

Regional Variation and Development Perspectives: A Study of North East India

Dr. Golab Chandra Nandi

Assistant Professor, Department of Economics,
S. S. College, Hailakandi-788151, Assam

Abstract:

The success of all economic policies and programmes should be evaluated in terms of their ability to generate human capability, since all such policies are based ultimately for the betterment of the quality of lives of people. The goals of sustainable development can be achieved only through inclusive development. In formulating development policies, regional variation should be addressed properly otherwise lop-sided development will be invited that itself set backward dynamics. The present study finds that uneven human development across the states in the region is quite significant. The study also reveals that the socio-economic components are having positive role in determining the level of human development in North-Eastern states. The study further supports the premise that along with economic growth, human capability expansion is also one of the obvious requirements for sustained human development in the North-eastern region.

Key Words: Regional Variation, Inclusive Development, Human Capability, Human Development, North-east India

1. Introduction:

The qualitative aspects of human life in developing countries, like India, and backward regions, like North East India, leave much to be desired as there has been rapid quantitative addition to the population on the one hand and widespread poverty, illiteracy unemployment and underemployment, low standard of living and low per capita productivity on the other. So, the attention given to the development of human capital is not meant to downplay the importance for their factor of economic development such as physical capital, technological development, macro—economic policies etc. The development of human capital through eradication of illiteracy and poverty and improvement of public health would motivate the people to work for themselves to create the possibilities of further augmentation of their quality of life and effective freedom to lead the lives they have reason to seek, which in turn do have instrumental role in making them more productive and helping to generate more outputs and incomes. The success of all economic policies and programmes should, therefore, be evaluated in terms of their ability to generate human capability, since all such policies are based ultimately for the betterment of the quality of lives of people. It is therefore extremely essential that no backward economy, like that of Northeast, with its own special and some peculiar characteristic problems should be caught in the grip of human deprivation and allows development plans to be hampered. It is in this context it would be desirable to have a snapshot view of the status of human development in North-eastern States to analyze their respective strengths and weaknesses on some relevant human development indicators,

as well as identifying areas for concerned policy focus. The study is conducted on the basis of empirical evidences of North East region of India.

1.2- Profile of the North East India:

The North – Eastern region of India consisted of eight states, namely, Assam, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Tripura, Nagaland and Sikkim. In terms of composition of population, topography, culture and economic development there is a great diversity among the states of the region. The north eastern region of India accommodates 3.8 percent of the total population and covers 7.76% of geographical area of the country. The total population of the region as per 2001 census was 3.89 crores. In almost all the states, except Tripura, the growth rate of population during the decades 1980s and 1990s was higher than the national average. Except Assam and Tripura the density of population in all the states of the region is much below the national average. Along with natural growth of population migration is also seen as an important factor in this regard. The entire region is predominantly rural with more than 80 percent of population lives in the villages. The North Eastern region is home to over 200 of the 635 tribal communities in the country, most of who live in the hill states of Mizoram, Nagaland, Meghalaya and Arunachal Pradesh, and form an overwhelming majority of the population of these states. In four states, i.e., Mizoram, Meghalaya, Nagaland and Arunachal Pradesh the tribal people comprise a majority of the population. The total literacy rate of the population in the region at 68.5 per cent, with a female literacy rate at 61.5 per cent, is higher than the country's average of 64.8 per cent and 53.8 per cent, respectively. Mizoram has the second highest literacy rate in the country, while Assam, Arunachal Pradesh and Meghalaya are below the country average. Another significant demographic composition of the North Eastern states is the higher concentration of scheduled tribe population of the country. Per capita Monthly Consumption Expenditure (PCMCE) was as low as Rs. 147.52 in the year 2000 at 1983 prices. Assam had the lowest PCMCE of Rs. 99.81 as against highest PCMCE of Rs 228.04 for Nagaland. The percentage of people living below the poverty line is also higher in all the North Eastern states than the country as a whole. The highest percentage of people below the poverty line was estimated for Sikkim (36.6 percent) and the lowest percentage for Mizoram (19.5 percent) (Nayak, 2010).

1.3- Conceptual Framework:

Human Development has now been accepted as the ultimate goal of human activity and has replaced economic growth, which was emphasized till the 1980s. *United Nations Development Programme (UNDP)* in its first report on human development (*HDR 1990*) introduced the concept of human development index as a composite measure of economic progress and human welfare. The work of Mahbub ul Haq, Amartya Sen and others provided the conceptual foundation for an alternative and broader development approach defined as **a process of enlarging people's choices and enhancing human capabilities** (the range of things people can be and do) **and freedoms**, enabling them to: live a long and healthy life, have access to knowledge and a decent standard of living, and participate in the life of their community and decisions affecting their lives. The concept of human development looks beyond per capita income. In turn it assesses such factors as human freedom, dignity and human agency, that is, the role of people in development. Human development reflects

human outcomes in functioning's and capabilities. It primarily consists of the removal of those conditions of social deprivation and discrimination that restrict capabilities of, and deny opportunities for, participating in normal economic and social activities. Human development has always been flexible and open-ended with respect to more specific definitions. There can be as many human development dimensions as there are ways of enlarging people's choices. The key or priority parameters of human development can evolve over time and vary both across and within countries.

2. Literature Survey on the Issue of Human Development:

In this section review of some selected literature on aspects of human development reveals various dimensions encountered in the computation of the indices and also provides empirical evidence. In an attempt Khan (2004) measures the inter-state variation in the human development in India. The study reveals that the level of human development is quite low in many states of India and there is widespread inter-state variation in it. In parallel efforts, Singh and Nauriyat (2006) aim to identify the main elements of successful state performances in Human Development. The paper clearly evidences that excessive policy focus on one and ignoring the other may lead to low levels of both economic growth and human development in the long run. Mandal (2003) generates an overall ranking of major Indian states in terms of level of human development as indicated by certain indicators, like, Per capita net state domestic product, life expectancy at birth, literacy rate, female-male ratio. The study finds that the progress in human development in India is marked by unevenness and stagnation. Key findings in Nayak (2010) reveal that the North-East region in respect of human development is highly lagging behind that the rest of states in India. Chatterjee (1999) make an attempt to study the present state of affairs prevailing in the social sectors of the North-eastern states of India. The study finds that development of social sector is essential for development of this region. The study of Mahajan (2009) reveals that low level of human development in north-eastern states of India reflects the high human deprivation among its populace.

3. Objectives of the Study:

1. To investigate whether inter-state variation exists in the level of Human Development across North Eastern States of India
2. To identify the correlates of human development in North-east region of India.

4. Data Source:

The study is basically based on secondary data for the time period 1981, 1991 and 2001, which are to be collected from various reports of Government of India. Data on poverty ratio was taken from Planning Commission Report, Government of India. Data on literacy rate (aged 7 above) and Gross Enrolment Ratio (I-V, VI- VIII and IX-X) were collected from Office of the Registrar General, India and Selected Educational Statistics, Department of Education, Ministry of Human Resource Development, respectively. Economic Survey (2010-11) provides data on household access to safe drinking water. National Human Development Report (2001) and Census of India (2001) provide data on percentage of households living in pucca houses and percentage of households with electricity connection. Data on Infant Mortality Rate are collected from Office of the Registrar General of India, Ministry of Home Affairs. For Census data (1981) related to Assam,

average of North- East value is used as proxy values for the period 1981. Per Capita NSDP across the states over the period of time (at price 1999-00) are collected from CSO, 2009.

5. Methodology:

5.1 Construction of Human Development Index (HDI) for North-Eastern States:

HDI measures the average achievements in three basic dimensions of human development- Health Attainment, Educational Attainment and Economic Attainment.

The Present paper constructs HDI (following NHDR formula) with the following indicators:

- Health Attainment measured by Infant Mortality Rate (IMR),
- Educational Attainment measured by combination of (i) literacy rate (%) of age 7 years above (LR) and (ii) combined gross enrolment ratio (CGER),
- Standard of living (Economic Attainment) measured by Combination of (i) percentage of population living above poverty line (PPLAPL), (ii) percentage of household access to safe drinking water (PHASDW), (iii) percentage of household living in pucca houses (PHLPH), (iv) percentage of household with electricity connection (PHWEC)

$$HDI_j = 1/3 * \sum_i (X_i)$$

Where, HDI is for the jth State, i goes from 1 to 3. Before the HDI itself is calculated, an index needs to be created for each dimension. To calculate these dimensions indices- minimum and maximum values (goalposts) are chosen for each underlying indicator. Performance in each dimension is expressed as a value between 0 and 1. For health indicator dimension index (DI) is estimated as $X_i = (X_i^{**} - X_{ij}) / (X_i^{**} - X_i^*)$ (As IMR and development is inversely related), whereas, for educational and economic indicators DI is estimated as $X_i = (X_{ij} - X_i^*) / (X_i^{**} - X_i^*)$. X_{ij} refers to attainment of the Jth State on the ith indicator; X_i^{**} and X_i^* are the scaling maximum and minimum norms. In case of IMR maximum and minimum values are chosen as 163 (Orissa) and 11 (Kerala) respectively over the time period 1981, 1991 and 2001. For all other indicators maximum value is 100 and minimum value is 0.

Educational Attainment Index (EAI) is computed as $EAI = (0.65 LRI + 0.35 CGEI)$ and Standard of Living Index (SLI) is given by $SLI = (0.16 PHLPHI + 0.16 HASDWI + 0.16 HWECI + 0.52 PPLAPLI)$.

To evaluate level of human development attainment and its variation across north eastern states over the period statistical tools like average and standard deviation have been used. Moreover, Pearson Correlation Coefficient has been used to trace out the association between human development indicators. To determine the correlates of human development in north eastern region, multiple regression model is been fitted as

$$HD = \beta_1 + \beta_2 FL + \beta_3 PCNSDP + \beta_4 SSE + \beta_5 UR + u$$

6. Empirical Analysis and Findings of the Study:

The HDR 2004 of UNDP ranks countries in the HDI range 0.8 and above in the High Human Development (HHD) group. Countries in the HDI range 0.5 to 0.8 in the range of Medium Human Development (MHD) group and countries in the HDI range of less than 0.5 in the Low Human Development (LHD) group. Accordingly, out of all North- Eastern States in India only Manipur and Nagaland come into the category of medium human development group for the period 1981 and the rest fall into low human development

category. Arunachal Pradesh witnessed the lowest HDI value of 0.323 and Manipur the highest value of 0.619. Manipur does the best followed by Mizoram during the period 1991 and it stands second following Mizoram in 2001 on human development performance. In 1991, Meghalaya is the only state that comes into the category of low human development, whereas, in 2001 Assam is the poorest performer on human development as shown in Table 1 (estimated by authors) (NHDR, 2001).

Overall, North-Eastern States have been putting improving performance on human development attainment over the decades. In 2001 all the North Eastern states show better results in terms of human development attainment than earlier two decades (as depicted in Figure 1). In 2001, Mizoram comes into the category of High Human Development with HDI value 0.816 and all other states of North East region are placed under Medium Human Development Group with HDI value higher than 0.5.

Table 1 – HDI Ranking for North -Eastern States over the period 1981-2001

STATES	HDI 1981	Rank	HDI 1991	Rank	HDI 2001	Rank
Arunachal Pradesh	0.323	8	0.509	6	0.67	6
Assam	0.428	5	0.501	7	0.606	8
Manipur	0.619	1	0.7	1	0.764	2
Meghalaya	0.458	4	0.497	8	0.654	7
Mizoram	0.479	3	0.695	2	0.816	1
N agaland	0.544	2	0.674	3	0.728	3
Sikkim	0.362	7	0.629	4	0.71	5
Tripura	0.391	6	0.582	5	0.727	4
India	0.415		0.581		0.633	

Source: Estimated by Author

Figure 1 – Relative Performance of North Eastern States on Human Development

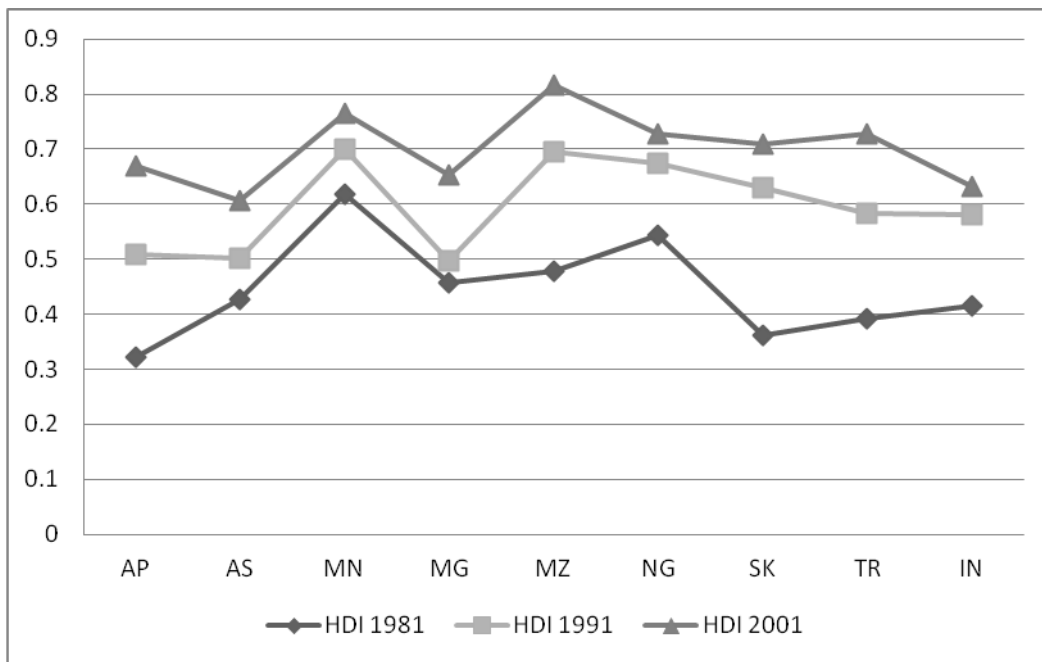


Table 2: Indicators showing Regional Disparities on Human Development across North- Eastern States

	Mean	Standard Deviation
HDI for NE States (1981)	0.4505	0.09720
HDI for NE States (1991)	0.5984	0.08810
HDI for NE States (2001)	0.7094	0.06581

Source: Estimated by Author

Table 2 depicts that the average HDI values over the periods of time (1981, 1991 and 2001) are increasing. This also reveals the good performance of North Eastern states in achieving the fruits of human development. The standard deviation value of HDI for North Eastern states over the decades are gradually decreasing. This implies that regional disparities on human development attainment are decreasing across North-Eastern states over time. Low standard deviation in 2001 reveals that the level of human development in north eastern states is, by and large, very close to one another (Nayak and Ray, 2010; Roy and Adhikari, 2010)

Table 3: Correlation between Components of Human Development

	EAI	HI	SLI	HDI	PCNSDP
EAI	1.000	.739**	.645**	.897**	.713**
HI		1.000	.682**	.946**	.631**
SLI			1.000	.804**	.639**
HDI				1.000	.730**
PCNSDP					1.000

Source: Estimated by Author

** Correlation is significant at the 0.01 level (2-tailed).

The study shows that all the components, namely, Educational Attainment Index (EAI), Health Index (Health Index), Standard of Living Index (SLI), Per Capita Net State Domestic Product (PCNSDP), and Human Development Index (HDI), are highly positively and significantly correlated at 1 per cent level of confidence (Table 3), which suggests that income and non-income components are influencing each other in positive direction and at the same time both the components are having positive role in determining the level of human development in North-Eastern states of India.

In order to present a pooled data analysis on the relationship between human development and its determinants across North-eastern states over the period 1981, 1991 and 2001, the present study used Human Development Index (HDI) as dependent variable and Per capita Net State Domestic Product (PCNSDP), Percentage Share of Annual Plan Expenditure on Social Sector (Exp. on SS), Urbanization Rate (UR), Female Literacy Rate (FL) as independent variables. The study used three different models due to the presence of multicollinearity problem among the independent variables and the regression results are shown in Table 4.

Table 4 – Determinants of Human Development in North-east India

Independent Variables	Model 1	Model 2	Model 3
C	.314 (2.88)*	.108 (1.61)	.262 (4.53)*
PCNSDP		.685 (5.79)*	
Exp. on SS	.479 (2.56)*		
UR		.347 (2.93)*	
FL			.781 (5.86)*
N	24	24	24
Adj. R square	.194	.706	.591
DW	1.75	2.17	2.00
F-stat	6.55	28.60	34.30
Prob. (F-stat.)	.018	.000	.000

Notes- Figures in Parentheses are t-statistics, * denotes significant at 1% level, C indicates intercept.

The Adj. R-square values for Model 2 and Model 3 (Table 4) exhibited a high coefficient of determination. The D-W statistics also showed no sign of auto-correlation and highly statistically significant F-statistics indicates that the models are meaningful.

The results show that all the explanatory variables, viz, PCNSDP, Exp. on SS, UR, and FL revealed positive relationship with HDI and the coefficients of the variables come out statistically significant. Further, it exhibited that out of four explanatory variables female literacy rate (FL) in the region had a greater impact on human development, though, other three variables had contributed to a great extent in determining the level of human development in the region. The study supports the findings that The relationship between EG (GNP) to HD is stronger if lower is the proportion of population living below the poverty line, society is egalitarian, more expenditure is made by households on HD, higher is the female literacy, more is female control over income, higher proportion of GNP devoted to priority social expenditure by Government (Ranis, Stewart and Ramirez, 2000; Mehta, 2003; Borbora, 2010).

7. Conclusion:

Development experience in North-Eastern region has been mixed and uneven. While some states in the region have performed better than India, some others have lagged behind. Only Mizoram attains high level of human development while others are placed under medium and low category of human development. Again, though the results show that regional disparities on human development attainment are decreasing across North-Eastern states over time, still uneven human development across the states in the region are quite significant and there has been high degree of disparity across the states as reflected in the levels of attainment in various dimensions of human development in the region. Therefore, there is an urgent need to set priorities for target oriented and region-specific government policies. The study also reveals that though the socio-economic components are having positive role in determining the level of human development in North-Eastern states yet higher level of human development is found to be a product of accumulated benefits that accrue to the region from investment on social sector in the form of education and health. Further, it is found that Per Capita NSDP, Expenditure on Social Sector, Urbanisation Rate and more importantly Female Literacy have been positively influencing the level of human development in the region and thus, the study supports the premise that along with economic growth, human capability expansion is also one of the obvious requirements for sustained human development in the North-eastern region. Therefore, policies and programmes are to be formulated in such a way that economic growth should strengthen the expansion of human capability which will greatly determine the level of human development in the region.

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