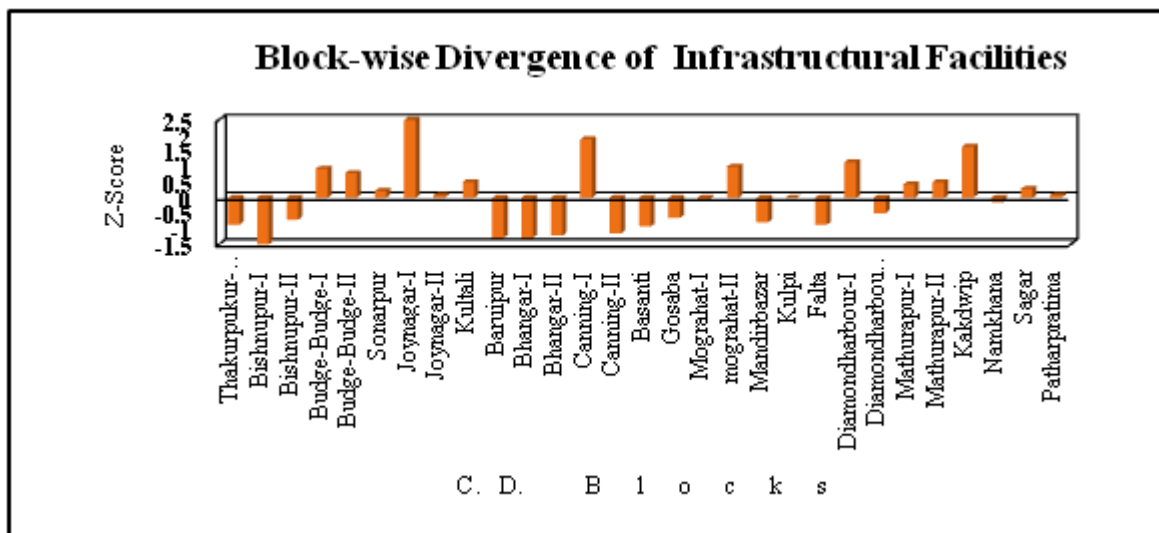


Figure 4: Data Source: District Statistical Handbook-2013, and Human Development Report-2009

Spatial Variation in Level of Development: By analysing the development index value of the blocks, these have been classified into four categories:

1) Very high level of development: This category belongs to Development index value between 0.48 to 0.61. Only six blocks viz. Budge-Budge-I, Budge-Budge-II, Sonarpur, Joynagar-I, Baruiip and Kakdwip, belong to this category. The main cause of this development is due to their proximity to the municipalities and the city of Kolkata. Moreover, Joynagar and Kakdwip are important business centres of the district.

2) High level of Development: The range of this category is from 0.38 to 0.48. Seven blocks viz. Thakurpukur-Maheshtala, Canning-I, Bishnupur-II, Mograhat-II, Namkhana, Patharpratima and Sagar belong to this category.

3) Medium level of Development: This category ranges between the score of 0.17 and 0.38. Thirteen blocks have been incorporated under this category. The district as a whole has recorded medium level of development.

4) Low level of development: This category is composed of Development Index value of less than 0.17. Only three blocks viz. Basanti, Bhargar-II and Canning-II belong to this category.

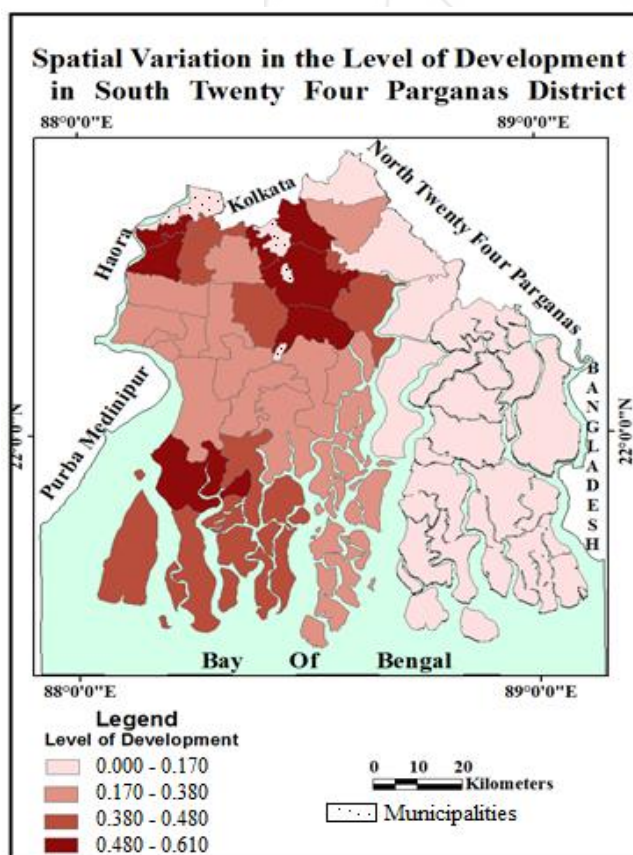


Figure 5: Data Source: Compiled and computed by the authors from different sources

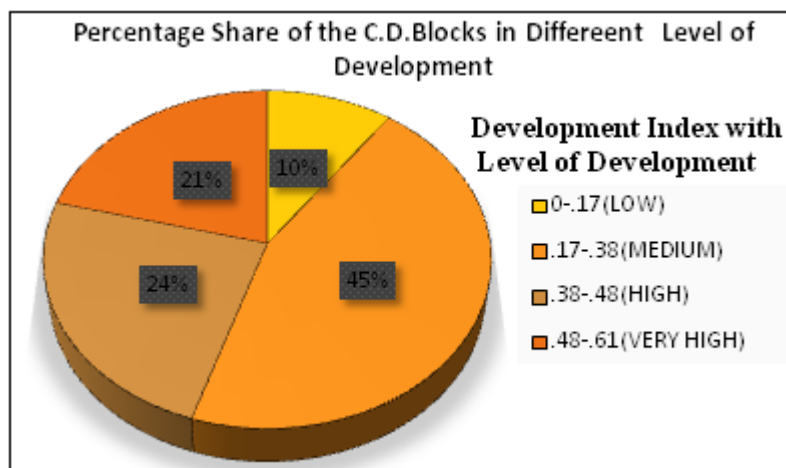


Figure 6: Data source: Computed by the authors from different sources

Analysing the percentage value of the different categories of development, it has been depicted in figure 6 that low level category has percentage share of ten only, medium level has 45 percent share while high category has recorded 24percent share and very high category has 21 percent share.

The following table shows the values of Development Index and rank of the different blocks in terms of development. BudgeBudge-I is the topper in the list in terms of all over development followed by Sonarpur, BudgeBudge-II, Joynagar-I, and Kakdwip etc. Canning-II has recorded lowest Development Index.

Table 1: Block-wise Value of the Development Index and Rank

Sl. No	Name of the Block	Development Index	Rank
1	Budge-Budge-I	.61	1
2	Sonarpur	.52	2
3	Budge-budge-II	.50	3
4	Joynagar-I	.50	3
5	Kakdwip	.50	3
6	Baruipur	.50	3
7	Thakurpukur-Maheshtala	.48	4
8	Sagar	.48	4
9	Mograhath-II	.48	4
10	Namkhana	.46	5
11	Canning-I	.45	6
12	Bishnupur-II	.44	7
13	Patharpratima	.40	8
14	Gosba	.38	9
15	Diamondharbour-II	.37	10
16	Mathurapur-II	.37	10
17	Bishnupur-I	.36	11
18	Diamondharbour-I	.36	11
19	Kulpi	.35	12
20	Mograhath-I	.35	12
21	Mathurapur-I	.34	13
22	Mandirbazar	.33	14
23	Joynagar-II	.29	15
24	Falta	.28	16
25	Bhangar-I	.25	17
26	Kultali	.25	17
27	Basanti	.25	17
28	Bhangar-II	.17	18
29	Canning-II	.12	19

Data source: Computed by the authors

Type of Disparity in South Twenty Four Parganas: Two types of disparities are visible in this district. These are: a) Inter-block disparities and b) Rural-Urban disparities.

a) *Inter-block Disparity:* This type of disparity prevails between the C.D. blocks. The main reason behind such disparity is unequal distribution of resources, variation in the frequency of natural calamities, different types of soil fertility, diversity of agrarian structure, different levels of infrastructural development and variation in resultant livelihood pattern.

b) *Rural-Urban Disparity:* Such disparity prevails within the blocks between rural and urban areas. Rural areas are backward in terms of availability of infrastructure which includes road network, availability of electricity and drinking water, access to hospitals and sanitation facilities, whereas these facilities are available in the urban areas. As for example Budge Budge-I is located near Kolkata and Canning-I is located in remote Sundarban area. So rural-urban dichotomy is conspicuous.

Causes of Disparity: There are various factors which are responsible for regional disparities, such as:

- 1) *Historical legacy:* The process of development was initiated in this district by the British merchants. So the nodes of the trade and transport, such as Budge Budge and Diamondharbour was flourished in comparison to the rural areas. This trend is continuing still now.
- 2) *Locational importance:* In case of development, location is a vital factor. Places connected by railways, road network and ferry services are more developed than remote rural areas.
- 3) *Physiographic Uniqueness:* The district comprises of numerous islands and the mainland. Due to backwardness in transport and communication facilities all the C.D. blocks consisting of islands are less developed, Sagar Island is an exception by virtue of having rich fertile soil favourable for agriculture all the year round.
- 4) *Inadequate infrastructure:* Development of hard and soft infrastructure is a big challenge for this district. Places adjoining Kolkata Municipal Corporation is relatively more developed in terms of all types of infrastructural facilities because of spread effect. Rest of the C.D. blocks

are suffering from inadequacy of infrastructure for livelihood.

- 5) *Failure in the implementation of Government policies:* After independence the Government framed so many policies for backward area development, but none of them was successful in this district. Most of the people live below the poverty line with minimum availability of amenities necessary for maintenance of livelihood.
- 6) *Stunted growth of MSMEs:* The major cause of sluggish economic growth in this district is the stunted growth of medium, small and micro scale enterprises (MSMEs). The district has good potential for flourishing of such industries but it's the will force of the policy makers and powers that be needed for the growth of these enterprises.

7. Conclusion

The present study reveals some startling observations. Firstly, the parameters and consisting variables are not evenly distributed all over the district. Secondly, 10 percent of the blocks have very low level of development, 45 percent have achieved medium level, 24 percent have reached high level while 21 percent have very high level of development. Thirdly, in terms of economic parameter 45 percent blocks scored above the district average; in respect of educational parameter the share is 59 percent, for health and sanitation it is very low, only 34 percent, and for infrastructure only 45 percent of the blocks are lying above the district average.

Besides, the Sundarban region is underprivileged in respect of all parameters and variables. Developed blocks are agglomerated around the city of Kolkata. Finally the rural-urban dichotomy is evident which shows that the blocks comprising of at least high number of more census towns are more developed in comparison to the rest of them. It is necessary to keep on record that in order to reduce the spatial disparity in level of development, people should be educated and aware enough to demand basic amenities and privileges provided by the Government under different schemes, of which the most important is providing Urban Amenities for Rural Areas (PURA)

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