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Socio-Economic Development Scenerio of Coochbehar District, West Bengal, India: A Geographical Perspective

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Abstract:
Background: Socio-economic scenario (SES) is an important indicator to measure the development level of any community. Economics as a science of wealth deals with 'Production', 'Exchange', 'Distribution' and 'Consumption' (Prof. Adam Smith, 1776). Development is a multi-dimensional phenomenon includes level of economic growth, level of education, level of health services, status of woman, level of nutrition, quality of housing, distribution of goods and services and access of communication. Whereas economic development is a policy intervention endeavor with aims of economic and social growth is a phenomenon of market production and rise in Gross Domestic Product (GDP).
Results: The paper focuses on the socio-economic development scenario (SEDS) analysis of Cooch Behar district and tries to reveal some fundamental aspect of socio-economic condition of the district. Though the district lies in the lower Ganga Plain, it has a unequal pattern of SEDS becausethe impact of market economy, poor soil condition, unequal agricultural production, industrial diversity and other socio-economic factors. The socio-economic scenario of the district varies in different sub-division (highest in Coochbehar sadar, medium in Dinhata, Tufanganj and Mathabhanga and lowest in Mekhliganj).
Conclusions: The present study based on the secondary data, will point out the variation of SEDS. The SEDS of sub-divisional level are finding out by using two statistical methods Simple Composite Index and Composite Z-Score Index. The paper also presents some micro level sustainable policy and suggestion to improve the economy of Cooch Behar District. According to Composite z-score and simple composite index Coochbehar sadar indicate the highest socio-economic development (8.03 and 18) while Dinhata, Tufanganj and Mathabhanga is follows medium SED (0.7 and 24, -2.27 and 22, 0.13 and 24 respectively). Mekhliganj is the lowest SED (-6.81 and 32).

Keywords: Economics, Developmental Indicators, SEDS, GDP, Simple Composite Index, Composite Z-Score Index.

1. Background

The term 'Economics' developed from the Greek word 'Oikonomia' meant a science of home management. However, Prof. Adam Smith (1776) studied 'economics' as a science of wealth deals with 'Production,' 'Exchange', 'Distribution' and 'Consumption'. Development is a multi-dimensional phenomenon includes level of economic growth, level of education, level of health services, status of woman, level of nutrition, quality of housing, distribution of goods and services and access of communication. Whereas economic development is a policy intervention endeavor with aims of economic and social growth is a phenomenon of market production and rise in Gross Domestic Product (GDP). Consequently, as economist Amartya Sen point out 'economic growth is one aspect of the process of economic development'.

The economy of Cooch Behar district is mainly agriculture based. A large part of district income is generated by agriculture. Industrially, Cooch Behar is a backward district. Only some household industries are in the district. The progress of socio-economic development among sub-division is not uniform. The role of social development such as literacy in promoting basic capabilities emerges as the prerequisite to overall development. Although economic growth in the sense of expanding Gross National Product (GNP) and other related variables is one most fundamental input to the overall development.

  ➢ Socio-Economic Indicators: The socio-economic indicators tell us the developmental scenario of a region. The fundamental socio-economic indicators are:
  1. Social indicators:
       a. Literacy rate of the region.
       b. Status of woman of the region.
       c. Proportion of population under poverty line.
       d. Health legislation.
  2. Economic indicators:
       a. Net district domestic product at current prices.
       b. Gross district domestic product at current prices.

  c. Per capita income of the region.
  d. Employment of the region.
  e. Household having electricity.

2. Significance of the Study

Socio-economic scenario (SES) is an important indicator to measure the development level of any community. Development is a multi-dimensional phenomenon includes level of economic growth, level of education, level of health services, status of woman, level of nutrition, quality of housing, distribution of goods and services and access of communication. Whereas economic development is a policy intervention endeavor with aims of economic and social growth is a phenomenon of market production and rise in Gross Domestic Product (GDP). A study relating to socio-economic development scenario of Coochbehar district thus bears immense significance.

3. Objectives

The following objectives have been taken in to consideration for the study:
  i. To find out the socio-economic scenario of the residence of the study area.
  ii. To study the sub-division level wise economic development scenario.
  iii. To measure the different socio-economic indicators that effect and control on economic development of Cooch Behar district.
  iv. To study the present demographic and economic features of Cooch Behar district.

4. Data Base and Methodology

The present study is mainly based on secondary sources of data which have been obtain from Cooch Behar district statistical Handbook 2011-12; Bureau of Applied Economics and statistics, Government of West Bengal; Census of India, 2001, 2011; Ministry of Human Resource Development, Government of India; Agricultural Finance Corporation Ltd, West Bengal. All data was processed, analyzed and then logical and rational conclusions were made as well as presented through table, maps etc as when required. Two statistical methods (Simple Composite Index and Composite Z-Score Index) are used to calculate the sub-division level of economic development of the district.

5. Description of the Study Area

The Cooch Behar district lies between 25°57′47″ North and 26°36′20″ North latitude and between 88°47′44″ East and 89°54′35″ east longitude. The district Headquarter lies between 26°19′86″ North latitude and 89°23′53″ East longitude (source: District census handbook, 1961).

North-eastern part of West Bengal; bounded by the districts of Alipurduar in the north and Jalpaiguri in the north-east, the state Assam in the east (bounded by the districts of Kokrajhar and Dhubri in Assam) and the international Border in the form of *Indo-Bangladesh* boundary in the south-east, south and south-west Beside this boundary area there are *enclaves* (called *Chhits*) which are outlying and detached tracts of land situated inside Bangladesh. There are 111 such *Chhits*.

The total area of the district is 3387 (1,308 sq miles) square kilometers, which contributes 3.82% of the land mass of the state of West Bengal. Physiographically the district belongs to the baring tract of the lower Ganga Plain which lies between the peninsular plateau in the south and Himalaya in the north where the Tarai kind of vegetation prevails on the northern side.

Cooch Behar district falls within the tropical monsoon climate with an average rainfall of 3354 mm. There are more than 30 rivers flowing through the district. Among these there are 6 major river systems like Teesta, Jaldhaka, Torsa, Raidak and Gangadhar with numerous medium size (7 nos) tributaries like Dhrala, Mujnai, Sutunga, Kaljani, Dudua,Gadadhar etc. including 17 nos. of minor rivers spread throughout the district. Most of the rivers in Cooch Behar district take off from Bhutan Hills and flow through alluvial plain of Cooch Behar. The rivers are generally flow from north-west to south-east. The main three rivers viz. Teesta, Jaldhaka and Torsa are the international in their extent and go out to Bangladesh. The total length of these rivers account for about 800 km with the total river bank length of 1600 km. it is seen that as on 09.07.2010 the existing protection work of the Irrigation & Waterways Department has been provided to about 440 km of the river bank. This measure has been able to protect about 470.75 sq. km. of the district land.

The soils of the Cooch Behar district are a recent developed alluvial formation and most part is sandy and lousy. The soil of Cooch Behar district looks varies from place to place. The Mathabhanga sub-division is covered mainly numbers of sandy soil. Lousy soils are found in Dinhata sub-division. This kind of soil is light texture and can retain moisture and easily give it up.

A highly humid atmosphere and abundant rains characterize the climate of the district, with the temperature being seldom excessive. The district has not very high temperature at any time of the year. Only a sometime the temperature rises 35^0c. The district characterized by heavy rainfall during monsoon and slight rainfall in the month of January and February. The average annual rainfall varies from 3300bto 3400mm. The distribution of Rainfall is high in the eastern part of the district (Tufanganj) and gradually decreases toward western part of the district (Mekhliganj). The climate of Cooch Behar is characterized by distinct seasonality. The seasonal variations include presence of (1) The Cold Weather Season or Winter Season, (2) The Hot Weather Season or Summer Season, (3) The South-west Monsoon Season or Rainy Season, and (4) The Season of the retreating Monsoon or Post Monsoon Season.

6. Results and Discussion

The district has a total population of 2819086 as per 2011 census and share 3.09% of the state's total population. The district covered 3388.34 square kilometer land areas that share 3.82% of the state's geographical area, which is suggestive of a situation of very high population density (832/sq km.). On the other hand among different sub-division there is a wide variation, ranging from as low as 615 people per square kilometer in Mathabhanga sub-division and highest in the Cooch Behar Sadar sub-division (991/sq. km.). The others sub-division are ranging among 978 people per square kilometer, 778 people per square kilometer, 731 people per square kilometer of sub-division of Dinhata, Tufanganj and Mekhliganj respectively.

Literacy rate and urban population are the most fundamental indicators of socio-economic development. The district Cooch Behar has made tremendous progress in the improvement of literacy rate during 1991-2011. In fact, it has scored the highest percentage point increase in literacy among all districts of West Bengal from 45.78% in 2001 to 64.68% in 2011 i.e. an increase of 18.90%. The district total urban population is 2819086 persons where male is 1451542persons and female is 1367544 persons.

The economy of Cooch Behar district would be characterized as an underdeveloped economy because the per capita income of the district is low and mainly depend on the agricultural sectors. Almost 85-90% of the total population depends on agriculture. In spite of several obstacles like poor soil status, acidity, lack of irrigation facilities, adaptation of new improved techniques, inclusion of different high yielding varieties and hybrid varieties through different on-going schemes like ATMA, NFSM, RKVY etc. the production and productivity of different crops are raising keeping pace with the increasing demand of population.

The basic characteristics of underdeveloped economy like Cooch Behar:

1. Low per Capita Income: The level of per capita income is the most important and sticks which determine whether a region is developed or underdeveloped. The level of per capita income is very low. The per capita income of Cooch Behar district is Rs.5564.27 in 1993-94, Rs.13093.14 in 2000-01 and Rs. 16657.68 in 2003-04.
2. Predominance of Agriculture: According to Colin Clark and Kuznets, in the underdeveloped economics there is a predominance of agricultural sectors. Almost 85-90% of district populations are depend on agricultural sectors(2011).
3. Rapid Population Growth: Rapid population growth is a common phenomenon of an underdeveloped economy like Cooch Behar. The population growth of Cooch Behar district is 14.19% in 1991-2001 and 13.86% in 2001-2011.
4. High level of Unemployment and Underemployment: There are several causes behind the growing trend of unemployment and underemployment in the district. The reasons of unemployment and underemployment of Cooch Behar district is high population growth, lack of industrial facilities, lack of public working facilities, under-developed economic organization etc.
5. Low level of Human Development: Human Development Index is the most reliable indicator of economic development of an economy in present world situation. According to the Human Development Reports, 2004, Cooch Behar district belong 11 number of rank under 19 district of the state of West Bengal.

6.1. Sub-Divisional Level of Socio-Economic Development Scenario of Coochbehar District:
The socio-economic scenario of the district varies in different sub-division. The socio-economic scenario of Cooch Behar district control some factors called indicators. The of socio-economic development scenario of the district are:

i. Literacy rate of the sub-division.
ii. Population growth of the sub-division.
iii. Urban population of the sub-division.
iv. Density of population of the sub-division.
v. Agricultural production of the sub-division.
vi. Yield (kg/ha.) of the sub-division.
vii. No. of bank availability of the sub-division.
viii. Household having electricity of the sub-division.
ix. Road length (kms) of the sub-division. etc

6.1.1. Cooch Behar Sadar Sub-Division

Cooch Beharsadar sub-division is socio-economically developed then the others sub-division. From simple composite index and composite z-score index analysis the sub-division belongs high level of socio-economic development. Population density of the sub-division is 991 per square kilometer is highest than others. Literacy rate of the sub-division is 71.27% (2011 census). Urban population accounts about 5.86% (2011) of total district population. Road length (468.06 kms) and availability of bank (25 no.) facilities of the sub-division place highest then others. Agriculturally this sub-division is less than the others because of lack of agricultural land. The total yield is 14306 kg/ha in 2011.

6.1.2. Dinhata Sub-Division

Dinhata sub-division is falls in moderate socio-economic development from simple composite index and composite z-score index analysis result. Population density of this sub-division is 978 per square kilometer. Literacy rate of the sub-division is 61.40% (2011).Urban population accounts about 1.43%(2011) of total district population. Agriculturally this sub-division is more developed than the others. The total yield is 25441 kg/ha in 2011. Total road length of the sub-division is 341.26 kilometers in 2008.

6.1.3. Tufanganj Sub-Division

Tufanganj sub-division also places the moderate socio-economic development scenario. Population density of this sub-division is 731 per square kilometer. The literacy rate of the sub-division is 66.83% in 2011. Urban population accounts about 1.12%of total district population. The population growth is 11.46% (2001-11) in the sub-division. Agriculturally this sub-division is moderately developed.

6.1.4. Mathabhanga Sub-Division

The Mathabhangasub-division is place another moderate socio-economic development scenario of the district. Population growth of the sub-division is very high (15.30%, 2011) then others sub-division of the district. Literacy rate is 62.38% in 2011. Population Density of the sub-division is 615 per square kilometer is the lowest density of the district. Agriculturally the sub-division is developed (24682 kg/ha, 2011). Transport facility also developed in this sub-division. The total road length is 351.77 in 2008.

6.1.5. Mekhliganj Sub-Division

Mekhliganj sub-division is place one of the lowest socio-economic development scenarios of the district. Population growth of the sub-division is 13.62% in 2011. Literacy rate of the sub-division is 61.53% in 2011. Population density is high (773 per square kilometer in 2011). Agriculturally backward due present of the river Teesta. The agricultural land is eroded by the river Teesta and the flooded water destroyed agricultural crops. Transport facility is also low. Total road length in this sub-division is 211.25 kilometers.

7. Conclusion

The socio-economic development scenario of the Cooch Behar district varies in different sub-division. Thus the data analysis clearly gives an impression that the intra sub-division variation in the SEDS pattern in the Cooch Behar district is highly control by some social and economic factors. A detailed analysis of the sub-division level data for Cooch Behar district reveals that the sub-division level SEDS pattern will be explained by the economic factors like agricultural Production, electricity, bank availability, road facilities etc. in comparison to the social factors like population growth, population density, literacy rate, urban population etc.

The social factors population growth, density and literacy and the economic factor agriculture are the strongest determining factors in SEDS variation. The highest SEDS pattern of the district is Cooch Behar Sadar sub-division because of high level of literacy rate, high level of urban population, highest facilities of bank, high level of electricity facility. The sub-division Mekhliganj is lowest SEDS pattern in Cooch Behar district due to high level of population growth, low level of literacy, low level of electricity facility, low level of bank facilities.

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Annexure

District's Sub-Division	(in number)								
	Total population			Urban population			Rural population		
	No. of males	No. of females	Total	No. of males	No. of females	Total	No. of males	No. of females	Total
Cooch Behar Sadar S.D.	386790	361604	748394	83507	81703	165210	303283	279901	583184
Dinhata S.D.	348625	328167	676792	20621	19882	40503	328004	308285	636289
Tufanganj S.D.	235321	220998	456319	16218	15599	31817	219103	205399	424502
Mathabhanga S.D.	335933	318898	654831	12059	11831	23890	323874	307067	630941
Mekhliganj S.D.	144873	137877	282750	14221	13793	28014	130652	124084	254736
District total	1451542	1367544	2819086	146626	142808	289434	1304916	1224736	2529652

Table 1: Sub-division wise population statistics of Cooch Behar district, West Bengal.
Source: Census of India, 2011.

District Sub-division	Population growth (%)	Population density (per sq. km.)	Literacy rate (%)		
			Male	Female	Total
Cooch Behar Sadar S.D.	15.07	991	80.26	61.68	71.27
Dinhata S.D.	15.22	978	71.32	51.03	61.40
Tufanganj S.D.	11.48	731	76.59	56.76	66.83
Mathabhanga S.D.	15.30	615	73.51	51.25	62.38
Mekhliganj S.D.	13.62	778	72.98	49.12	61.53
District total	14.13	832	74.98	54.07	64.68

Table 2: Sub-division wise population growth, density and literacy rate of Cooch Behar.
Source: Census of India, 2011.

District sub-division	Total population (in number)	Urban population (in number)	Population growth (%)	Population Density (per sq. km.)	Literacy rate (%)
Cooch Behar Sadar S.D.	748394	165210	15.07	991	71.27
Dinhata S.D.	676792	40503	15.22	978	61.40
Tufanganj S.D.	456319	31817	11.48	731	66.83
Mathabhanga S.D.	654831	23890	15.30	615	62.38
Mekhliganj S.D.	282750	28014	13.62	778	61.53
District total	2819086	289434	14.13	832	64.68

Table 3: Social indicators of economic development of Cooch Behar, West Bengal.
Source: Census of India, 2011.

District sub-division	Area	Production	Yield	No. of household having electricity	No. of banks availability	Road length (kms), 2008
Cooch Behar Sadar S.D.	27892	61490	14306	50833	25	464.06
Dinhata S.D.	81822	188120	25441	32551	20	341.26
Tufanganj S.D.	48275	127010	17870	25571	17	346.52
Mathabhanga S.D.	87616	211890	24682	29700	19	351.77
Mekhliganj S.D.	39007	89410	16261	9125	13	211.24
District total	284612	677900	98560	147780	94	1714.86

Table 4: Economical indicators of economic development of Cooch Behar, West Bengal.
(Area in ha, Production in tones, Yield in kg/ha)
Source: Cooch Behar District Statistical Handbook 2011, Bureau of Applied Economics and Statistics, Government of West Bengal.

District sub-division	Population growth (%)	Rank	Urban population (%)	Rank	No. of household having electricity	Rank	Yield	Rank	No. of banks availability	Rank	Road length (kms), 2008	Rank	Literacy rate (%)	Rank	Population Density (per sq. km.)	Rank
Cooch Behar Sadar S.D.	15.07	3	5.86	1	50833	1	14306	5	25	1	464.06	1	71.27	1	991	5
Dinhata S.D.	15.22	4	1.43	2	32551	2	25441	1	20	2	341.26	4	61.40	5	978	4
Tufanganj S.D.	11.48	1	1.12	3	25571	4	17870	3	17	4	346.52	3	66.83	2	731	2
Mathabhanga S.D.	15.30	5	o.84	5	29700	3	24682	2	19	3	351.77	2	62.38	3	615	1
Mekhliganj S.D.	13.62	2	0.99	4	9125	5	16261	4	13	5	211.24	5	61.53	4	778	3
District total	14.13	-	10.24	-	147780	-	98560	-	94	-	1714.86	-	64.68	-	832	-

Table 5: Level of economic development of Cooch Behar district by using simple composite index.
(As per 2011 data)
Source: Calculated by author.

District sub-division	Total ranks	Composite index score	Level of development	Belongs S.D.
Cooch Behar Sadar S.D.	3+1+1+5+1+1+1+5 =18	Below 20	High	Cooch Behar Sadar
Dinhata S.D.	4+2+2+1+2+4+5+4 =24			
Tufanganj S.D.	1+3+4+3+4+3+2+2 =22	20-25	Medium	Dinhata, Tufanganj, Mathabhanga
Mathabhanga S.D.	5+5+3+2+3+2+3+1 =24			
Mekhliganj S.D.	2+4+5+4+5+5+4+3 =32	Above 25	Low	Mekhliganj

Table 6: Analyze the simple composite index.
Source: Calculated by author.

District sub-division	Population growth (%)	Z1	Urban population (%)	Z2	Household having electricity (%)	Z3	Yield kg/ha (%)	Z4	No. of banks availability	Z5	Road length (%), 2008	Z6	Literacy rate (%)	Z7
Cooch Behar Sadar S.D.	15.07	0.64	5.86	2	32.31	1.75	14.51	-1.19	25	1.58	27.06	1.54	71.27	1.71
Dinhata S.D.	15.22	0.74	1.43	-0.31	19.49	-0.44	25.81	1.27	20	0.30	19.90	-0.01	61.40	-0.85
Tufanganj S.D.	11.48	-1.81	1.12	-0.48	23.79	0.29	18.13	-0.40	17	-0.46	20.20	0.04	66.83	0.55
Mathabhanga S.D.	15.30	0.80	o.84	-1	20.05	-0.34	25.04	1.10	19	0.05	20.51	0.11	62.38	-0.059
Mekhliganj S.D.	13.62	-0.3	0.99	-0.54	14.84	-1.24	16.49	-0.76	13	-1.48	12.31	-1.67	61.53	-0.82
	Σ= 70.69 x⁻ = 14.13 6= 1.46		Σ= 10.24 x⁻ = 2.04 6= 1.91		Σ= 100.46 x⁻ = 22.09 6= 5.84		Σ= 99.98 x⁻ = 19.99 6= 4.58		Σ= 94 x⁻ = 18.8 6= 3.91		Σ= 99.98 x⁻ =19.99 6= 4.58		Σ= 323.4 x⁻ = 64.68 6= 3.84	

Table 7: Level of economic development of Cooch Behar district by composite Z-core index.
(As per 2011 data)
Source: Calculated by author.

Where, Σ= the sum of all sub-divisional data on a particular variable.
x⁻ = Mean value on that particular variable.
6= Standard deviation on that particular variable.

District sub-division	Composite Z-score	Composite index Z-score	Level of development	Belongs S.D.
Cooch Behar Sadar S.D.	0.64+2+1.75-1.19+1.58+1.54+1.71 =8.03	Above3	High	Cooch Behar Sadar
Dinhata S.D.	0.74-0.31-0.44+1.27+0.30-0.01-0.85 = 0.7			
Tufanganj S.D.	-1.81-0.48+0.29-0.4-0.46+0.04+0.55 = -2.27	-3 to 3	Medium	Dinhata, Tufanganj, Mathabhanga
Mathabhanga S.D.	0.8-1-0.34+1.1+0.05+0.11-0.59 =0.13			
Mekhliganj S.D.	-0.3-0.54-1.24-0.76-1.48-1.67-0.82 = -6.81	Below-3	Low	Mekhliganj

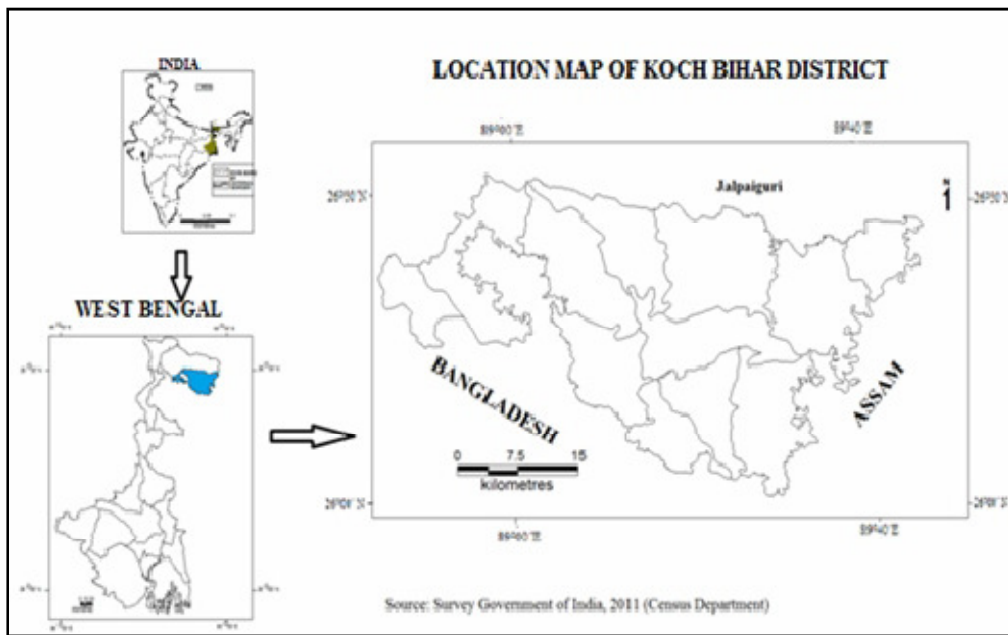*Table 8: Analyze the composite Z-score.*
Source: Calculated by author.

Figure 1