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A Search for Backward Blocks in Burdwan District, West Bengal: An Application of Composite Development Index*

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Abstract

Backward area is identified in terms of development outcomes comparing to rest of the defined administrative area. The measurement of backwardness is an important issue which is the urgent need of the development planners for targeted development. This paper attempts to answer it and prepares the block level backwardness index using available data of Burdwan district. Paper identifies the backward blocks in Burdwan district. Top 3 most backward blocks are Purbasthali-II, Memari-I, and Ketugram-I, and the least backward block is Sultanpur, 2nd least backward block is Andal in district of Burdwan. This block level backwardness index is useful for district planning officers for preparing their priority of development policy agenda.

Key Words: Backwardness Index, Development Index, Backward Area, Backward Blocks, Burdwan District, District Planning, Development Policy, Measurement of Backwardness.

JEL Classifications: C18, I3, I32, I38, O11, O21

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1. Introduction

A backward area or region is observable in terms of development outcomes. Here, the basic assumption is that the backward area must have an experience of development works. An area or a region is lagging behind comparing to the rest of area (or region) in the defined jurisdiction. An area is backward, which is measured in terms of relative development outcomes. The issue of measurement of backwardness is an urgent need of the development planners for targeted development. One development programme, for example, literacy programme has been implemented in a district. After certain time, say after 5 years, the district development planning officer want an assessment of the said programme. How does the planning officer assess the said programme? He also tries to identify the successful the blocks or sub-areas and unsuccessful blocks or sub-areas. To execute more intensive further development programmes they should find the reason behind unsuccessful of the blocks or sub-areas. Lack of desired outcomes in a specific area (or region) is generated due to several factors but the most important factor is the lack of absorptive capacity of that area or region. Here, backwardness does not mean underdevelopment. Truly, 'backward' and 'underdevelopment' are different concept. Underdevelopment is understood as un-utilisation of resources of an area or region, where no works for development, so resources are un-utilised or under-utilised. Backwardness is the failure of developmental activity.

In the context of discussion on development, we frequently utter 'backward' or/and 'underdevelopment' and both are used almost interchangeably (Baruah 2009). We mostly equate them with certain broad index; however, there is a great difference between 'underdevelopment' and 'backwardness' (Myint 1954). 'Underdevelopment' is understood in terms of under-utilisation of resources whereas 'backwardness' is viewed in terms of failure of people in their economic outcomes/performances. Failures of people living in an area are associated with several factors including under- utilisation of resources. One of the major factors of failure is the lack of human capital, lack of local infrastructure, etc. So, economic performance and achievement of people of an area/region depend on available local infrastructure. Bhatia (1999), Majumder (2008), and Wanmali and Islam (1995) observe a relationship between infrastructure and development. So, to overcome backwardness the planners should identify the structural deficiencies and critically evaluate infrastructural elements and suggest suitable development

programmes so that people can succeed in their economic endeavours and pursuits (Baruah 2009).

There is a need to strengthen the institutions at the grassroots level. The grassroots level institutions facilitate the participatory planning, decision making, monitoring and implementation of local needs; and also provide the professional support for their plans at different stages. District should prepare a diagnostic study of its backwardness specifying the relatively backward pockets within the district based on which the district plan would be prepared (Baruah 2009). Truly, How do we evaluate the development schemes? What should be a measurement index for backwardness? Or, How do we measure backwardness? What should be the appropriate policy for such areas or regions? This study attempts to answer these questions with an empirical analysis in a small-scale.

In this context, this study focuses on the district of Burdwan, which is an important district of West Bengal in terms of the contribution to the state gross domestic product, and both sector - agriculture and industry sectors contribute significantly to state and nation. Burdwan district is comparatively developed district in West Bengal. Still certain parts of Burdwan district are backward. There is several ongoing development programmes in the district of Burdwan. This paper investigates the reason behind the failures of development programmes. Analysing at the block level data, this paper tries to identify the blocks which fail to produce desirable outcomes and also points out the sources or possible factors of backwardness of the blocks. The findings will help the district planners for possible prioritisation of development scheme.

This paper is organised as follows: Next section provides an overview of related literature. Section 3 describes data and methodology, section 4 discusses analytically the results and finally, section 5 concludes with remarks.

2. Literature Review

Planning for regional development is important because of regional disparity in resource endowments and/or disparity in economic growth and quality of life or level of living (Sarma 1966). Long time, most of the academic discussions over regional planning have focused on issues of fixing criteria for defining backwardness region or area and sharing national funds for regional development schemes, and also highlight effective mechanism for evaluating development programmes or schemes. On the basis of evaluation, regions are categorised as per

homogeneity and justify special attentions to them (Baruah 2009). In this context, conceptualising the notion of a region is more important than specifying criteria of identification. In this respect, Sarma (1966) suggests three approaches (i) regions can be identify as per their homogeneity in terms of socio-economic characteristics, (ii) the nodal regions can be formed on the basis of functionality, and (iii) regional formation can be done on the basis of policy orientation that depends on available political institutions for implementing policy decisions. Frequently the government also form several committees (like Sukhomoy Chakraborty Committee 1972) for identifying the backward regions or areas or districts. There are lot of academic studies also identify backward region (Raghurajan committee 2013, Baruah 2009, Kulkarni et al 1982, Rao 1973, Desarda 1996, Nair 1993). The Ninth Finance Commission adopts a composite index of backwardness for state allocations. In the context of state allocation, the latest state allocation formula is base on backwardness index, which is reported by Raghurajan Committee 2013. Raghurajan Committee 2013 developed a composite index of backwardness comprising ten different dimensions of level of development (Ramaswami 2014). All these efforts try to investigate the issue of backwardness in many dimensions using different indicators and attempt to develop a composite index, which is useful in formulations of development plans and policies.

The development index is able to capture the wellbeing of an average individual in a region or an area. The development index is a composition of socio- economic indicators, which include livelihood instead of income and other social indicators. It should be mentioned that the human development index, is widely accepted, combines income with indicators of health and education (Ramaswami 2014). In this paper at the block levels livelihood index is used as a proxy of income¹.

3. Data and Methodology

Recently Raghurajan Committee report 2013 provides a composite index of the Backwardness index. This Backwardness index includes the following ten sub-components: (i) Livelihood

¹ Livelihood index capture the work participation of people in a block level. It does not measure income or consumption but has certain reflection on their wellbeing. 'However, economists have long preferred average consumption expenditures per capita as a better measure of economic welfare. Consumption is less sensitive than income to shocks coming from droughts, prices or policy changes. Secondly, as inequality in consumption is less than the inequality in income, the consumption average is more representative of average standards of living' (Ramaswami 2014).

Index, (ii) Education index, (iii) Health Index, (iv) Female literacy, (v) Financial Inclusion, (vi) Poverty rate, (vii) Household amenities, (viii) percentage of SC-ST population, (ix) Urbanization rate, (x) connectivity. This study also incorporates the above mentioned Indices for the construction of composite index of backwardness following the Raghurajan Committee Report 2013. This is a redo exercise the notion of the concept of backwardness with some modifications at grassroots level i.e., the block level data which completely different from Raghurajan Committee Report 2013. Table 1 briefly describes each variable under sub-heading of each sub-index and indicating their corresponding data sources.

- The calculation of Livelihood sub-index has been constructed using the indicators like Percentage of Total worker to total population, Percentage of Main worker to total worker and Percentage of Other worker among main workers.
- The Education sub index is calculated as a weighted average of total number of Educational institution in Primary and Upper Primary School in the age group 5-14 years, Teacher Student Ratio and attendance ratio that is taken as a proxy using the ratio of upper primary to primary of the district Burdwan in the year 2013-14. Attendance ratio is the percentage of students joining in the upper primary from primary school. This measurement of the attendance ratio is different from other studies.
- Health performance and the health services available to the people vary widely across various blocks of the district of Burdwan. So, it is necessary and desirable to examine the health status of the people across various blocks / sub divisions of the district of Burdwan.
- Three important indicators for examining the health status of the people are: preventive health care indicator, curative health care indicator and promotional health care indicator. Index of Curative Health care facilities has been constructed using the indicator like (i) No. of Bed per 1000 Population, (ii) No. of Doctors per 1000 Population. Preventive Health care index has been constructed using indicators like (i) Percentage of Households having Latrine facility, (ii) Percentage of Households having Separate Bathroom, (iii) Percentage of Households having Safe Drinking Water facility. The Promotional Health care index has been constructed using indicators of (i) Percentage of Institutional delivery, (ii) Percentage of Mother facilitated with 3 times Ante-Natal Care (i.e. ANC-3), and (iii) percentage of immunized children. For the construction of Curative health care index, Preventive health care index, and Promotional health

care index we have utilized the data driven weights of these indicator using Principal Component (PC) Method.

- Female literacy, percentage of SC-ST population and urbanization rate are from the census abridgments. In addition to economic and social outcomes, we also include an indicator of financial inclusion, which is the percentage of households availing banking services.
- The sub-index for “household amenities” is a weighted average of the number of households which have the following (i) Percentage of Households with Telephone service, (ii) Percentage of Households with electricity as primary source of lighting, (iii) Percentage of Households with no sanitation facilities and (iv) Percentage of Households with no Asset.
- Poverty rate used in this paper have been taken from the Rural Household Survey of Burdwan District. For creating poverty rate we have been taken the number of households that belong to Below Poverty Line (BPL). This is based on the definition being currently used by the Planning Commission.
- Finally, we include a sub-index of connectivity – which is a weighted average of a number of indicators - (i) total Length of Surfaced Roads of Pradhan Mantri Gram Sadak Yojana, (ii) total Length of Surfaced Roads of Gram Panchayat & Panchayat Samity, (iii) total Length of Surfaced Roads of Zilla Parishad and P.W.D. Connectivity could also be defined as a ratio of the population, as suggested by the Raghuram Rajan Committee 2013. The committee thought that this would be essential if there are capacity constraints, however it was not completely clear that such constraints are binding, hence the committee decided not to scale it by population.

Table 2a summarise the basic characteristics of the variables and describes statistical nature of data set.

The value of each indicator may be located in terms of development objectives that put the value at its maximum while the minimum being the lowest value observed in the distribution. Simply, if x_i be the value of the i th indicator then its location in terms of the minimum and maximum is

$$L_i = \frac{x_i - x_{min}}{x_{max} - x_{min}} \quad (1)$$

Where, $0 \leq L_i \leq 1$

This L_i is a standard normalised variable or simple an index for i th variable. Equation (1) is an Index calculating formula.

Once values of L_i are obtained following the equation (1), the composite value of all L_i is then may be taken as the simple average of the all eight values so obtained, which is simply given by

$$I = \left(\frac{1}{10}\right) \sum_{i=1}^{10} L_i \quad (2)$$

The value of I thus, reflect the relative achievement of a block in terms of ten indicators. The backwardness, is then indicated by the Backwardness Index (BI), which can be expressed as

$$BI = (1-I) \quad (3)$$

The values of the Backwardness Index (BI) will lies between the ranges of 0 to 1. The Value 0 implies lack of backwardness while value 1 implies the highest possible level of backwardness. The value is closer to zero lesser is the level of backwardness. Similarly, more the value more is the level of backwardness. Depending on the values of the BI, we may define three levels of backwardness. For Instance, with the value of BI ranging between 0 to 0.29, a block may be termed as less backward or developed, with values 0.30 to 0.69 it may be called moderately backward and with the value being 0.70 and/or above blocks may be considered as most backward blocks. Higher the values of BI, greater will the areas of backwardness and vice versa. The Backwardness Index (BI) can be used to identify backward blocks and rank them accordingly. The levels of achievement i.e. value of L_i can be used for highlighting sectors affecting overall level of backwardness. The lowest achievement implies highest priority. Also, the respective backwardness indices of the blocks can be used as marker for allocating funds in different sectors. Further, the index can be effectively used for monitoring various programmes or centrally sponsored schemes likes Indira AwasYojana (IAY), Rastriys Sam VikasYojna (RSVY) etc.

The important property of this backwardness index is the progressivity. It suggests that if there is a positive movement in any of the underrepresented value in the set of indicators, others remain constant, the achievement index should increase and backwardness index should decline.

The backwardness index (BI) or weighted backwardness index (WBI) can be used to identify backward blocks and rank them accordingly.

4. Results and Analysis

Table 2b describes the summary statistics of all sub-indices and shows their central tendency (mean or average) with variation (standard deviation). Table 3 displays the Block-wise Backwardness index and its components. The last column of table 3 shows the rank of Blocks as per the score of backwardness index. The most Backward Block in Burdwan district is Purbasthali -II. The second and third most Backward Blocks are Memari -I and Ketugram -I,

respectively. The fourth and fifth most Backward Blocks are Purbasthali-I and Ketugram-II, respectively. Salanpur Block is the least backward block in the district of Burdwan. In other words, Salanpur Block is the most developed block in Burdwan district. Out of 31 Blocks of Burdwan district, rank of Backwardness index of Salanpur Block is 31. The second and third most developed blocks are Andal and Jamuria, respectively. Kanksa and Raniganj are the fourth and fifth most developed blocks in Burdwan district, respectively. Jamalpur, F-Durgapur, Khandaghosh and Memari-II Blocks are moderately developed and their ranks of backwardness index are 14, 15, 16 and 17, respectively.

The Backwardness index is a composite index which includes ten major development indicators. Table 4 shows the pair-wise correlation matrix of ten sub-development Indices. It should be noted that there is a highly significant positive strong correlation between SC&ST population and poverty, urbanisation and livelihood, household amenities and urbanisation, health and livelihood index etc. A negative correlation is observed with other development indices, except female literacy index. Financial inclusion index has no significant relation with other indices. Connectivity index has negative correlation only with livelihood index and insignificant with other indices that are unexpected.

There are several development schemes and a few blocks are unsuccessful in implementing all the development programmes but several blocks execute some programmes successfully. So, it will be noteworthy to find the rank of blocks for some important development indicators. In this context, we rank individual development programmes (Table 5 – 7).

Now, we examine the rank of blocks for major indicators of Human Development Index in the District of Burdwan. Table 5 shows the block-wise rank of major components of human development index in Burdwan district. Truly, Table 5 provides the performance of the major components of human development programmes such as education, livelihood and health development programmes.

Table 6 provides the block-wise rank of urbanisation, household amenities and connectivity whereas Pandabeswar, Andal and Raniganj hold the 1st, 2nd and 3rd rank of urbanisation, respectively; whereas these three blocks hold the 3rd, 4th and 1st rank in household amenities, respectively. Jamuria holds 2nd position in household amenities and 5th position in urbanisation in Burdwan district. Table 7 shows the rank of female literacy, financial inclusion and poverty index in Burdwan district. Ausgram –I block belongs to most unsuccessful (or backward) blocks

in terms of other development indicators but it holds 1st and 2nd rank in financial inclusion and road connectivity index, respectively. We are hesitantly accepting these findings and leave the scope of its improvement. Again we recheck the data availability to overcome some drawbacks, if any.

5. Concluding remarks

This paper prepares the block level backwardness index and identifies the backward blocks in Burdwan district. Top 5 most backward blocks are Purbasthali-II, Memari-I, Ketugram-I, Purbasthali-I and Ketugram-II as per ranks and the least backward block is Sultanpur, 2nd least backward block is Andal in district of Burdwan. This block level backwardness index is useful and meeting various planning requirements that ultimately would reduce regional disparity at the block level.

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Table 1: Index for Underdevelopment: Sub components and Sources

	Variable	Source
1. Livelihood Index	<ul style="list-style-type: none"> • Percentage of Total worker to total population • Percentage of Main worker to total worker • Percentage of Other worker among main workers 	Primary Census Abstract (PCA, 2011)
2. Education	<ul style="list-style-type: none"> • No. of Education Institution in Primary and Upper Primary School • Teacher Student Ratio • Ratio of Upper Primary to Primary Section 	2013-14 U-DISE , SSM Office Burdwan
3. Health:	<ul style="list-style-type: none"> • No. of Bed per 1000 Population • No. of Doctors per 1000 Population 	Census 2011
i) Curative Health	<ul style="list-style-type: none"> • Percentage of Households having Latrine facility • Percentage of Households having Separate Bathroom 	
ii) Preventive Health	<ul style="list-style-type: none"> • Percentage of Households having Safe Drinking Water facility • Percentage of Institutional delivery 	
iii) Promotional Health	<ul style="list-style-type: none"> • Percentage of Mother facilitated with 3 times Ante-Natal Care • percentage of immunized children 	
3. Female Literacy Rate		Primary Census Abstract (PCA, 2011)
4. Financial Inclusion	<ul style="list-style-type: none"> • Percentage of Households having Banking Services 	Census 2011
5. Poverty		Rural Household Survey of Burdwan District 2014
6. Urbanization		Primary Census Abstract (PCA, 2011)
7. Households Amenities Index	<ul style="list-style-type: none"> • Percentage of Households with Telephone service • Percentage of Households with electricity as primary source of lighting • Percentage of Households with no sanitation facilities • Percentage of Households with no Asset 	Census 2011
8. Percentage of SC and ST Population		Primary Census Abstract (PCA, 2011)
9. Connectivity	<ul style="list-style-type: none"> • Total Length of Surfaced Roads (KM.) (PradhanMantri Gram Sadak Yojana, Gram Panchayat & Panchayat Samity, Zilla Parishad and P.W.D.) 	District Statistical Handbook Burdwan 2013

Table 2a: Descriptive Statistics of all the variables

Variable		Mean	Median	Maximum	Minimum	Standard Deviation
Livelihood Index	i) Total worker to total population	0.392	0.398	0.461	0.311	0.047
	ii) Main worker to total worker	0.706	0.726	0.863	0.509	0.086
	iii) Other worker among main workers	0.393	0.287	0.884	0.201	0.210
Education Index	iv) SCH_primary & U-primary	180.355	175.000	315.000	84.000	51.171
	v) Teacher student ratio	1.569	1.599	1.709	1.369	0.089
Female Literacy	vi) Female Literacy	60.419	60.200	77.100	51.200	6.421
Financial Inclusion	vii) % of hh availing banking services	61.634	62.850	84.330	38.910	10.291
Poverty	viii)% of BPL card Holders	22.357	21.283	36.105	16.314	4.668
Households Amenities	ix)% of HH with no sanitation facilities	52.343	52.930	72.643	26.136	11.534
	x)% of HH with Mobile service	41.660	39.750	63.950	27.120	9.413
	xi)% of HH with electricity as primary source of lighting	54.857	51.632	84.886	31.957	14.933
	xii)% Asset less HH	23.478	21.970	41.640	8.340	7.993
SC & ST population Index	xiii) % of SC Popn.	33.724	33.821	41.362	22.964	4.983
	xiv) % of ST Popn.	8.168	7.781	18.294	0.815	5.163
Curative Health	xv) Bed per 1000 population	0.379	0.261	1.748	0.097	0.358
	xvi)Doctors per 1000 Population	0.063	0.052	0.198	0.006	0.046
Preventive Health	xvii)Households having latrine facility within the premises	47.658	47.070	73.860	27.360	11.534
	xviii)% of HH with safe drinking water within premises	18.030	10.132	66.826	1.808	17.846
	xix) Households having separate Bathroom	29.591	27.278	55.842	17.081	8.479
Promotional Health	xx)Institutional Delivery	63.018	67.657	95.660	23.028	17.883
	xxi) 3ANC	83.466	83.064	95.241	67.363	5.947
	xxii) P.C. of Immunized Child					
Connectivity Index	xxiii)Total length of roads(KM.)	1.520	1.301	3.192	0.652	0.554
Urbanization	xxiv)Urbanization rate	16.538	3.740	83.495	0.000	25.409

Table 2b: Descriptive Statistics (Central tendency and Dispersion) of all sub-indices

Descriptive Statistics		
	Mean	Std. Deviation
Livelihood index	.49713	.059579
Edu_index	.44106	.155739
Health_index	.32313	.116551
Female Literacy index	.35597	.247855

index of Financial inclusion	.50029	.226615
index of poverty	.30532	.235942
index of urbanization	.19803	.304290
index of HH amenities	.46135	.100965
index of sc&st	.38345	.149508
connectivity index	.34194	.217935

Table 3: Backwardness Index and Rank of Blocks in Burdwan District, West Bengal

Sl No.	Blocks	Livelihood index	Education index	Health index	Female Literacy index	Financial inclusion index	Poverty index	Urbanization index	HH amenities index	SC & STpln index	connectivity index	Backwardness index	Rank of Backwardness
1	Andal	0.644	0.538	0.567	0.375	0.603	0.380	0.969	0.621	0.50	0.202	0.460	30
2	Ausgram-I	0.400	0.226	0.231	0.154	1.000	0.460	0.000	0.441	0.45	0.559	0.608	19
3	Ausgram-II	0.428	0.527	0.261	0.085	0.699	0.553	0.000	0.439	0.50	1.000	0.551	26
4	Barabani	0.540	0.209	0.413	0.004	0.249	0.865	0.453	0.580	0.72	0.185	0.578	22
5	Bhatar	0.470	0.547	0.314	0.263	0.394	0.251	0.000	0.429	0.34	0.161	0.683	10
6	Burdwan-I	0.513	0.432	0.24	0.421	0.351	0.263	0.222	0.480	0.37	0.090	0.661	11
7	Burdwan-II	0.521	0.654	0.331	0.344	0.545	0.150	0.050	0.436	0.29	0.189	0.649	13
8	F-Durgapur	0.527	0.171	0.329	0.259	0.258	0.179	0.316	0.522	0.35	0.716	0.637	15
9	Galsi-I	0.445	0.506	0.401	0.282	0.334	0.311	0.148	0.450	0.38	0.195	0.655	12
10	Galsi-II	0.452	0.439	0.22	0.185	0.594	0.197	0.000	0.474	0.34	0.272	0.683	9
11	Jamalpur	0.471	0.751	0.29	0.355	0.570	0.155	0.000	0.350	0.25	0.362	0.644	14
12	Jamuria	0.490	0.260	0.295	0.000	0.298	1.000	0.467	0.655	0.83	0.323	0.538	29
13	Kalna-I	0.475	0.470	0.313	0.456	0.417	0.049	0.120	0.378	0.21	0.232	0.688	6
14	Kalna-II	0.493	0.442	0.304	0.961	0.467	0.051	0.072	0.364	0.21	0.592	0.604	20
15	Kanksa	0.483	0.393	0.307	0.371	0.655	0.537	0.501	0.483	0.51	0.346	0.541	28
16	Katwa-I	0.510	0.263	0.255	0.205	0.480	0.264	0.045	0.439	0.35	0.346	0.684	7
17	Katwa-II	0.503	0.440	0.299	1.000	0.527	0.172	0.000	0.411	0.29	0.241	0.612	18
18	Ketugram-I	0.431	0.437	0.128	0.143	0.638	0.000	0.000	0.512	0.26	0.417	0.704	3
19	Ketugram-II	0.463	0.386	0.188	0.066	0.390	0.124	0.000	0.497	0.31	0.637	0.694	5
20	Khandoghosh	0.464	0.471	0.167	0.429	0.675	0.278	0.000	0.449	0.36	0.444	0.626	16
21	Mangalkote	0.439	0.486	0.202	0.355	0.433	0.251	0.000	0.426	0.34	0.230	0.684	8
22	Manteswar	0.469	0.623	0.327	0.834	0.649	0.274	0.000	0.498	0.39	0.252	0.569	24
23	Memari-I	0.517	0.525	0.389	0.347	0.000	0.190	0.024	0.380	0.29	0.256	0.709	2
24	Memari-II	0.465	0.570	0.431	0.351	0.627	0.224	0.000	0.448	0.34	0.424	0.612	17
25	Pandabeswar	0.598	0.296	0.323	0.162	0.555	0.299	1.000	0.651	0.48	0.000	0.564	25
26	Purbasthali-I	0.521	0.405	0.229	0.494	0.148	0.170	0.308	0.362	0.27	0.108	0.699	4
27	Purbasthali-II	0.485	0.581	0.308	0.243	0.108	0.205	0.000	0.210	0.21	0.245	0.741	1
28	Raina-I	0.462	0.615	0.336	0.598	0.621	0.230	0.052	0.331	0.28	0.651	0.582	21
29	Raina-II	0.473	0.648	0.39	0.625	0.981	0.229	0.000	0.390	0.31	0.249	0.570	23
30	Raniganj	0.634	0.170	0.591	0.189	0.452	0.292	0.939	0.660	0.48	0.108	0.549	27
31	Salanpur	0.625	0.192	0.638	0.479	0.791	0.862	0.453	0.536	0.70	0.568	0.416	31

Source: Authors Calculation

Table 4: Pair wise Correlation among different sub index

	Livelihood index	Education index	Health index	Female Literacy index	Financial inclusion index	poverty index	urbanization index	HH amenities index	SC & ST pln index	connectivity index
Livelihood index	1									
Education index	-0.379*	1								
Health index	0.737**	-0.157	1							
Female Literacy index	0.019	0.371*	0.094	1						
Financial inclusion index	-0.17	0.098	0.049	0.177	1					
Poverty index	0.248	-0.465**	0.371*	-0.362*	0.095	1				
Urbanization index	0.825**	-0.495**	0.576*	-0.229	-0.072	0.392*	1			
HH amenities index	0.531**	-0.593**	0.343	-0.395*	0.116	0.499**	0.741**	1		
SC&STpln index	0.376*	-0.566**	0.409*	-0.418*	0.114	0.956**	0.559**	0.731**	1	
connectivity index	-0.356*	-0.065	-0.152	-0.046	0.31	0.1	-0.348	-0.164	0.023	1

Note: ‘***’ and ‘*’ denote the level of significance at 1% and 5%, respectively.

Table 5: Block-wise Rank of Major indicators of Human Development Index in Burdwan District

Sl No.	Blocks	Livelihood index	Rank	Edu_index	Rank	Health index	Rank
1	Andal	0.644	1	0.461	22	0.567	3
2	Ausgram-I	0.400	31	0.299	25	0.231	25
3	Ausgram-II	0.428	30	0.607	10	0.261	22
4	Barabani	0.540	5	0.289	26	0.413	5
5	Bhatar	0.470	20	0.749	3	0.314	14
6	Burdwan-I	0.513	10	0.503	17	0.24	24
7	Burdwan-II	0.521	7	0.481	19	0.331	10
8	F-Durgapur	0.527	6	0.257	27	0.329	11
9	Galsi-I	0.445	27	0.565	13	0.401	6
10	Galsi-II	0.452	26	0.529	15	0.22	27
11	Jamalpur	0.471	19	0.857	1	0.29	21
12	Jamuria	0.490	14	0.215	28	0.295	20
13	Kalna-I	0.475	17	0.616	9	0.313	15
14	Kalna-II	0.493	13	0.546	14	0.304	18
15	Kanksa	0.483	16	0.495	18	0.307	17
16	Katwa-I	0.510	11	0.354	24	0.255	23
17	Katwa-II	0.503	12	0.469	20	0.299	19
18	Ketugram-I	0.431	29	0.462	21	0.128	31
19	Ketugram-II	0.463	24	0.444	23	0.188	29
20	Khandoghosh	0.464	23	0.571	12	0.167	30
21	Mangalkote	0.439	28	0.663	7	0.202	28
22	Manteswar	0.469	21	0.843	2	0.327	12
23	Memari-I	0.517	9	0.578	11	0.389	8
24	Memari-II	0.465	22	0.639	8	0.431	4
25	Pandabeswar	0.598	4	0.084	31	0.323	13
26	Purbasthali-I	0.521	8	0.518	16	0.229	26
27	Purbasthali-II	0.485	15	0.720	6	0.308	16
28	Raina-I	0.462	25	0.742	4	0.336	9
29	Raina-II	0.473	18	0.723	5	0.39	7
30	Raniganj	0.634	2	0.160	29	0.591	2
31	Salanpur	0.625	3	0.154	30	0.638	1

Note:

Table 6: Block-wise Rank of Urbanization, Amenities and Road Connectivity Index in Burdwan District

Sl No.	Blocks	index of urbanization		index of HH amenities		connectivity index	Rank
1	Andal	0.969	2	0.621	4	0.067	26
2	Ausgram-I	0.000	18	0.441	17	0.820	2
3	Ausgram-II	0.000	19	0.439	18	1.000	1
4	Barabani	0.453	6	0.580	5	0.053	28
5	Bhatar	0.000	20	0.429	21	0.446	8
6	Burdwan-I	0.222	10	0.480	12	0.025	29
7	Burdwan-II	0.050	15	0.436	20	0.127	25
8	F-Durgapur	0.316	8	0.522	7	0.586	6
9	Galsi-I	0.148	11	0.450	14	0.146	24
10	Galsi-II	0.000	21	0.474	13	0.252	17
11	Jamalpur	0.000	22	0.350	29	0.269	16
12	Jamuria	0.467	5	0.655	2	0.221	20
13	Kalna-I	0.120	12	0.378	26	0.165	22
14	Kalna-II	0.072	13	0.364	27	0.413	9
15	Kanksa	0.501	4	0.483	11	0.403	12
16	Katwa-I	0.045	16	0.439	19	0.316	14
17	Katwa-II	0.000	23	0.411	23	0.491	7
18	Ketugram-I	0.000	24	0.512	8	0.236	19
19	Ketugram-II	0.000	25	0.497	10	0.751	3
20	Khandoghosh	0.000	26	0.449	15	0.405	11
21	Mangalkote	0.000	27	0.426	22	0.163	23
22	Manteswar	0.000	28	0.498	9	0.406	10
23	Memari-I	0.024	17	0.380	25	0.321	13
24	Memari-II	0.000	29	0.448	16	0.634	4
25	Pandabeswar	1.000	1	0.651	3	0.015	30
26	Purbasthali-I	0.308	9	0.362	28	0.060	27
27	Purbasthali-II	0.000	30	0.210	31	0.237	18
28	Raina-I	0.052	14	0.331	30	0.587	5
29	Raina-II	0.000	31	0.390	24	0.189	21
30	Raniganj	0.939	3	0.660	1	0.000	31
31	Salanpur	0.453	7	0.536	6	0.310	15

Table 7: Block-wise Rank of Female Literacy, Financial Inclusion and Poverty Index in Burdwan District

Sl No.	Blocks	Female Literacy index	Rank	index of Financial inclusion	Rank	index of poverty	Rank
1	Andal	0.375	11	0.603	11	0.380	7
2	Ausgram-I	0.154	26	1.000	1	0.460	6
3	Ausgram-II	0.085	28	0.699	4	0.553	4
4	Barabani	0.004	30	0.249	28	0.865	2
5	Bhatar	0.263	19	0.394	22	0.251	16
6	Burdwan-I	0.421	10	0.351	24	0.263	14
7	Burdwan-II	0.344	17	0.545	15	0.150	27
8	F-Durgapur	0.259	20	0.258	27	0.179	23
9	Galsi-I	0.282	18	0.334	25	0.311	8
10	Galsi-II	0.185	24	0.594	12	0.197	21
11	Jamalpur	0.355	13	0.570	13	0.155	26
12	Jamuria	0.000	31	0.298	26	1.000	1
13	Kalna-I	0.456	8	0.417	21	0.049	30
14	Kalna-II	0.961	2	0.467	18	0.051	29
15	Kanksa	0.371	12	0.655	6	0.537	5
16	Katwa-I	0.205	22	0.480	17	0.264	13
17	Katwa-II	1.000	1	0.527	16	0.172	24
18	Ketugram-I	0.143	27	0.638	8	0.000	31
19	Ketugram-II	0.066	29	0.390	23	0.124	28
20	Khandoghosh	0.429	9	0.675	5	0.278	11
21	Mangalkote	0.355	14	0.433	20	0.251	15
22	Manteswar	0.834	3	0.649	7	0.274	12
23	Memari-I	0.347	16	0.000	31	0.190	22
24	Memari-II	0.351	15	0.627	9	0.224	19
25	Pandabeswar	0.162	25	0.555	14	0.299	9
26	Purbasthali-I	0.494	6	0.148	29	0.170	25
27	Purbasthali-II	0.243	21	0.108	30	0.205	20
28	Raina-I	0.598	5	0.621	10	0.230	17
29	Raina-II	0.625	4	0.981	2	0.229	18
30	Raniganj	0.189	23	0.452	19	0.292	10
31	Salanpur	0.479	7	0.791	3	0.862	3