

Inter State Disparities in Socio Economic Development in North-Eastern Region of India

*Mr. Saurish Bhattacharjee, #Ms. Mridusmita Patowary

*#Ph.D. Student, Department of Economics, Dibrugarh University, Dibrugarh, Assam, India,

*saurishbhattacharjee02gmail.com, #mridusmitapatowary779@gmail.com

Abstract - The study assesses the disparities in the level of socio-economic development among the States of North-Eastern (NE) Region of India applying the Wroclaw Taxonomic Technique based upon optimal combination of selected socio-economic development indicators. The State wise data for two years were considered for this study i.e. 2004-05 and 2016-17 in order to examine whether the disparities in socio-economic development over the periods have declined or widened. In order to get a clear picture of disparities in socio-economic development among the NE States, the level of development is assessed separately for agricultural, industrial, social and infrastructural sectors. In total this study considers 23 indicators to assess the disparities among the NE States. The States are considered into four different categories on the basis of constructed development index. Model states have been identified for the low developed States and potential targets for the various indicators have been estimated for uniform development of the region.

Keywords: Developmental indicators, Model States, North- Eastern States, Potential targets, Socio-economic development, Wroclaw Taxonomic Technique

I. INTRODUCTION

India is a big country geographically. In all there are 29 States and 7 union territories in the country. Therefore, spatial disparities in the country cannot be ruled out. These States differ in terms of geographical area, topography, social and cultural parameters, natural resources, etc. Within States there are districts and these districts are varying in different ways. In this study focus has been laid mainly on socio-economic disparities among the North-Eastern (NE) States of India.

Socio-economic development is a multidimensional process which improves the quality of life of the people. Gunnar Myrdal stated that socio-economic development requires the satisfaction of economic, social, political and cultural rights, equitable distribution of development benefits and opportunities, dignified living environment, gender equality and empowerment of the poor and marginalized [1]. Many developmental programmes and policies were taken by the Government of India to promote socio-economic development in the country. The Five Year Plan in India were also launched which covers different aspects of development to raise the welfare of the people in the country. One major objective of the developmental programmes is to promote balanced regional development in the country. Resource transfer mechanisms in the form of grants, subsidies etc. were introduced through various programmes and policies like Backward Area Development Programmes, Hill Area Development Programmes, etc. Even then the problems of regional disparities persist,

which is visible from the adoption of inclusive growth concept in the Eleventh Five Year Plan in India (even when India followed the growth with equity since independence). The issue of disparity among the different regions is visible through various parameters. In the socio-economic development also different regions of India shows wide disparities. Thus, regional inequalities both between the states and within the states present a serious developmental challenge to the Indian economy.

The present study focuses on the disparities in socio-economic development among the eight North Eastern (NE) states of India at two time period 2004-05 and 2015-16. The north eastern Region (NER) is among the low ranked region in the country. The region comprises of 8 States viz., Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The region accounts for 7.9% of India's total geographical area and 3.8% of the country's total population. The socio-economic status of the 8 states of the NE India is diverse. However they are topographically similar. The NER has more than 80% of the area covered with the mountainous range and dense forest. The partition of the country at the time of independence left an adverse impact on its economy. Since independence the government has taken many initiatives for development of the region. However, the benefits did not percolate to all sections of the society. Thus, the present study attempts to find out the disparities especially in the socio-economic front, existing among the 8 states of NER of India.

II. REVIEW OF LITERATURE

There has been a plethora of studies by individual scholars, experts and institutions on several aspects of regional disparities. Some of the studies related to this field are given below.

In a study by [2], she constructed a weighted composite index using principal component analysis to measure the trends in the disparities in India. This study took into account two time points 1956 and 1965 and included variables related to agriculture, industry, education and banking sector. The study found that regional disparities in the states of India have tended to decline during the period 1950 to 1965. This trend was observed in all the sectors except agriculture. In a study by [3] he, analyzed regional disparities in inter-state disparities as indices of income, poverty and unemployment, agricultural indicators, social service indicators and resource allocation indicators. He found many poor regions were poor because of their poor natural resource endowment. He concluded that the initial disparity in investment tended to be self-perpetuating i.e. areas with high initial rate of capital formation continue to grow whereas others were lagging behind. [4] in his study examined the inter-state disparities in India, the factors associated with inter-state disparities and the role of Finance Commission, Planning Commission and institutional finance in reducing regional imbalances. The study was based on cross-section data for 16 major states for the years 1960-61, 1970-71 and 1980-81. There had been inequality in growth among states relative per capita income. The study also noted that the dislocation of resources to low income states were progressive but plan outlays and flow of institutional funds to such states were regressive. [5] in his article stated that disparities exist not just in terms of absolute level of population, economic activity and related social indices such as unemployment rate, activity rate, income per head and rate of employment growth. He opined that the regional disparities in development especially in industrial development could not be removed unless the government intervenes in distribution of industrial activities by influencing locations of industries. [6], in his study on "Socio-Economic Development: Punjab versus other states: An Appraisal" made an effort to determine Punjab's position in comparison to other states and India as a whole. He used the prime indicators for calculating the progress of states viz. per capita income, gross domestic product and consumption of different commodities, etc. and social indicators like life expectancy, infant mortality rate, crude birth rate and literacy. The study found Punjab to occupy top position in respect of per capita income and consumption of various commodities. While in the social indicators like crude birth rate, literacy position and availability of beds per thousand and number of industries, the result is not encouraging. [7], have made an attempt to make a comparative study on socio-economic development

in India and Punjab. This study focused on the development of agriculture, health, education and population growth at three points of time 1971, 1981 and 1991. The study found the population of India as well as Punjab has been increasing which is not a good sign for economic development. The study also found that the production of pulses and oilseeds has declined in Punjab but has increased in the country. [8], have made a study to measure the level of socio-economic development considering 17 major states of India. They used 12 indicators to measure the level of socio-economic development over two periods 1971-72 and 1981-82. Here composite indices have been developed for each State for both the periods. He found Haryana and Punjab to be better off in socio-economic development whereas Assam, Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh were found to be at the low levels of development during both the periods. [9] in her study on inter-state disparities in economic development of North-East India developed a composite index in order to assess the disparities by using the ranking method. In her study, in order to assess disparities in economic development four sectors were taken into account i.e. agriculture, industry, infrastructure and social sector. The reference year was 2006 for this study. Wide disparities were found in all the sectors among the North-Eastern States. However, it must be noted that one of the limitations of this study was that it used the ranking method to assess the disparities. This method is not suitable because the various variables included in this study were in different units of measurement as such this method was not appropriate. [10], in his analysis on inter-state disparities in socio-economic development in North-Eastern Region of India estimated a composite index based on optimal combinations of socio-economic indicators. This study included 48 indicators considering the State wise data for the year 2006. In this study, 15 indicators were directly concerned with agricultural development, 9 indicators were concerned with livestock development, 12 indicators were concerned with socio-economic development and 12 indicators were related with infrastructure services. In this study wide spread disparities were obtained in the levels of development among the different States in socio-economic development. Assam was found to be in the first position while Meghalaya was ranked the last. [11] in their paper on regional disparities in socio-economic development in the Kashmir valley assessed the development of 10 districts that were newly created at that time considering 13 development indicators. They derived an Evaluation Index to assess the level of development. They included indicators of agriculture, social infrastructure and industrial sectors and derived the development index for each state and also combined these indicators to obtain the overall socio-economic development indicator.

Thus, from above it is found that many studies were done at the India level and also many studies were done in different

states to assess the disparities in socio-economic development but only a few studies has been done to assess disparities among the states of NER.

III. OBJECTIVES

The objectives of the paper are:

1. To assess the disparities in agriculture, social and infrastructure sectors in the states of the North-Eastern region of India over two time periods 2004-05 and 2016-17.
2. To study the overall socio-economic development based on optimum combination of developmental indicators of different States of NE for both the time periods.
3. To examine the imbalances between the levels of development and to classify the States into different development stages over the two time period.
4. To estimate the potential target of various indicators for the low developed States.

IV. RESEARCH QUESTIONS

Does there exist any disparity among the North-Eastern States in the selected socio-economic development indicators and whether these disparities are widening or declining over the two time periods?

V. DATA AND METHODOLOGY

SOURCE OF DATA: The study is based on secondary data collected from different sources. These sources are- Directorate of Economics and Statistics [15] Ministry of Statistics and Programme Implementations, Government of India, Census Reports [14], Ministry of Road Transport and Highway, Government of India, Road Transport Yearbook, Department of Agriculture and Co-operation and Farmers Welfare, Government of India, Central Electricity Authority Ministry of Power, Government of India, Quarterly Statistics on Deposits and Credits of Schedule Commercial Banks, RBI, Various issues, Ministry of Human Resource Development, Government of India. In this study two time periods were considered i.e. 2004-05 and 2016-17.

SELECTION OF INDICATORS- Indicators common to all the States have been included in the study for assessing the level of socio-economic development in the NE states of India.

The 23 selected variables are listed below-

Agriculture

1. Percentage of Net Sown Area to total geographical area
2. Cropping Intensity (percentage)
3. Productivity of Cereals(kg/hectare)

4. Productivity of Pulses(kg/hectares)
5. Productivity of Oilseeds(kg/hectares)
6. Productivity of Rice (kg/ha)
7. Productivity of Wheat (kg/ha)
8. Percentage of Net Irrigated Area to Net Sown Area
9. Per Capita Net State Domestic Product at factor cost(Agriculture)

Social Indicators

1. Literacy Rate(LR)
2. Infant Mortality Rate(IMR)
3. Percentage of population below the poverty line(BPL)

Infrastructure

1. Population per bank branch
2. Credit-Deposit Ratio
3. Road length per 100 sq. Km
4. Total registered vehicles per lakh of the population
5. Per capita availability of Power(kilowatt hour)
6. No. of schools (per '0000 population)
7. No. of colleges (per '0000 population)
8. No. of government hospitals (per lakh of the population)
9. No. of government beds per (per lakh population)

A total of 21 development indicators have been included in these analysis. These indicators may not form an all inclusive list of socio-economic development and are selected by data availability constraints. Out of 21 indicators 9 are concerned with the agricultural sector, 3 indicators are concerned with social sector and the rest 9 are concerned with the infrastructural sector.

METHODOLOGY

As noted above that socio-economic development is a multi-dimensional process and it cannot be fully evaluated by a single indicator. Moreover, a number of indicators when analyzed individually do not provide an integrated and easily comprehensible picture of the reality. Therefore, it requires for construction of a composite index of socio-economic development based upon optimal combination of different developmental indicators. There are several methods (e.g., principal component analysis, multiple factor analysis, aggregation method, monetary index, ratio index and ranking method) for combining the effect of various indicators. These methods are very useful but most of these methods are having certain limitations. Bhatia and Rai (2004) pointed out that Principal Component Analysis approach is generally based on certain restrictive assumptions regarding the developmental indicators, i.e., the variable indicators are linearly related. When non-linearity is present, the component analysis is not appropriate. Since this method measures variances, it is determined by the scaling of the variables, and really only makes sense if the variables are on comparable scales.

Further, one cannot assign any special meaning to the transformed variables with respect to socio-economic development. They are artificial orthogonal variables not directly identifiable with a particular economic situation. Multiple factor analysis is another method that can be used. The main advantage of this method is that the factor loadings can be used as weights for combining the effect of various socio-economic indicators. However the main disadvantage of this method is that it does not serve the purpose to arrive at a meaningful and comparable composite index of development when the indicators are present in different scales of measurements. Monetary index is another method where the socio-economic development indicators are converted into monetary values and total of these values is taken as the composite index of development. So, the problem in this method is that monetary values of indicators may change from time to time and from place to place and also all the indicators cannot be converted into monetary values like educational levels, etc. Another simple method is the aggregate method where simple additions of the values of socio-economic development indicators are used as a composite index. This is not suitable as the composite index of development obtained by use of this method depends on the units in which the data are recorded. Ranking method is also used where each unit is given a rank based on different socio-economic indicators of the unit is taken as the composite index of development. This method is not appropriate because ranking procedure does not take into account the magnitude of differences between indicators and units. The major limitation arises from the assumptions made about the developmental indicators themselves and the weightage in the combined analysis. Keeping in views the limitations of the different methods, the composite index of development is constructed applying Wroclaw Taxonomic Method. This method was developed by Florek et.al.(1952) to obtain a statistical method of determining homogeneous units. In 1967, this method was proposed to UNESCO as a means of ranking and comparing countries development. The taxonomic distance is more sensitive and valid measure of development because it takes into account the dispersions among component indicators. This method was used by [1] and [13]. The Wroclaw method used in this study is presented below.

MEASURING THE LEVEL OF DEVELOPMENT:

Let, $[X_{ij}]$ be the data matrix giving the values of the variables of i_{th} state and the j_{th} indicator where $i=1,2,\dots,n$ (no. of States) and $j=1,2,3,\dots,k$ (no. of indicators). Since the units of measurement of the variables considered are not uniform, for combined analysis $[X_{ij}]$ is transformed to the matrix of standardized indicators $[Z_{ij}]$ as follows:

$$[Z_{ij}] = \frac{X_{ij} - \bar{X}_j}{s_j}$$

Where \bar{X}_j = mean of the j_{th} indicator and s_j = the standard deviation of the j_{th} indicators.

From $[Z_{ij}]$, identify the optimal value of each indicator. The optimal value will be either the maximum value or the minimum value depending upon the direction of the impact of the indicator on the level of development. For example, increase in literacy rate would positively affect the development while population density may adversely affect the development. For obtaining the level of development (C_i) of the i_{th} state, first calculate the square root of the deviations of the individual value of a transformed variate from the best value. In other words, we calculate P_{ij} as:

$$P_{ij} = (Z_{ij} - Z_{0j})^2$$

Where, Z_{0j} = optimal value.

For each i and j , Pattern of Development (C_i) is given by

Where, $(CV)_j$ = coefficient of variation of X_{ij} for j^{th} indicators.

$$C_i = \left[\sum_{j=1}^k P_{ij} / (CV)_j \right]^{1/2}$$

Therefore, Composite index of development is given by-

$$D_i = C_i / C$$

Where, $C = \bar{C} + 3s_i$

Where \bar{C} = mean of C_i and s_i = standard deviation of C_i .

The closer D_i is to 0 the more developed the State is and closer it is to 1 the less developed the State.

Estimation of Development Distance between Pairs of States

For identifying the model states and fixing the potential targets of developmental indicators of low developed States, the distance between pairs of States will be calculated. The distance between the States i and p is given by d_{ip} as follows-

$$d_{ip} = \left[\sum_{j=1}^k (Z_{ij} - Z_{ip})^2 \right]^{1/2}$$

Where, $i=1,2,\dots,n$ and $p=1,2,\dots,n$. Here, $d_{ii}=0$ and $d_{ip}=d_{pi}$. Now, d_{ip} can be written as-

$$d_{ip} = \begin{bmatrix} d_{11} & \dots & d_{1n} \\ \vdots & \ddots & \vdots \\ d_{n1} & \dots & d_{nn} \end{bmatrix}$$

Thus, d_{ip} is known as the distance matrix. Now, from the above distance matrix identify the minimum distance for each row. Let us denote that minimum distance by d_i . Therefore, the Critical distance (CD) can be obtained as follows-

$$CD = \bar{d} + 2sd_i$$

Where \bar{d} = mean of d_i and

sd_i is the standard deviation of d_i

To identify the Model States the critical distance will be used. Model States will be those whose composite index of development is less than that of State A (suppose State A is low developed State) and development distance of these Model States from State A is less than or equal to the Critical Distance(CD). Thus, model States will be better developed than State A. The best value of each developmental indicator of the Model States will be taken as the potential target of that indicator for State A.

Different Stages of Development

In order to classify the States into different levels of development a simple ranking method can be used on the basis of the composite indices would be sufficient for classificatory purposes. A suitable fractile classification of the States from the assumed mean distribution of the mean of the composite indices will be a meaningful characterization of different stages of development. For relative comparison of the different States with respect to socio-economic development it appears quite appropriate to assume that the States having composite indices less than or

equal to (mean-standard deviation) are highly developed and States having a composite indices greater than (mean+ standard deviation) are low developed. In the same way, States with composite indices in between (mean) and (mean-standard deviation) are middle level developed and the States with composite indices between (mean) and (mean + standard deviation) are developing.

VI. DISCUSSION AND FINDINGS

The Different Levels of Development

In order to assess the level of development the composite indices of development have been estimated for the different states of the North-Eastern Region (NER) for agricultural sector, industrial sector, infrastructural sector, social indicators separately and also the overall socio-economic development has also been worked out. The States have been ranked on the basis of the composite indices of development which is presented in the table 1 below.

Table 1: Composite indices of development and the rank of the States for the year 2004-05

States	Agriculture		Social		Infrastructure		Socio-economic	
	CI	Rank	CI	Rank	CI	Rank	CI	Rank
Arunachal Pradesh	.82	6	.72	7	.83	8	.88	7
Assam	.65	1	.56	5	.72	6	.75	4
Manipur	.89	8	.33	2	.54	4	.72	3
Meghalaya	.79	3	.40	3	.51	2	.67	2
Mizoram	.83	7	.27	1	.47	1	.62	1
Nagaland	.69	2	.59	6	.53	3	.75	4
Sikkim	.81	5	.74	8	.68	5	.87	6
Tripura	.80	4	.41	4	.74	7	.76	5

Source: Authors own computations on the basis of data collected from different sources.

From table 1 we can see that out of the 8 states of the NER in case of Agricultural sector Assam is found to be in the first position while Manipur is found to be in the last position. It may be seen from the table that in case of agriculture the composite index (CI) of development varies from .65 to .89. Considering the social indicators we find that among the NE States Mizoram is found to be in the first position while Sikkim at the last position. The composite index lies between .27 to .74. While in case of infrastructural facilities the composite index ranges between .47 and .83. Mizoram was found to be in the first position followed by Meghalaya. Arunachal Pradesh was found to be in the lowest rank in case of infrastructural facilities. Now if we look into the table1 we find that the overall Socio-Economic development index of the States lies between .62 and .88. if we consider the overall socio-economic development we find that the State of Mizoram was found to be in the first position followed by Meghalaya. While Arunachal Pradesh occupied last position in 2004-05 among the NE States.

Table 2: Composite indices of development and the rank of the States for the year 2016-17

States	Agriculture		Social		Infrastructure		Socio-economic	
	CI	Rank	CI	Rank	CI	Rank	CI	Rank
Arunachal Pradesh	.69	3	.67	7	.72	6	.79	7
Assam	.86	8	.53	6	.69	5	.77	6
Manipur	.83	7	.31	3	.67	4	.66	4
Meghalaya	.59	1	.39	4	.86	8	.65	3
Mizoram	.73	4	.14	1	.54	3	.48	1
Nagaland	.74	5	.47	5	.51	2	.67	5
Sikkim	.81	6	.72	8	.49	1	.83	8
Tripura	.64	2	.29	2	.73	7	.63	2

Source: Authors own computations on the basis of data collected from different sources.

The Composite indices of development for the year 2016-17 are presented in the above table 2. In case of agriculture the composite index of development vary from .59 to .86 in the year 2016-17. However there is only a slight improvement when we consider the year 2004-05. In 2016-17, Meghalaya was found to be in the first position followed by Tripura and Assam was found to be in the last position. Considering the social indicators the composite index ranges between .14 and .72. Mizoram was found to be in the 1st rank while Sikkim at the last position. The composite index of infrastructural facilities ranges between .49 and .86. Sikkim was found to be the in the 1st rank and the last position was occupied by Meghalaya. The composite index for overall socio-economic development in the year 2016-17 lies between .48 and .83. This indicates that there is a slight improvement in case of socio-economic development in the region but at the same time the disparities among the States are increasing when we consider the overall socio-economic development as in the year 2004-05 the index value was concentrated between .62 and .88. Mizoram was found to be in the first position as before while Sikkim was found to be in the last position.

Different Levels of Development with Area and Population for the years 2004-05 and 2016-17

In order to classify the States into different development stages the following classification holds which is obtained by following the methodology mentioned in data and methodology part. This is presented in the table below.

Table 3: Different levels of Developments

	2004-05	2016-17
AGRICULTURE		
High	$D_i \leq 0.71$	$D_i \leq 0.65$
Medium	$0.72 \leq D_i \leq 0.79$	$0.66 \leq D_i \leq 0.74$
Developing	$0.80 \leq D_i \leq 0.86$	$0.75 \leq D_i \leq 0.83$
Low	$D_i \geq 0.87$	$D_i \geq 0.84$
SOCIAL		
High	$D_i \leq 0.33$	$D_i \leq 0.26$
Medium	$0.34 \leq D_i \leq 0.50$	$0.27 \leq D_i \leq 0.44$
Developing	$0.51 \leq D_i \leq 0.67$	$0.45 \leq D_i \leq 0.62$
Low	$D_i \geq 0.68$	$D_i \geq 0.63$
INFRASTRUCTURE		
High	$D_i \leq 0.51$	$D_i \leq 0.51$
Medium	$0.52 \leq D_i \leq 0.63$	$0.52 \leq D_i \leq 0.65$
Developing	$0.64 \leq D_i \leq 0.75$	$0.66 \leq D_i \leq 0.79$
Low	$D_i \geq 0.76$	$D_i \geq 0.80$
SOCIO-ECONOMIC		
High	$D_i \leq 0.67$	$D_i \leq 0.59$
Medium	$0.68 \leq D_i \leq 0.75$	$0.60 \leq D_i \leq 0.69$
Developing	$0.76 \leq D_i \leq 0.83$	$0.70 \leq D_i \leq 0.78$
Low	$D_i \geq 0.84$	$D_i \geq 0.79$

Source: Authors own computation.

Thus, on the basis of the above classification the States are divided into Highly Developed, Middle level Developed, Developing and Low Developed category along with the percentage of the area and percentage of population under each category for both the years 2004-05 and 2016-17. This is shown with the help of the table 4.below.

Table 4: Different levels of Development with Area and Population for the years 2004-05 and 2016-17

Levels of Developments	2004-05			2016-17		
	No. of States	Area (%)	Population (%)	No. of States	Area (%)	Population (%)
AGRICULTURE						
High	2	36%	73.47%	2	13%	14.55%
Medium	1	9%	5.95%	3	47%	9.76%
Developing	4	47%	14.7%	2	10%	7.3%
Low	1	8%	5.88%	1	30%	68.37%
SOCIAL						
High	2	16%	8.25%	1	8%	2.39%
Medium	2	13%	14.96%	3	21%	20.52%
Developing	2	36%	73.47%	2	36%	72.71%
Low	2	35%	4.21%	2	35%	4.36%
INFRASTRUCTURE						
High	2	17%	8.25%	2	9%	5.67%
Medium	2	14%	10.98%	1	8%	2.39%
Developing	3	37%	77.97%	4	74%	85.42%
Low	1	32%	2.82%	1	9%	6.50%
SOCIO-ECONOMIC						

High	2	17%	8.23%	1	8%	2.39%
Medium	3	44%	76.73%	4	27%	25.62%
Developing	1	4%	8.05%	1	29.92%	68%
Low	2	35%	4.21%	2	35%	4.21%

Source: Authors own computation.

In the above table 4 in the year 2004-05 we find that in case of agricultural development 2 States viz., Assam and Nagaland were found to be in the highly developed category among the NE States covering an area of 36% and 73.47% of the population of the NER. Only 1 State viz., Meghalaya was found to be in the middle level of development covering an area of 9% and 5.95% of the population. While 4 States Arunachal Pradesh, Mizoram, Sikkim and Tripura were found to be in the developing stage covering 47% of the area and 14.7% of the population. Manipur was the only state in the low developed category which accounts for 8% of the area and 5.88% of the population in the region. However, in the year 2016-17 Tripura and Meghalaya were found in the highly developed category comprising only 13% of the area and 14.55% of the population. While 3 states viz., Arunachal Pradesh, Mizoram and Nagaland covering an area of 47% and 9.76% of the population was found to be in the middle developed category. While, 2 States viz., Manipur and Sikkim were found in the developing category comprising 11% of area and 7.3% of the population. While, Assam which was previously in the highly developed category was found to be in the low developed category in the year 2016-17 comprising 30% of area and 68.37% of the population in the region. Thus, we find that major portion of the region was found to be in the low developed category.

In case of social indicators in the year 2004-05 only Manipur and Mizoram was found to be in the highly developed category covering an area of only 16% and 8.25% of the population. Meghalaya and Tripura were found to be in the middle developed category comprising 13% of area and 14.96% of the population. Assam and Nagaland covering 36% of area and 73.47% of the population were under the developing category and Arunachal Pradesh and Sikkim were found to be in the low developed category comprising 35% of the area and 4.21% of the population. In 2016-17, Mizoram was able to maintain its position to be the only State in the highly developed category comprising only 8% of area and 2.39% of the population. While the major portions of the area and population in the region is still under the developing and low developed category. Thus, we find that even at present major portion of the region are still in the lower categories of development in social indicators.

In the infrastructural field, we find that in the year 2004-05 major % of the area and population in the region i.e. 74% and 85.42% are in the developing category. Sikkim and Nagaland were found to be in the highly developed category comprising only 9% of the area and 5.67% of the

population in the region. While in the year 2016-17, the situation was more or less similar were major portion of the region was under the developing category. However, Mizoram and Meghalaya were found to be in the highly developed category comprising 17% area and 8.23% of the population.

With respect to overall socio-economic development in the year 2004-05 two states viz., Meghalaya and Mizoram were found to be in the highly developed category which comprises of 17% of the area and 8.23% of the population in the region. Assam, Manipur and Nagaland were found to be in the middle developed category comprising 44% of the area and 76.73% of the population. Tripura which comprises of only 4% of the area and 8.05% of the population was found to be in the developing category. Arunachal Pradesh and Sikkim were found to be in the low developed category comprising 35% of the area and 4.21% of the population. Meghalaya and Mizoram were found to be in the highly developed category because both these States performed better in agricultural, social and infrastructural sectors. In the year 2016-17, only Mizoram was found to be highly developed covering 8% of area and 2.39% of population in the region. Manipur, Meghalaya, Nagaland and Tripura were found in the middle developed category comprising 27% of area and 25.62% of the population. Assam covering an area of 30% and 68% of the population was found to be in the developing category which was previously in the middle developed category. Arunachal Pradesh and Sikkim were found to be in the low developed category as before. This is so because of very poor development status of few variables in all the sectors i.e. agriculture, industry, social and infrastructure as well.

Potential Targets of Development Indicators for the Low Developed states

For improving the level of development of the low developed States it is useful to estimate the extent of improvement needed, this is so because it will help in allocating the resources in the correct manner to achieve the goal of balanced growth. For estimating the potential target model States are identified which is presented below in table 5.

Table 5: Model States

Low Developed States	Model States
Arunachal Pradesh	Manipur, Meghalaya, Mizoram, Nagaland
Sikkim	Assam, Manipur, Meghalaya, Nagaland

Source: Authors own computations.

Improvement is needed in the various developmental indicators for the low developed States along with the present value (2016-17) are given in the table 6 below.

Table 6: Potential targets for low developed States

Developmental Indicators	Arunachal Pradesh	Sikkim
1. %of Net Sown Area	0.23(0.03)	0.36(0.11)
2. Cropping Intensity (%)	130.21(132.89)*	144.43(176.62)*
3. Productivity of Cereals(kg/ha)	1871(1733)	1922(1681)
4. Productivity of Pulses(kg/ha)	1446(1011)	1446(961)
5. Productivity of Rice (kg/ha)	2555(1476)	2555(1507)
6. Productivity of Wheat (kg/ha)	2031(895)	2453()
7. Productivity of total oilseeds(kg/ha)	1112(1040)	1091(909)
8. % of net irrigated area to net sown area	28.3(24.9)	28.3(15.6)
9. PCNSDP at factor cost(Agriculture)	11768.44(18717.93)*	18717.93(11786.44)
10. Literacy Rate	91.58(66.95)	80.11(82.20)
11. Infant Mortality Rate	11(32)	11(26)
12. % of people below the poverty line	17.1(25.9)	17.1(13.1)
13. Population Per Bank Branch	6379(9814)	8803(169)*
14. Credit-Deposit Ratio	39.9(29.1)	37.2(37)
15. Road length per 100 sq. km	220.76(29.22)	399.83(91.95)
16. Total registered vehicle (per lakh of the population)	14708(10912)	14708(7043)
17. Per Capita availability of Power(KWH)	551.3(441.2)	551.3(656.5)*
18. No. of schools per '0000 population	49(29)	49(21)
19. No. of colleges per '0000 population	3(2)	3(2)
20. No. of govt. hospitals per lakh of the population	8(16)	5(5)
21. No. of govt. beds per lakh persons	27(24)	22(18)

Source: Author's own computation. (* Indicates that actual achievement is better than potential target. Figures in brackets are actual values)

VII. CONCLUSION

Thus, from the study we can conclude that wide disparities in the level of socio-economic development have been observed between the different States of the NER over the two time periods (2004-05) and (2016-17). The level of development is assessed separately for agricultural, social, infrastructural sectors and overall socio-economic development. In the agricultural sector, over the two time periods, disparities among the States remained more or less the same. Assam is found to be the low developed State among the NE States. This is so because in most of the indicators selected to assess the agricultural development, this State showed very low performance. The irrigation facility in the State was inadequate which may be one reason for low productivity. In the social and infrastructural sectors, the disparities remained more or less the same. In social sector, we found two States Sikkim and Arunachal Pradesh to be in the low developed category. The social sector facilities are not up to the mark in these two States. Moreover, infrastructure which is the backbone of any economy is also not adequate in the region. Meghalaya was found to be the only State which was placed in the low developed category. Both physical and social infrastructure are important for an economy to prosper. Both these facilities are inadequate in this State. Thus, when we consider the overall socio-economic development based on optimal combination of all the developmental indicators we find that over the two time periods the disparities were increasing. With reference to overall socio-economic development, at present only Mizoram was found to be in the highly developed category while Arunachal Pradesh and Sikkim were found to be in the low developed category. Further, it must be noted that the low developed States are not low developed in all the fields but in some indicators they are quite at high levels of development.

VIII. SUGGESTION AND RECOMMENDATION

Thus, the suggestions that can be provided on the basis of the study are as follows-

1. Firstly, Assam is found to be agriculturally low developed among the NE States at present. Assam is found to be low developed because in most of the indicators selected to assess the agricultural development, this State showed very low performance. The irrigation facility in the State was found to be inadequate which may be one reason for low productivity. Measures must be taken to improve the irrigation facilities which will help in improving the agricultural status of the State.
2. Secondly, in case of social sector indicators, Sikkim and Arunachal Pradesh were found to be low developed States in the NER. The social sector facilities were not up to the mark in the region particularly in these two States. Steps should be taken

by the government to provide adequate social sector facilities because these facilities indirectly contribute in economic development in the economy.

3. Thirdly, infrastructural facilities in the region are inadequate. Infrastructure which is the backbone of any economy is lagging behind in the NER. Meghalaya was found to be in the low developed category among the NER. Both physical and social infrastructure facilities are inadequate in the State. Thus, the government should come forward to improve both these infrastructure facilities. The indicators selected for infrastructural facilities in this study are the minimum facilities which are required to uplift any economy. Thus, steps must be taken to improve both these facilities to uplift the economy in the region.
4. Fourthly, when we assess the overall socio-economic development in the States of NER, we found that Arunachal Pradesh and Sikkim are found to be in the low developed category. It is observed that the low developed States are not low developed in all the indicators but in some indicators they are high or middle level developed. So, steps must be taken by the government in those areas where the necessity is more and urgent.

Thus, if the government wants equitable distribution of developmental facilities, attention should be focused on the States whose development has lagged far behind. It is observed that the low developed States are not low developed in all the indicators but in some indicators they are high or middle level developed. To speed up the equitable socio-economic development focus must be laid on concrete areas and dimension specific policies are urgently called for. Thus, concerted efforts on the part of both the Centre and State governments are required.

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