(RESEARCH ARTICLE)

An appraisal of socio-economic disparity at block level in Bankura district of West Bengal, India

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Abstract

Regional disparities in socio-economic development have long been a source of concern for policymakers, economists, geographers, and others. It is a global phenomenon observed in both developing and developed nations. Regional disparity occurs due to uneven regional development, which fluctuates over time based on social, cultural, economic, and demographic factors. In the present paper, an attempt has been made to find out the spatial variation of socio-economic development at the block level in Bankura district of West Bengal. The current study used 27 indicators across six dimensions (i.e., education, health, agriculture, banking and finance, livestock, and basic amenities) to measure the degree of spatial disparity. To examine spatial variations, common statistical techniques such as mean, standard deviation, and composite development index have been used.

Keywords: Regional Disparity; Socio-Economic Development; Composite Development Index; Bankura District

1. Introduction

Socio-economic development is a comprehensive process aimed at enhancing the social and economic conditions of a region to improve the quality of life of its inhabitants [1]. Regional disparity, on the other hand, refers to the differences in living standards among different units within a certain region. This disparity exists in both developed and developing economies, though the impact on developing nations is more significant and pronounced [2]. The causes of uneven development are multifaceted, but the consequences are evident and have the potential to erode societal stability. The differences in spatial distribution and accessibility of resources, subjective and objective quality of life, power sharing in the economy, social and political decisions, uncontrolled uneven development, etc. can increase the risk of poverty [3]. The capitalist economy is also responsible for the increase in regional inequality because the free functioning of the market system reinforces regional imbalances, causing rich regions to become richer and poor regions to become poorer [4]. Additionally, it has been observed that basic life opportunities are also unevenly distributed [5]. It has also been seen that those who are socially excluded are economically marginalized, and economically marginalized people are socially excluded, which increases the regional imbalance [6]. To check the imbalance of different areas, regional policies and planning are crucial for overall development and have varying impacts on different areas [7]. Equity enhances opportunities for underdeveloped segments of society, reduces poverty, and promotes sustainable economic development [8]. Development programmes in India have been carried out in a planned manner through various Five-Year Plans with the primary aim of attaining a higher standard of living for the general population by providing the basic necessities of life and improving their social and economic well-being. A significant objective of India's development programmes is to promote balanced regional development. To achieve this goal, economic planning in the country traditionally focuses on providing special support to disadvantaged areas [9]. But unfortunately, the results of most plans have been terminated due to partial fulfilment of their targets. Regional disparities in India have been widening day by day [10]. An unchecked and uncontrolled growth process leads to these regional disparities [11]. The initiation of decentralization of national planning began during the Fourth Five-Year Plan (1969-74) with the

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introduction of the district-level plan. Further, the district-level plan was decentralized at the block level during the Sixth Five-Year Plan (1980-85). Removing regional imbalances in development has remained the avowed goal of planning in India [12]. Although resource transfers are being executed in underdeveloped regions through various instruments such as subsidies and grants via a series of programmes such as the Backward Regions Grant Fund (BRGF), Border Area Development Programme (BADP), Hill Area Development Programme (HADP), the Integrated Action Plan (IAP) for Left Wing Extremism (LWE)-affected districts, Bharat Nirman, Sarva Shiksha Abhiyan, and National Rural Health Mission, there is ample evidence that regional disparities within the country in terms of socio-economic development are not reducing over time, which creates socio-economic exclusion for the economically marginalized [6; 13; 14].

In case of Bankura district, socio-economic disparity is a major challenge. The district is characterized by a significant rural population with a high dependence on agriculture for their livelihoods. While Bankura has seen some progress in recent years, with improvements in infrastructure and access to basic services, there are still significant socio-economic disparities at the block level that require further attention and intervention. In this context, this paper aims to provide an appraisal of the socio-economic disparity at the block level in Bankura district. The paper will identify the factors that contribute to these disparities and their impact on the local population. The paper will also highlight the consequences of these disparities on the well-being of the population, including health outcomes, educational attainment, and economic development. Ultimately, the paper seeks to contribute to a better understanding of the root causes of socio-economic disparities and provide insights into how these disparities can be effectively addressed to promote social and economic equity in the region.

1.1. The Study Area: Location and Accessibility

Bankura, West Bengal's fourth-largest district, is located in the state's western region and has been commonly known as 'Rarh' since time immemorial. Geographically, it is situated between 22º38′ N to 23º38′ N latitudes and 86º36′ E to 87º46′ E longitudes. It is flanked to the east by Purba Barddhaman and Hugli districts, to the west by Purulia; to the north by District Paschim Barddhaman; and to the south by Paschim Medinipur and Jhargram. It stretches 112 km north to south and 120 km east to west. The district bridges the Chota Nagpur plateau in the west and the Bengal plains in the east. This district has a total area of 6,882 sq. km., of which 1477 sq. km. is covered by forest, while 1769.15 and 1506.11 sq. km. are high and medium land, respectively. The major rivers of the district are the Damodar, Darkeshwar, and Kangsabati, along with their tributaries such as Gandeshwari, Silai, Kumari, etc., which deserve separate mention. The eastern and north-eastern parts of the district are low-lying alluvial plains, and the elevation gradually increases towards the west. The major part of the district consists of an upland surface covered with laterite and alluvium. The Gondwana tract can be traced in the northern part of the district, south of the Damodar, between Mejia and Biharinath Hills. The district has moderate deposits of coal and china clay [15; 17].

The total population of the district is 31, 92, 695, out of which main workers and marginal workers constitute 44.71 percent. The district's agro-climatic condition is favourable for plantation and horticultural crops. The climate is very suited to animal resource development and seed production. There are 15 colleges, 491 secondary schools, 3462 primary schools, 16 Madhyamik Siksha Kendras, 451 Sishu Siksha Kendras, two engineering colleges, and three polytechnics in the district. Besides, there is a Krishi Vigyan Kendra in Sonamukhi, a Horticultural Research and Development Centre in Taldangra, a Rice Research Centre in Bankura, and a Dry Land Farming Research Centre in Susunia. The South Eastern Railway connects Bankura to Kolkata. An abandoned BDR railway has also been upgraded to broad gauge. In addition, Bankura is well connected with Durgapur and the Raniganj-Asansol industrial belt by road; the NH-60, NH-2, and NH-6 are some of the significant roads in the district [16; 17].

Objectives of the Study

The objectives of the present study are:

- To investigate the regional disparities with respect to socio-economic development.
- To categorize different blocks in terms of various levels of development.
- To suggest proposals to reduce the socio-economic disparity at the block level.
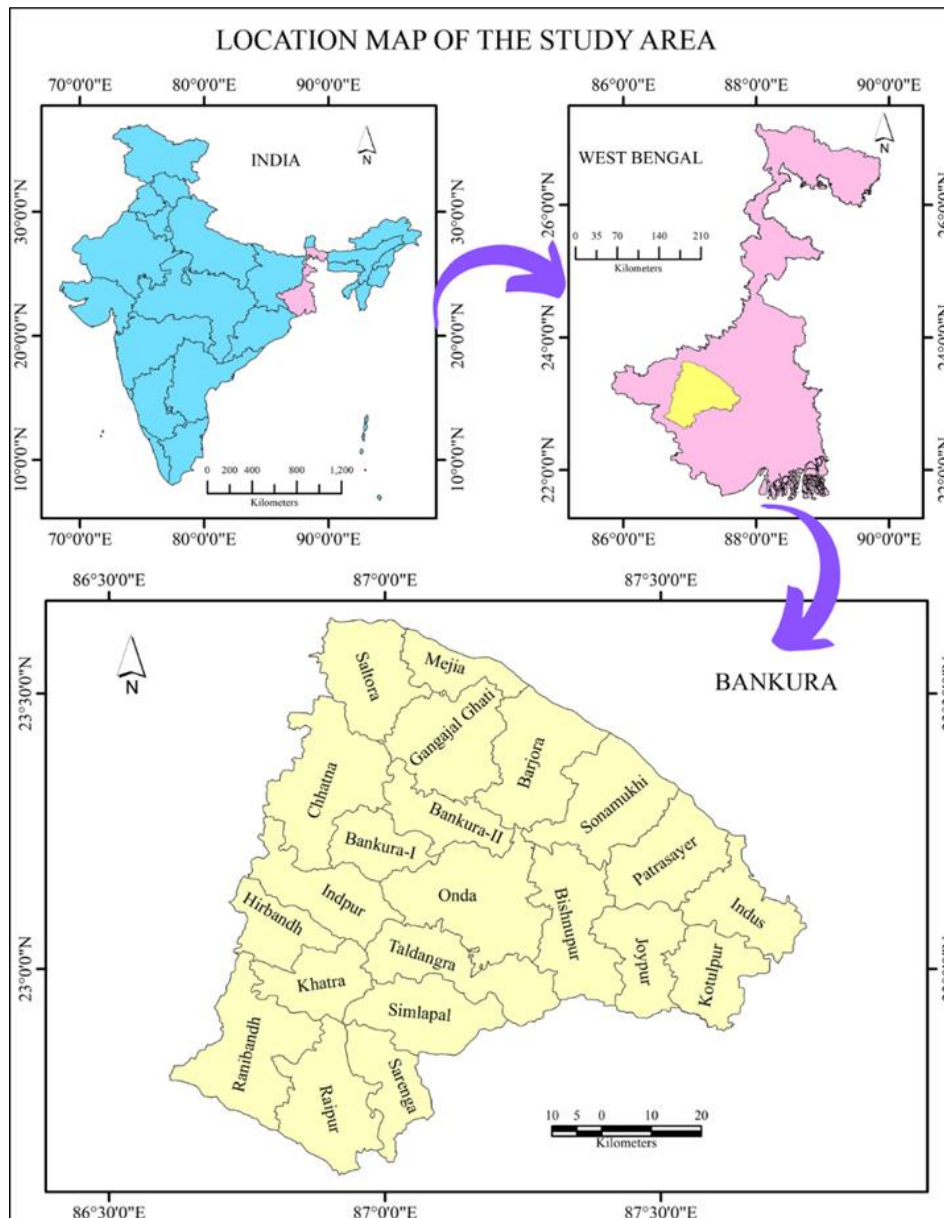
Figure 1 Location map of the study area

2. Material and methods

For the selection of dimensions and indicators of socio-economic development, emphasis has been given to the availability and accessibility of data sources. A total of 27 indicators have been considered under six dimensions of socio-economic development. The dimensions and indicators that have been used to investigate geographical disparities in socio-economic development are stated below:

2.1. Education

- Total literacy rate (A1)
- Literacy among rural females (A2)
- No. of primary schools per 10,000 population (A3)
- No. of high and HS schools per 10,000 population (A4)
- No. of special and non-formal schools per 10,000 population (A5)
- No. of teachers per 1000 of students in primary schools (A6)
- No. of teachers per 1000 of students in high and HS schools (A7)

2.2. Health

- No. of primary health centre per 1,00,000 population (B1)
- No. of beds per 1,00,000 population (B2)
- No. of doctors per 1,00,000 population (B3)
- No. of family welfare centre per 1,00,000 population (B4)
- No. of Nourished children per 1000 children (B5)
- Lavatory facility as % to total no. of household (B6)

2.3. Agriculture

- Net sown area as % to total area (C1)
- Area under more than one crop as % to net sown area (C2)
- Net area under effective pisciculture as % to total area (C3)
- Irrigated area as % to total area (C4)
- Rice production per head in kg (C5)

2.4. Livestock

- No. of ADAC per 1,00,000 livestock animals (D1)
- No. of veterinary personnel per 1,00,000 livestock animals (D2)

2.5. Banking and Finance

- No. of banks per 1,00,000 population (E1)
- No. of co-operative societies per 1,00,000 population (E2)

2.6. Elementary Amenities and Facilities

- No. of cinema houses per 1,00,000 population (F1)
- No. of public library per 1,00,000 population (F2)
- Percentage of mouzas having drinking water facilities (F3)
- Percentage of electrified mouzas (F4)
- Road density in km/sq. km (F5)

The data are analyzed and presented with the help of cartographic techniques using mean, standard deviation, Dimension Index (DI), and Composite Development Index (CDI). Initially, the DI value of each indicator under each dimension of each block was computed. After that, the mean DI of each dimension was determined. The value of DI ranges from 0 to 1, where 0 and 1 indicate the lowest and highest degree of development, respectively. Then the Composite Development Index (CDI) of the entire block was determined by adding the mean DI values of each dimension. The CDI basically reveals the geographical disparity of socio-economic development of the entire district at block level. The following formula has been used to determine the development indices:

$$\text{Development Index } (DI_{ji}) = \frac{X_{ij} - Min_i}{Max_i - Min_i}$$

Where,
DI_{ji}= Development Index of ith variable at jth unit of study.
X_{ij}= Absolute value of the ith variable at jth unit of study.
Min_i= Minimum value of ith variable.
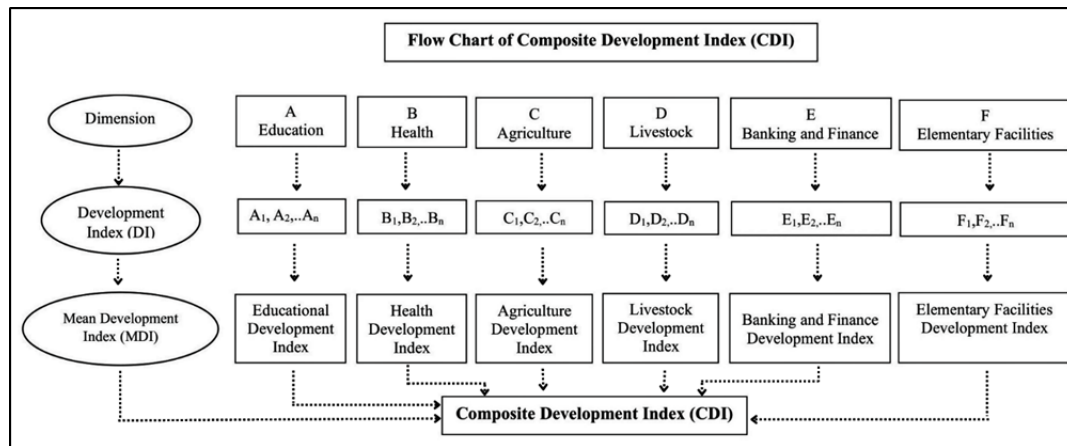Max_i= Maximum value of ith variable.

Figure 2 Flow chart of Composite Development Index

3. Results and discussion

3.1. Disparity of different socio-economic dimensions at block level in Bankura district

3.1.1. Education

Table 1 Computed value of educational indicators showing the disparity in education

SL. No.	C.D. Blocks	A_1	A_2	A_3	A_4	A_5	A_6	A_7	Average
1	Bankura-I	0.44	0.43	0.42	1.00	0.37	0.57	0.35	0.51
2	Bankura-II	0.73	0.69	0.23	0.22	0.28	0.32	0.43	0.41
3	Chhatna	0.25	0.20	0.84	0.00	0.54	0.72	0.51	0.43
4	Saltora	0.00	0.00	0.21	0.07	0.61	0.00	0.37	0.18
5	Mejia	0.32	0.3	0.16	0.12	0.27	0.21	0.11	0.21
6	Gangajalghati	0.40	0.33	0.25	0.22	0.32	0.56	0.34	0.35
7	Barjora	0.61	0.52	0.32	0.18	0.26	1.00	0.25	0.45
8	Onda	0.26	0.33	0.37	0.07	0.30	0.36	0.10	0.26
9	Indpur	0.36	0.26	0.54	0.51	0.35	0.68	1.00	0.53
10	Khatra	0.64	0.43	0.41	0.30	0.61	0.73	0.73	0.55
11	Hirbandh	0.16	0.06	0.63	0.47	0.00	0.49	0.23	0.30
12	Ranibandh	0.42	0.33	1.00	0.36	1.00	0.48	0.15	0.53
13	Taldangra	0.56	0.58	0.69	0.60	0.37	0.78	0.11	0.53
14	Simlapal	0.42	0.43	0.77	0.39	0.37	0.75	0.00	0.45
15	Raipur	0.59	0.48	0.68	0.60	0.99	0.32	0.34	0.57
16	Sarenga	0.77	0.69	0.53	0.42	0.05	0.42	0.37	0.46
17	Bishnupur	0.29	0.37	0.32	0.10	0.27	0.58	0.31	0.32
18	Joypur	0.79	0.79	0.44	0.34	0.37	0.87	0.33	0.56
19	Kotulpur	1.00	1.00	0.13	0.31	0.33	0.81	0.39	0.57
20	Sonamukhi	0.28	0.37	0.35	0.04	0.43	0.62	0.41	0.36
21	Patrasayer	0.20	0.34	0.00	0.11	0.37	0.37	0.10	0.21
22	Indus	0.62	0.72	0.13	0.24	0.35	0.47	0.33	0.41
$\bar{x}$ = 0.41 σ = 0.13									

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].
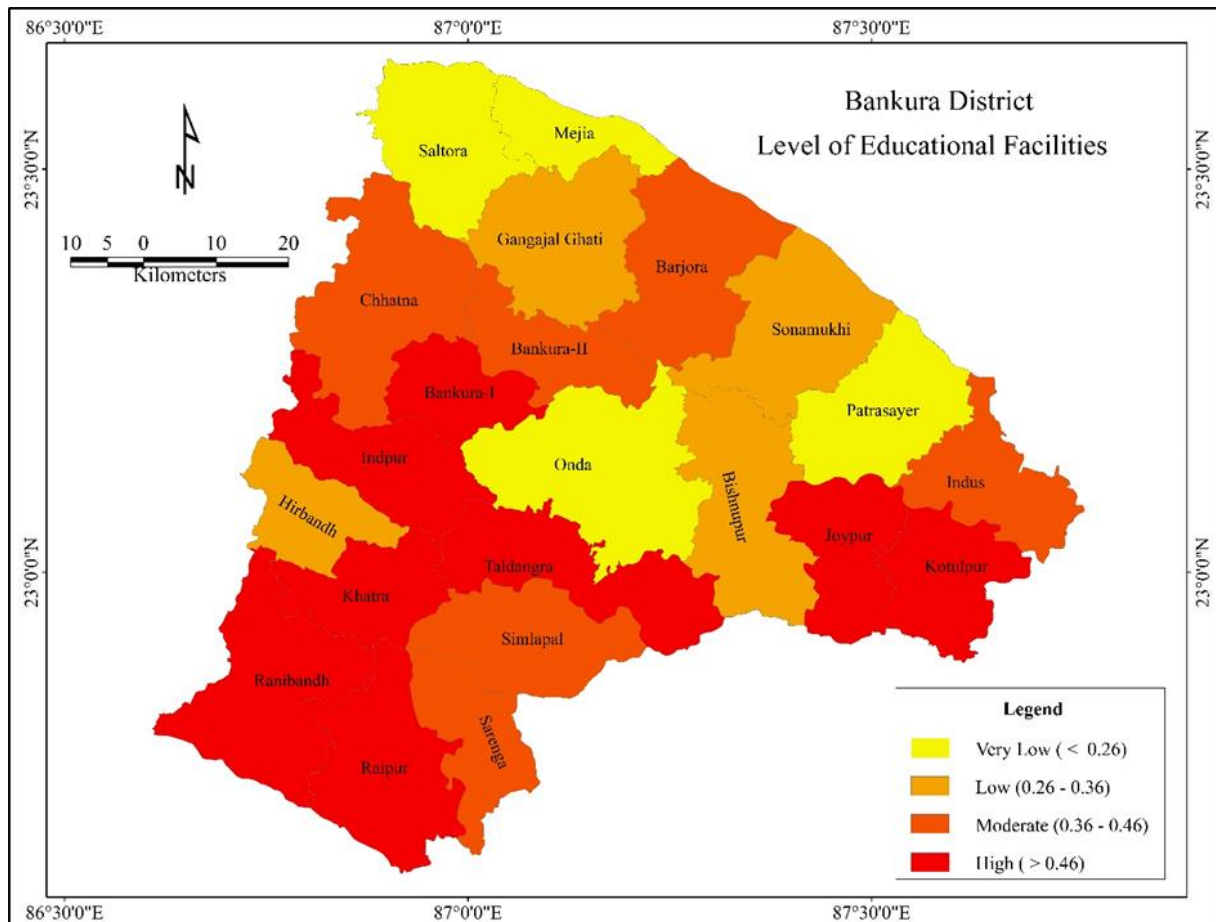
Figure 3 Educational disparity at block level in Bankura district

Education is one of the most potent tools for human development; a good education is an engine for income equality, poverty reduction, increased opportunity for all, social integration, and supporting democratic societies [18]. Table 1 and its corresponding figure (please see Figure 3) reveal the existing status of education in the district. In terms of education, the highly developed blocks (>0.46) are Bankura-I, Indpur, Khatra, Ranibandh, Taldangra, Raipur, Joypur, and Kotulpur. Bankura-II, Chhatna, Barjora, Simlapal, Sarenga, and Indus are moderately developed blocks (0.36-0.46). Low-developed blocks (0.26–0.36) are Gangajalghati, Hirbandh, Bishnupur, and Sonamukhi, and the very low-developed blocks (<0.26) are Patrasayer, Onda, Mejia, and Saltora.

3.1.2. Health

Improved healthcare access and outcomes can reduce poverty and inequality [19]. Health equity is linked to economic growth, various studies reveal that investing in health is critical for economic growth, and that health equity is an important factor in achieving economic growth (20). Healthcare is a fundamental human right, and access to healthcare should be universal. Table 2 and the accompanying figure (refer to Figure 4) illustrate the medical and healthcare facilities. If we look at the table and figure, it can be seen that the most developed blocks in the district (>0.34) are Bankura-I, Hirbandh, Ranibandh, Mejia, and Kotulpur. Indus, Khatra, and Taldangra are moderately developed blocks (0.26-0.34). The least-developed blocks (0.19-0.26) are Saltora, Sonamukhi, Joypur, Indpur, Simlapal, and Sarenga, while the very least-developed blocks include Patrasayer, Onda, Raipur, Bankura-II, Chhatna, Barjora, Gangajalghati, and Bishnupur (< 0.19).

Table 2 Computed value of health indicators showing the disparity in health status

Sl. No.	C.D. Blocks	B1	B2	B3	B4	B5	B6	Average
1	Bankura-I	0.40	0.66	0.14	1.00	0.00	0.43	0.44
2	Bankura-II	0.22	0.39	0.07	0.07	0.15	0.24	0.19
3	Chhatna	0.47	0.14	0.08	0.01	0.22	0.09	0.17
4	Saltora	0.53	0.42	0.13	0.03	0.13	0.11	0.23
5	Mejia	0.58	0.95	0.20	0.04	0.57	0.14	0.41
6	Gangajalghati	0.32	0.19	0.12	0.03	0.22	0.12	0.17
7	Barjora	0.44	0.12	0.07	0.01	0.20	0.04	0.15
8	Onda	0.44	0.00	0.14	0.00	0.15	0.04	0.13
9	Indpur	0.42	0.30	0.05	0.02	0.18	0.35	0.22
10	Khatra	0.00	0.57	1.00	0.14	0.20	0.15	0.34
11	Hirbandh	0.61	1.00	0.28	0.05	1.00	0.11	0.51
12	Ranibandh	1.00	0.55	0.25	0.08	0.26	0.28	0.40
13	Taldangra	0.73	0.35	0.30	0.04	0.47	0.03	0.32
14	Simlapal	0.49	0.38	0.19	0.02	0.35	0.04	0.25
15	Raipur	0.35	0.23	0.20	0.02	0.18	0.00	0.16
16	Sarenga	0.03	0.67	0.19	0.28	0.31	0.04	0.25
17	Bishnupur	0.42	0.30	0.02	0.01	0.14	0.17	0.18
18	Joypur	0.67	0.30	0.05	0.01	0.25	0.28	0.26
19	Kotulpur	0.92	0.16	0.14	0.07	0.24	1.00	0.42
20	Sonamukhi	0.66	0.29	0.05	0.03	0.16	0.16	0.22
21	Patrasayer	0.30	0.18	0.00	0.00	0.13	0.00	0.10
22	Indus	0.36	0.24	0.08	0.01	0.22	0.98	0.32
$\bar{x}$ = 0.26 σ = 0.11								

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].
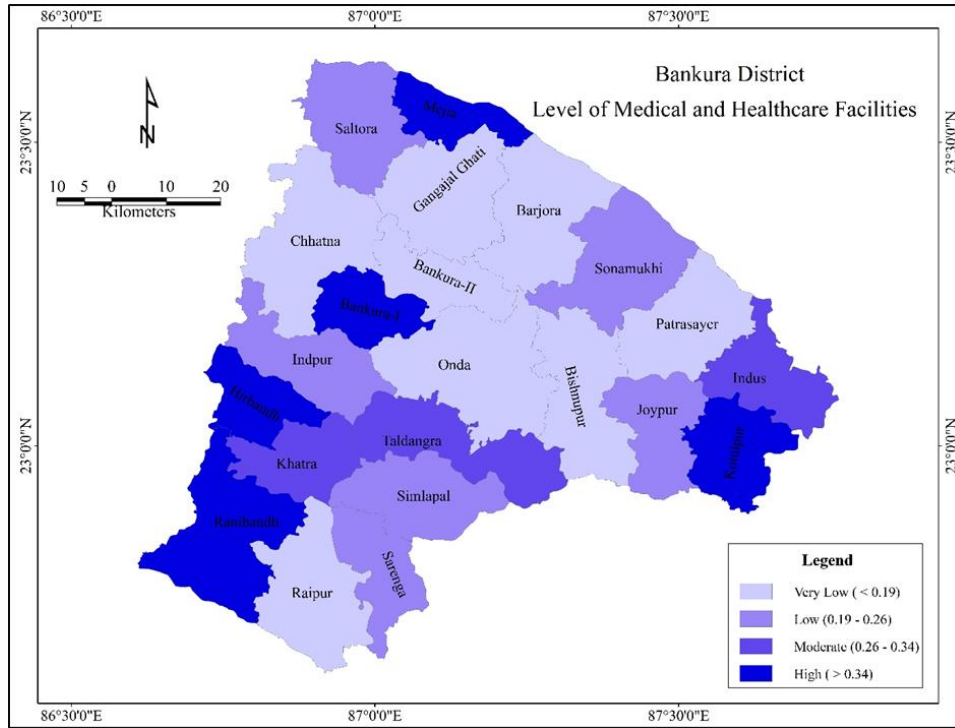
Figure 4 Disparity in health status at block level in Bankura district
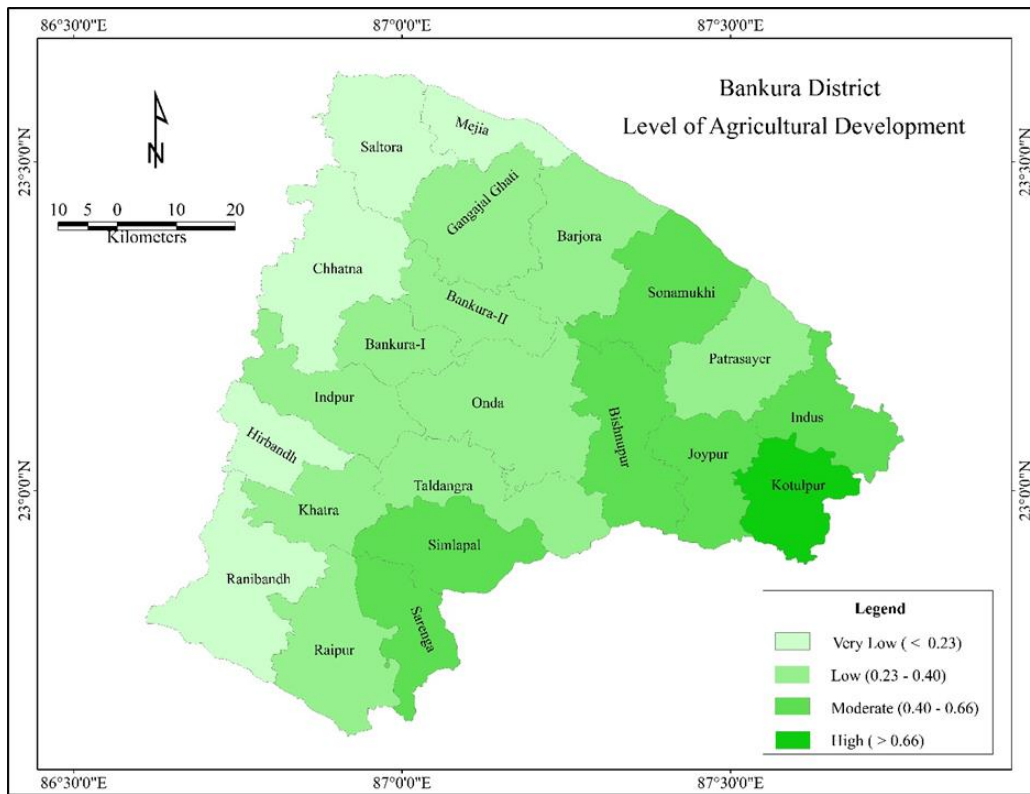
3.1.3. Agriculture

Figure 5 Disparity in agricultural development at block level in Bankura district

Table 3 Computed value of different agricultural indicators showing the disparity in agricultural development

Sl. No.	C.D. Blocks	C_1	C_2	C_3	C_4	C_5	Average
1	Bankura-I	0.66	0.19	0.71	0.10	0.22	0.38
2	Bankura-II	0.37	0.30	0.52	0.13	0.69	0.40
3	Chhatna	0.50	0.09	0.51	0.00	0.01	0.22
4	Saltora	0.49	0.02	0.18	0.06	0.01	0.15
5	Mejia	0.42	0.00	0.25	0.15	0.01	0.17
6	Gangajalghati	0.61	0.02	0.58	0.18	0.01	0.28
7	Barjora	0.39	0.28	0.30	0.19	0.29	0.29
8	Onda	0.46	0.24	0.57	0.41	0.29	0.39
9	Indpur	0.48	0.13	0.55	0.19	0.00	0.27
10	Khatra	0.27	0.38	0.08	0.37	0.20	0.26
11	Hirbandh	0.55	0.24	0.04	0.14	0.22	0.24
12	Ranibandh	0.09	0.18	0.00	0.04	0.38	0.14
13	Taldangra	0.31	0.67	0.00	0.56	0.04	0.32
14	Simlapal	0.11	0.64	0.28	0.73	0.73	0.49
15	Raipur	0.00	0.56	0.11	0.59	0.25	0.30
16	Sarenga	0.54	0.95	0.03	0.82	1.00	0.66
17	Bishnupur	0.27	0.64	0.21	0.65	0.68	0.49
18	Joypur	0.45	0.72	0.19	0.91	0.32	0.52
19	Kotulpur	0.81	1.00	1.00	0.97	0.78	0.91
20	Sonamukhi	0.30	0.74	0.27	0.67	0.50	0.49
21	Patrasayer	0.40	0.29	0.19	0.65	0.13	0.33
22	Indus	1.00	0.57	0.19	1.00	0.10	0.57
$\bar{x}$ = 0.38 σ = 0.18							

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].

Agriculture is a major contributor to economic growth in India. The sector is an important source of employment, providing jobs for about 40% of the global workforce [21]. Agricultural growth can reduce poverty twice as much as non-agricultural growth [22]. Besides, improving agricultural productivity can contribute to reducing hunger and malnutrition [23]. A study by the International Fund for Agricultural Development (IFAD) found that gender-sensitive agricultural development can significantly improve the livelihoods of rural women [24]. The status of agricultural development in Bankura district is illustrated in Table 3 and Figure 5. It shows that the Kotulpur block (0.91) has the highest level of development. Besides, Simlapal, Sarenga, Bishnupur, Joypur, and Indus blocks experienced a moderate (0.40-0.66) degree of development. The blocks like Bankura-I, Bankura-II, Gangajalghati, Barjora, Onda, Indpur, Khatra, Hirbandh, Taldangra, Raipur, and Patrasayer have the lowest level of development (0.23-0.40). The extremely least developed (<0.23) blocks in the district are Chhatna, Saltora, and Mejia.

3.1.4. Livestock

Table 4 Computed value of indicators of livestock showing the disparity in livestock status

Sl. No.	C.D. Blocks	D_1	D_2	Average
1	Bankura-I	0.00	0.08	0.04
2	Bankura-II	0.56	0.65	0.60
3	Chhatna	0.17	0.06	0.12
4	Saltora	1.00	0.90	0.95
5	Mejia	0.79	0.70	0.75
6	Gangajalghati	0.13	0.00	0.07
7	Barjora	0.42	0.30	0.36
8	Onda	0.37	0.38	0.38
9	Indpur	0.30	0.43	0.37
10	Khatra	0.67	0.91	0.79
11	Hirbandh	0.67	0.80	0.74
12	Ranibandh	0.24	0.46	0.35
13	Taldangra	0.12	0.12	0.12
14	Simlapal	0.57	0.57	0.57
15	Raipur	0.59	0.56	0.58
16	Sarenga	0.78	1.00	0.89
17	Bishnupur	0.48	0.48	0.48
18	Joypur	0.62	0.88	0.75
19	Kotulpur	0.24	0.37	0.31
20	Sonamukhi	0.48	0.29	0.38
21	Patrasayer	0.08	0.10	0.09
22	Indus	0.31	0.17	0.24
$\bar{x} = 0.45 \quad \sigma = 0.27$				

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].

Livestock is an alternative source of income; it accounts for around 40% of the global value of agricultural output and provides livelihoods for almost 1.3 billion people worldwide [25]. livestock production has significant positive impacts on socio-economic development. It provides livelihoods, reduces poverty, improves food security and nutrition, enhances resilience to climate change, and promotes gender equality and women's empowerment. In case of Bankura district, we can see that all the blocks are well developed in livestock except Bankura-I. However, under various degrees of development, the highly developed (>0.60) blocks are Saltora, Mejia, Khatra, Hirbandh, Sarenga, and Joypur. Moderately developed blocks (0.38-0.60) are Bankura-II, Simlapal, Raipur, and Bishnupur. Low Developed (0.12-0.38) blocks are Barjora, Onda, Indpur, Ranibandh, Kotulpur, Sonamukhi and Indus. Chhatna, Gangajalghati, Taldangra and Patrasayer blocks fall under the category of very low-developed (<0.12) blocks.
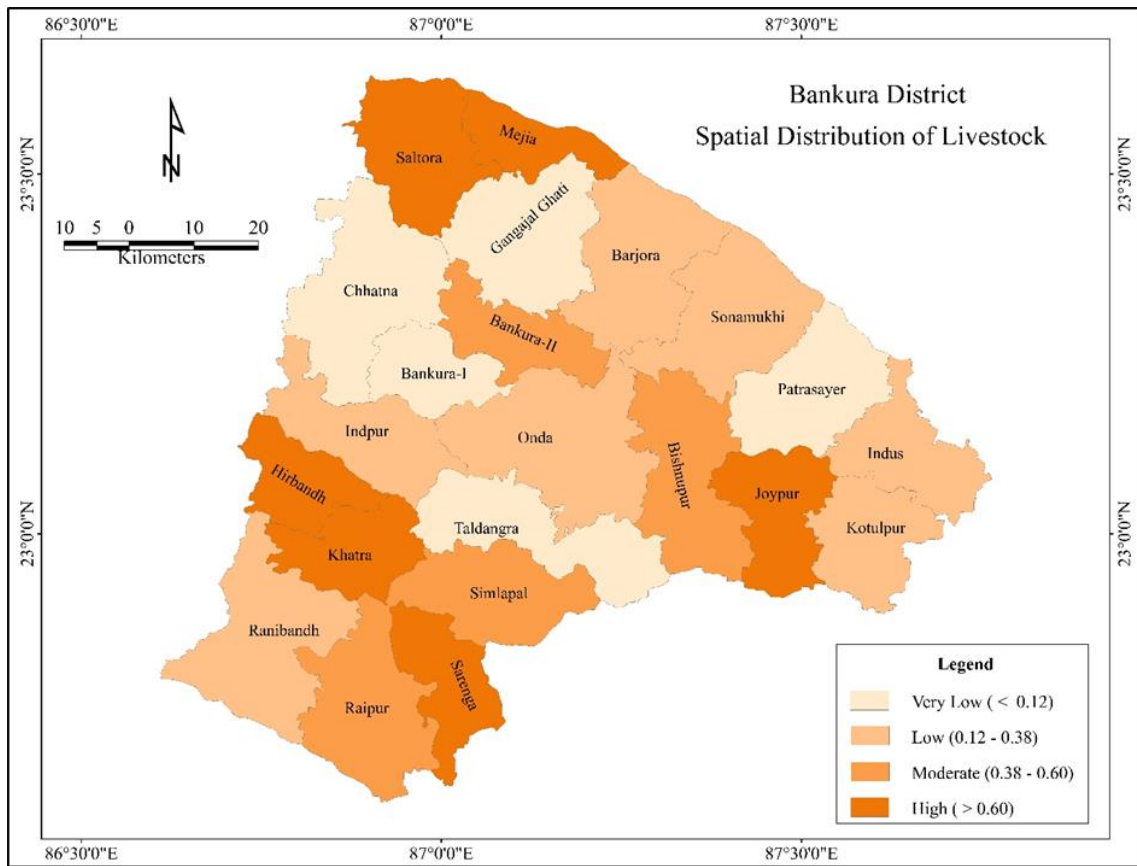
Figure 6 Disparity in livestock status at block level in Bankura district

3.1.5. Banking and Finance

Table 5 Computed value of different indicators of Banking and finance showing the disparity in Banking and financial service

Sl. No.	C.D. Blocks	E_1	E_2	Average
1	Bankura-I	0.87	0.77	0.82
2	Bankura-II	0.65	0.48	0.57
3	Chhatna	0.64	0.46	0.55
4	Saltora	0.52	0.08	0.30
5	Mejia	0.38	0.00	0.19
6	Gangajalghati	0.47	0.34	0.41
7	Barjora	0.98	0.54	0.76
8	Onda	0.31	0.32	0.32
9	Indpur	0.34	0.64	0.49
10	Khatra	0.95	0.77	0.86
11	Hirbandh	0.42	0.44	0.43
12	Ranibandh	0.27	0.36	0.32
13	Taldangra	0.23	0.49	0.36
14	Simlapal	1.00	0.36	0.68

15	Raipur	0.54	0.62	0.58
16	Sarenga	0.64	1.00	0.82
17	Bishnupur	0.50	0.16	0.33
18	Joypur	0.34	0.18	0.26
19	Kotulpur	0.67	0.18	0.43
20	Sonamukhi	0.00	0.35	0.18
21	Patrasayer	0.45	0.25	0.35
22	Indus	0.26	0.26	0.26
$\bar{x}$ = 0.46 σ = 0.21				

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].
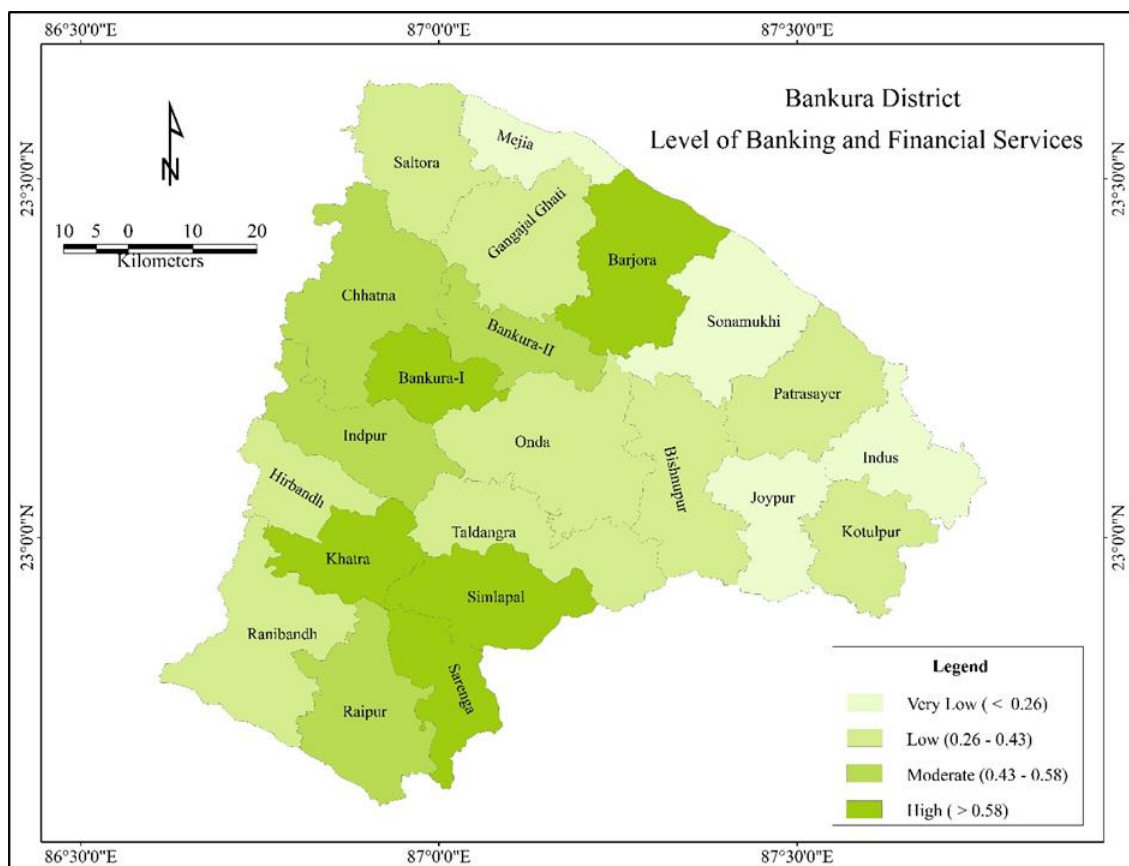

Figure 7 Disparity in Banking and Financial services at block level in Bankura district

Banking and Finance play a vital role in promoting socio-economic development. By mobilizing savings, providing access to credit, managing financial risk, facilitating trade, and promoting financial inclusion, financial institutions can help to promote economic growth, reduce poverty, and increase access to financial services for underserved populations [26;27;28;29;30]. Bankura-1, Barjora, Khatra, Simlapal, and Sarenga are the most prosperous (0.58) blocks in this district with respect to banking and financial services. Medium-developed (0.43-0.58) blocks are Bankura-II, Chhatna, Indpur, and Raipur. These kinds of facilities are less frequently observed (0.26–0.43) in the blocks of Saltora, Gangajalghati, Onda, Hirbandh, Ranibandh, Taldangra, Bishnupur, Kotulpur, and Patrasayer. The most backward blocks in this district are (< 0.26) Mejia, Joypur, Sonamukhi, and Indus.

3.1.6. Elementary Amenities and Facilities

Table 6 Computed value of elementary amenities and facilities showing the disparity in elementary amenities and facilities

Sl. No.	C.D. Blocks	F₁	F₂	F₃	F₄	F₅	Average
1	Bankura-I	0.00	0.60	0.12	0.94	1.00	0.53
2	Bankura-II	0.34	0.27	1.00	0.48	0.30	0.47
3	Chhatna	0.25	0.28	0.96	0.72	0.16	0.47
4	Saltora	0.00	0.53	0.51	0.43	0.16	0.32
5	Mejia	0.00	0.95	1.00	0.73	0.38	0.61
6	Gangajalghati	0.27	0.03	0.86	0.52	0.22	0.38
7	Barjora	0.48	0.24	0.28	0.37	0.11	0.29
8	Onda	0.19	0.03	0.36	0.37	0.08	0.20
9	Indpur	0.00	0.16	0.35	0.00	0.44	0.19
10	Khatra	0.42	0.40	1.00	0.68	0.80	0.72
11	Hirbandh	0.00	1.00	1.00	0.72	0.47	0.63
12	Ranibandh	0.41	0.46	0.00	0.21	0.39	0.29
13	Taldangra	1.00	0.42	1.00	0.86	0.47	0.75
14	Simlapal	0.34	0.14	1.00	0.49	0.00	0.39
15	Raipur	0.57	0.25	1.00	0.70	0.52	0.60
16	Sarenga	0.46	0.61	0.14	0.22	0.36	0.35
17	Bishnupur	0.62	0.35	1.00	0.38	0.39	0.54
18	Joypur	0.94	0.35	0.92	1.00	0.39	0.72
19	Kotulpur	0.78	0.00	1.00	0.90	0.55	0.64
20	Sonamukhi	0.00	0.34	0.41	0.60	0.13	0.29
21	Patrasayer	0.80	0.34	1.00	0.51	0.39	0.60
22	Indus	0.58	0.08	0.83	0.99	0.36	0.56
$\bar{x}$ = 0.48 σ = 0.17							

Source: Author's computation based on District Statistical Handbook (Bankura), 2014 [3].

Access to elementary amenities and facilities can improve socio-economic development, particularly in the areas of education, healthcare, and infrastructure. These investments can lead to improved outcomes in terms of economic growth, poverty reduction, and human development. Access to basic amenities such as clean water, sanitation, and electricity can have a significant impact on school attendance, retention, and academic performance. A study conducted in Ghana found that improved water and sanitation facilities in schools led to a 25% increase in attendance and a 30% decrease in absenteeism among female students [31]. Similarly, a study in India found that access to electricity in schools improved academic performance and reduced drop-out rates [32]. Infrastructure, including roads, electricity, and telecommunications, is also crucial for socio-economic development. Improved infrastructure can help to attract businesses and investments, reduce transportation costs, and increase access to markets and services. For instance, a study conducted in Sub-Saharan Africa found that improving rural roads can increase agricultural productivity by up to 60% [33]. The average value comprising all indicators related to basic amenities and facilities (Please see Table 8) shows the uneven distribution of basic amenities and facilities in different blocks. Khatra, Taldangra and Joypur blocks are advanced in terms of getting various basic amenities. The medium-developed blocks are Bankura-I, Mejia, Hirbandh, Raipur, Bishnupur, Kotulpur, Patrasayer, and Indus, with average development index values between 0.47-0.64. Blocks that received relatively less service (0.32-0.47) are Bankura-II, Chhatna, Gangajalghati, Simlapal, and Sarenga. But the

most underdeveloped (<0.32) blocks in terms of accessibility of elementary facilities are Barjora, Sonamukhi, Onda, Indpur, Saltora, and Ranibandh.
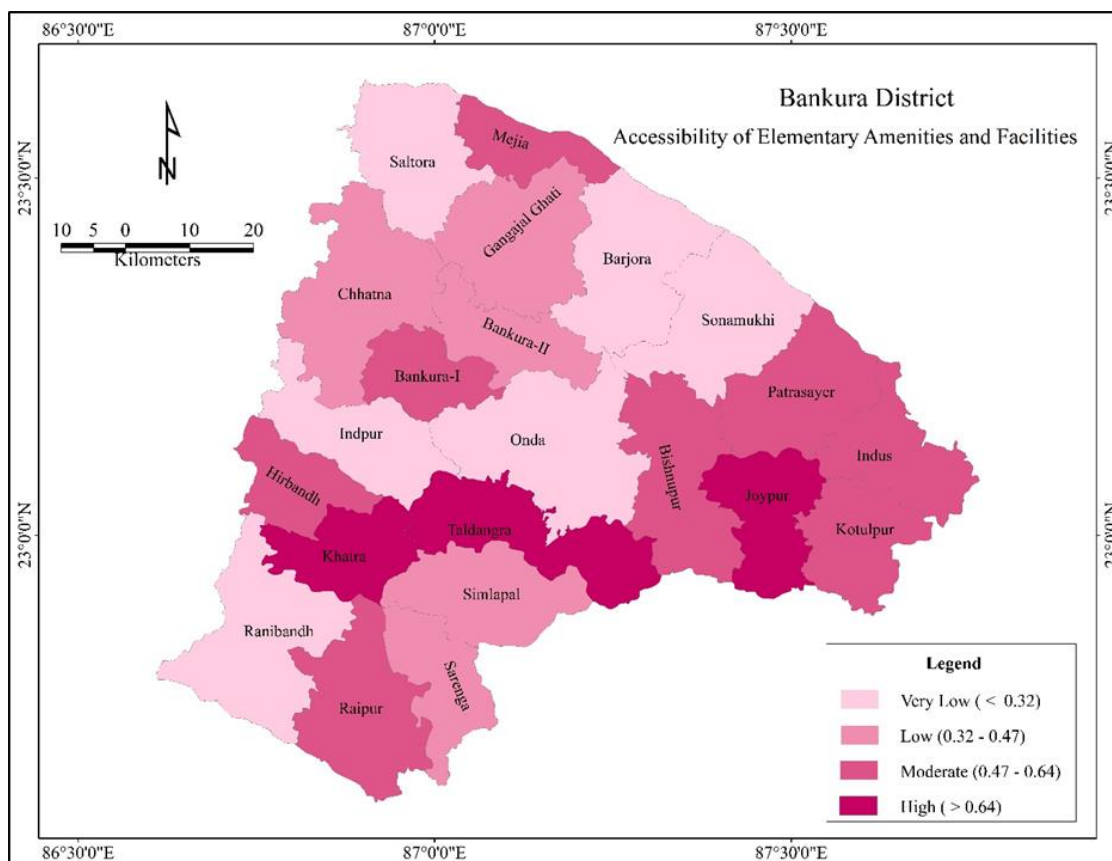

Figure 8 Disparity in Elementary Amenities and Facilities at block level in Bankura district

3.2. Disparity in socio-economic development at block level in Bankura district

Table 7 Composite Development Index of Bankura district

Sl. No.	C.D. Blocks	Education	Health	Agriculture	Livestock	Banking & Finance	Elementary Amenities & Facilities	CDI
1	Bankura-I	0.51	0.44	0.37	0.04	0.82	0.53	0.45
2	Bankura-II	0.41	0.19	0.40	0.60	0.56	0.47	0.44
3	Chhatna	0.43	0.17	0.22	0.11	0.55	0.47	0.32
4	Saltora	0.18	0.23	0.15	0.95	0.30	0.32	0.35
5	Mejia	0.21	0.41	0.16	0.74	0.19	0.61	0.38
6	Gangajalghati	0.35	0.17	0.28	0.06	0.40	0.38	0.27
7	Barjora	0.45	0.15	0.29	0.36	0.76	0.29	0.38
8	Onda	0.26	0.13	0.39	0.37	0.31	0.20	0.27
9	Indpur	0.53	0.22	0.27	0.36	0.49	0.19	0.34
10	Khatra	0.55	0.34	0.26	0.79	0.86	0.72	0.58
11	Hirbandh	0.30	0.51	0.23	0.73	0.43	0.63	0.47
12	Ranibandh	0.53	0.40	0.13	0.35	0.31	0.29	0.33

13	Taldangra	0.53	0.32	0.31	0.12	0.36	0.75	0.39
14	Simlapal	0.45	0.25	0.49	0.57	0.68	0.39	0.47
15	Raipur	0.57	0.16	0.30	0.57	0.58	0.60	0.46
16	Sarenga	0.46	0.25	0.66	0.89	0.82	0.35	0.57
17	Bishnupur	0.32	0.18	0.49	0.48	0.33	0.54	0.39
18	Joypur	0.56	0.26	0.51	0.75	0.26	0.72	0.51
19	Kotulpur	0.57	0.42	0.91	0.30	0.42	0.64	0.54
20	Sonamukhi	0.36	0.22	0.49	0.38	0.17	0.29	0.32
21	Patrasayer	0.21	0.10	0.33	0.09	0.35	0.60	0.28
22	Indus	0.41	0.32	0.57	0.24	0.26	0.56	0.39

Source: Author's computation based on tables 1, 2, 3, 4, 5, and 6
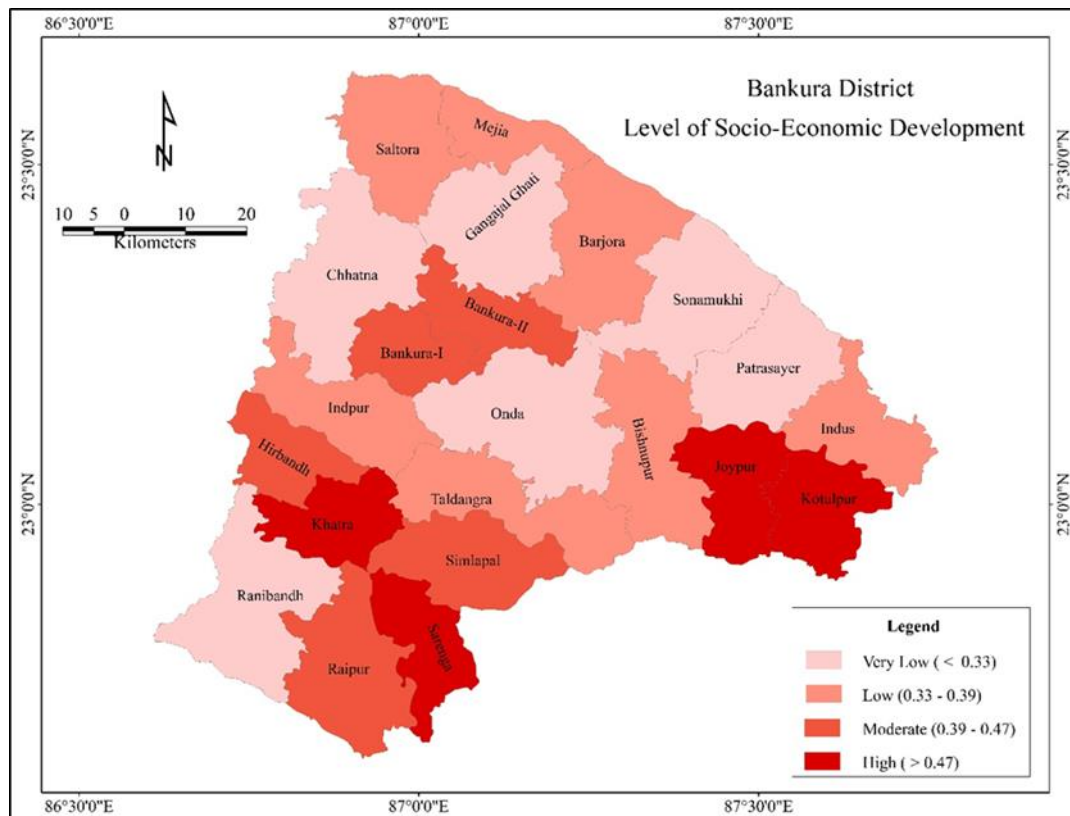
Figure 9 Socio-economic disparity at block level in Bankura district

The overall disparity with respect to socio-economic development can be depicted from Table 7 and Figure 9. Based on the composite development index of 27 indicators under six dimensions, the blocks have been classified into a total of four categories, namely (i) high, (ii) moderate, (iii) low, and (iv) very low. These are discussed as follows:

3.2.1. Highly Developed Blocks (> 0.47)

This category includes four blocks of Bankura district, namely, Khatra (0.58), Sarenga (0.57), Joypur (0.51), and Kotulpur (0.54). Overall, these four blocks are quite advanced in terms of socio-economic development. However, Sarenga block significantly lacks health facilities (0.25) and elementary facilities (0.35), Khatra has a low level of agricultural facilities (0.26), and Joypur and Kotulpur blocks are poor in terms of banking and finance (0.26) and

livestock (0.30), respectively. In this regard, it is noteworthy that the healthcare facilities in these blocks are very poor, as the CDI values of these blocks are below the average in terms of healthcare facilities.

3.2.2. Moderately Developed Blocks (0.39-0.47)

There are a total of five blocks viz. Bankura-I, Bankura-II, Hirbandh, Simlapal, and Raipur blocks fall under this category. Although these blocks are generally moderately developed, differences have been seen in the various development metrics. For instance, the educational facilities in Bankura-I (0.51) and Raipur (0.57) blocks are good enough. Hirbandh is the only block with decent healthcare facilities (0.51), but banking and financial services (0.43) are relatively low. If we look at the livestock status, it can be found that except for the Bankura-I (0.04), all other blocks in this category are extremely good. Besides, Simlapal (0.39) block has poor elementary facilities, although all other blocks have excellent banking services and elementary facilities.

3.2.3. Low Developed Blocks (0.33-0.39)

Less development, i.e., high inequality, is observed in seven blocks of Bankura district, i.e., Saltora, Mejia, Barjora, Indpur, Taldangra, Bishnupur, and Indus. All these blocks are poor in terms of education facilities, health services, agricultural development, banking and financial services, and basic amenities. However, exceptions can be observed in certain cases; for instance, elementary amenities and facilities are good in Bishnupur (0.54), educational facilities are good in Indpur (0.53), and Taldangra has good basic amenities and facilities (0.75) as well as a good educational status (0.53). Mejia has good elementary amenities and facilities (0.61) and livestock (0.74); Barjora is good in banking and financial services (0.76); and Indus is good in agriculture (0.57) and elementary facilities (0.56).

3.2.4. Very Low Developed Blocks (<0.33)

The extremely underdeveloped blocks in terms of socio-economic development in the district are Chhatna, Gangajalghati, Onda, Ranibandh, Sonamukhi, and Patrasayer. The existing status of education, health, agriculture, livestock, banking and financial services, and basic amenities is very low in these blocks. However, it is worth noting that these blocks are overall very poor, with some exceptions, such as Chhatna, which has better banking and financial services (0.55), Ranibandh, which has better education facilities (0.53), and Patrasayer, which has better civic amenities and facilities (0.60).

4. Conclusion

Based on the results and discussions, it is possible to infer that the district's degree of socio-economic development varies considerably by region. The inequality results from the uneven distribution of several development elements, including educational facilities, health facilities, agricultural facilities, elementary facilities, banking services, and livestock. The blocks with a high availability and accessibility to these types of facilities are more developed, whereas those without are less developed. The current study shows, with the help of the Composite Development Index, six blocks in Bankura district (Chhatna, Gangajalghati, Sonamukhi, Patrasayer, Onda, and Ranibandh) are severely impoverished. Saltora, Mejia, Barjora, Indpur, Taldangra, Bishnupur, and Indus are the seven blocks that fall under the low-developed category. Bankura-I, Bankura-II, Hirbandh, Simlapal, and Raipur are the moderately developed blocks, whereas Kotulpur, Joypur, Khatra, and Sarenga are the highly developed blocks. Finally, keeping in mind the findings, some suggestions are made to reduce the regional imbalances at the block level, which are as follows:

- The government should implement the necessary policies, support successful development initiatives, and end the growing gap between blocks by ensuring that all blocks have equal access to social and economic advantages.
- The government should strengthen its oversight of all operations conducted at the regional or local levels.
- Encouraging animal husbandry in commercial form by providing financial assistance as well as insurance facilities.
- Since most of the people are associated with agriculture, making people aware of various government programmes and policies related to agriculture is important. The focus should be on providing financial support to agriculture and, at the same time, ensuring that the farmers get the right price for their produce.
- Aside from the previously listed measures, regional disparities may be reduced by providing excellent education, raising the teacher-student ratio, expanding the number of hospital beds, increasing the doctor-patient ratio, upgrading the irrigation system, and so on.

Compliance with ethical standards

Disclosure of conflict of interest

There are no conflicts of interest regarding the publication of this paper.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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