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Human Development in North East India

Purusottam Nayak

Abstract

In spite of India pursuing the policy of liberalization and globalization since early eighties and witnessing higher growth rates has not been able to achieve much on account of human development and welfare both at national level and at the level of North East India. Human development index is below 0.62 in India and much below in its North Eastern Region. Rural-urban disparity, gender disparity and uneven human development across the States in the region are quite significant. The disturbing trend of increasing gender disparity in Nagaland and escalating rural-urban gap, particularly in the States of Assam and Meghalaya is a matter of concern. The present paper in this regard is an attempt to highlight some of these issues and calls for an urgent need for taking appropriate action in this regard.

Introduction

The development and growth of a nation greatly depends upon proper utilization of its human resources. To utilize these resources, there is a need to convert human beings into human resources. Since the basic objective of development of a nation is to improve the welfare of the people, every nation strives hard not only to increase her wealth and productive resources but also to ensure better standard of living of her citizens by providing them with adequate food, clothing, house, medical facilities, education, etc. However, technical considerations of the means to achieve human development and the use of statistical aggregates to measure national income and its growth have at times obscured the fact that the primary objective of development is to benefit people. National income figures, though useful for many purposes, neither reveal its composition nor its real beneficiaries. Of course, people want higher incomes as one of their options; it is neither the sum total of human life nor the end in itself. Thus expansion of output and wealth is only a means; end of development is the welfare of human beings. To measure the welfare of the people UNDP in its first report on human development (UNDP 1990) introduced the concept of human development and its measurement. It was introduced as a composite measure of economic progress and human welfare and intended to be a better substitute to Per Capita Income (measure) that could neither capture nor exhibit exact level of development of

human beings nor that of nations. The measure is popularly known as human development index (HDI).

Recent development experience has underlined the need for paying a close attention to the link between economic growth and human development because many fast-growing and developing countries having high GNP growth rates have failed to reduce the socio-economic deprivation of substantial sections of their population. At the same time some low-income countries have achieved high levels of human development by skillfully using the available means to expand basic human capabilities. Countries like Viet Nam, Georgia, Indonesia and Jamaica having relatively very low per capita GDP (PPP US $ 3071, 3365, 3843 and 4291) could achieve medium levels of human development (0.733, 0.754, 0.728 and 0.736) whereas Botswana and South Africa in spite of having very high per Capita GDP (PPP US $ 12,387 and 11,110) achieved relatively lower level of human development (0.654 and 0.674) {Table 1}. Therefore, there has been a need for shifting our emphasis from per capita GDP to HDI.

In the last two decades human development index has been used very widely by the governments of various nations for planning purposes. Various scholars and organizations have also undertaken a number of research studies using the index to focus the magnitude of human development of various sections of society in different countries. This has helped a lot in formulating plans for improving the life of the neglected sections of the societies in different countries. Keeping all these points in view the present study is undertaken on the status and progress of human development in a backward region like North-East India comprising eight States which is predominantly a region of tribal people.

Measurement of Human Development

Though HDI was proposed by UNDP in 1990, many criticisms were raised against its construction and robustness in the subsequent periods. As a result some improvements were brought out in its construction in the subsequent reports of UNDP. It is now in its present form as a composite index of three basic components of human development, viz., longevity, knowledge and standard of living. Longevity is measured by life expectancy. Knowledge is measured by a combination of adult literacy having one-third weight and mean years of schooling with two-third weight. Standard of living is measured by purchasing power, based on real GDP per capita adjusted for the local cost of living (purchasing power parity, or PPP). The HDI sets a minimum and a maximum for each dimension and then shows where each country stands in relation to these scales. It is expressed in terms of a numerical value between 0 and 1. The scores for the

three dimensions are then averaged in an overall index. The latest formula used for the first two individual indicators {Life Expectancy Index (LEI) and Education Index (EI)} is as follows:

$$\text{LEI or EI} = \frac{X_i - Min(X_i)}{Max(X_i) - Min(X_i)}$$

The income indicator (GDP Index) is calculated using the following formula:

$$GDPI = \frac{Log(X_i) - Log\{Min(X_i)\}}{Log\{Max(X_i)\} - Log\{Min(X_i)\}}$$

Finally the HDI is calculated by taking the average of these three indices (LEI, EI and GDPI). For the construction of the dimension indices maximum and minimum values have been fixed as shown in Box 1.

BOX - 1

SCALING NORMS OF HDI USED BY UNDP

Indicators	Maximum Value [Max(X_i)]	Minimum Value [Min(X_i)]
Life Expectancy at Birth (Years)	85	25
Adult Literacy Rate (%)	100	0
Combined Gross Enrolment Ratio (%)	100	0
GDP Per Capita (PPP US $)	40,000	100

Source: UNDP 2003

In this regard some changes in the formula of HDI were brought out by the Government of India (Planning Commission) in the National Human Development Report 2001 (GOI 2002). A composite health index consisting of life expectancy with a weight of 65 per cent and infant mortality rate with a weight of 35 per cent was proposed. Similarly, in case of composite index on educational attainment, while literacy rate was given a weight of 35 per cent, the indicator capturing intensity of formal education (based on current enrolment rates in successive classes at school level) was assigned 65 per cent weight. In case of indicator on economic attainment namely, inequality adjusted per capita consumption expenditure, an adjustment for inflation over the period was made to make it amenable to inter-temporal and inter-spatial comparisons. The maximum and minimum values for each dimension as used in NHDR are shown in Box-2.

BOX - 2		
SCALING NORMS OF HDI USED BY PLANNING COMMISSION OF INDIA		
Indicators	Maximum Value [$Max(X_i)$]	Minimum Value [$Min(X_i)$]
Life Expectancy at Age 1 (years)	80	50
Infant Mortality Rate (per thousand)	-	20
Literacy Rate (for 7 +Years)	100	0
Adjusted Intensity of Formal Education	7	0
Per Capita monthly Consumption Expenditure in Rupees (at 1983 prices)	325	65

Source: Planning Commission of India

An Overview of Literature

There are two types of literature available on human development- one on the methodological aspects and the other on empirical evidence. As far as methodological aspect is concerned numerous efforts have been made to remedy the defects of the traditional measure of economic development and to suggest composite indicators that could serve as either complements or alternatives to this [AID (1970), UNRISD (1970), Adelman and Morris (1973), UN (1975), OECD (1976), UNESCO (1977), Morris, D.M. (1979), Hicks, D.A. (1997), Noorbakhsh, F. (1998), Sagar, A.D. and A. Najam (1998), Neumayer, E. (2001), Ogwang, T. and A. Abdella (2003), Arcelus, F.J., Sharma, B. and G. Srinivasan (2005), Leigh, A. and J. Wolfers (2006)]. Since the publication of first HDR the trend has been towards improvement of the method of measurement of human development and so far there have been three successive attempts in this regard in 1991, 1994 and 1999 by UNDP.

Few important works on human development which could not be reviewed for want of its access to individual papers are Desai, M. (1991), Jain, L.C. (1991), Tilak, J.B.G. (1991), Anand, S. and A. Sen (1993, 1995, 1997 and 2000), Pal, S.P. and D.K. Kant (1993), Haq, M. Ul (1995), Bardhan, K. and S. Klasen (1999), Nagar, A.L. and S.R. Basu (2000), Chakravarty, S.R. (2000), Chaubey, P.K. (2002), Bose, A. (2004) and many others. Other important empirical works in the literature on human development in the context of India that are readily available are reviewed in the following paragraphs:

Dalal (1991) in his edited volume pointed out that Indian development goals have been in tune with the Human Development Report. There has however been a significant failure in the

implementation of well-constructed policies as a result of lack of political will and administrative inefficiency.

The Govt. of India in the NHDR (1991 and 2001) compiled the HDI, GDI, and HPI for the entire country. However, the data for North Eastern States were prepared by taking the data of Assam (one of the big State in the region) as a representative one.

Shiva Kumar (1991) ranked 17 Indian major States by constructing the HDI using UNDP's methodology. He compared the rankings of these states with the rankings of the countries appeared in the report of UNDP. The absence of disaggregated data on health and life expectancy for the union territories and the North Eastern States of India prevented him in the computation of the HDI for these regions.

The subsequent study of Shiva Kumar (1996) revealed that States like Haryana and Punjab despite being relatively high-income States were facing the problem of serious gender inequality in basic capabilities. There were 13 countries in the world that had a lower value of GDI than that of the States like Bihar and Uttar Pradesh which pointed to the seriousness of the problem of human development at the global level.

Vyasalu and Vani (1997) conducted a study of human development in Karnataka using HDI. While making concluding remarks they suggested that sustained political support to an across-the-board improvement in each district was essential if the HDI was to show improvement.

Zaidi and Salam (1998) in their study correlated various indices denoting life expectancy, educational attainment and real GDP per capita to other parameters of the economies of 15 major States of India for finding out the causes of varying values of these indicators in different States. The study revealed that public expenditure had a more close association with educational attainment than it had with life expectancy as the latter is influenced by multiplicity of factors like heredity, race, climatic and environmental factors apart from public expenditures on health, nutrition and sanitation etc.

Viswanathan (1999) in her study, for the State of Madhya Pradesh, highlighted the fact that higher incomes do not always yield higher human development, and that higher human development does not always mean equal benefit to men and women.

The study of NCAER (1999) conducted in 1994 revealed that although relative differentials existed; absolute deprivation was high in most parts of rural India. Among the social groups, the poor spent disproportionately large amounts on health and education.

NIRD (1999) conducted a study for the major states of India for the years 1961, 1971, 1981 and 1987-88. The study revealed that HD scores had gone up in all the states over time. The poverty stricken States like Bihar and U.P. were at the lower rung and Gujarat made considerable progress on HDI. The ranking of States on HDI changed significantly during the last three decades. Gender discrimination was conspicuous in 14 States except Kerala and Karnataka

Rao (2000) made an attempt to bring out the insights provided by the human development report for the State of Karnataka. His study revealed that the State was lagging behind even in achieving what is regarded as minimum essential norms of human development.

Mahanty (2000) conducted a study with an alternative set of indicators for Andhra Pradesh for the years 1982-83, 1987-88 and 1992-93 using five different methods of index. He found that while the pattern of human development was relatively stagnant, some districts were lagging behind.

For the first time UNDP (HDR 2003) devoted an entire chapter on human development to the North East India that busted some popular myths, particularly on literacy rates and the status of women. The report identified several factors that had contributed to the depressing and dismal situation in the region.

Vijaybhaskar et al. (2004) in their study while highlighting the key findings of the Human Development Report of the state of Tamil Nadu mentioned that though the state had registered considerable progress in literacy and reduction of poverty it had failed miserably in arresting inter-district and intra-regional differences across gender and caste in human development achievements.

Nayak and Thomas (2007) conducted an in-depth study on human development by constructing HDI for all the seven districts of the state of Meghalaya. They analyzed the status and trend of human development and deprivation in Meghalaya vis-à-vis other leading States in the country using both primary and secondary data. The study revealed a low level of human development in the state accompanied with considerable degree of unevenness between rural and urban areas, across different districts and also between genders in the State.

Purohit (2008) in his study analyzed the factors that led to disparities of development in terms of various indicators such as per capita incomes, access to basic facilities and human development using district level data for three Indian States, namely, Orissa, Karnataka and Maharashtra representing respectively a poor, middle-income and high-income states and

attempted to reflect upon the phenomenon of convergence and divergence and two-way causation between human development and income. The findings of the study indicate a tendency to neglect the development of poorer districts in richer states. Skewed development priorities have favored better off districts in poorer states. Two-way regressions analysis carried out by him indicate the need for a more suitable development strategy incorporating appropriate state intervention that might lead to enhanced income through improved skills. The results support the contention that ongoing process of convergence at the district level might minimize inequality over a longer period of time provided state intervention is made to counteract the divergence in the social and economic infrastructure.

A number of studies which have been undertaken to examine the link between human development and economic growth and that were reviewed in the works of Nayak and Thomas (2007) are presented briefly. Anand and Ravallion (1993) viewed development indicators or social outcomes as aggregate of individual capabilities and found that GNP and life expectancy are significantly and positively related. Aturupane *et al.* (1994) in their empirical work observed that economic growth is negatively related to infant mortality rate. Similarly taking three income decomposed health aggregates- life expectancy, infant mortality and perinatal mortality Bidani and Ravallion (1995) found that overall per capita health spending has a positive effect on life expectancy at birth and infant mortality rate of the poor people. Geeta Rani (1995) found that economic progress in India is one of the important factors that determine the level of human development. Zaidi and Salam (1998) reported a high positive correlation between NSDP per capita and enrolment in higher education. The empirical findings of Chakraborty (1997) based on non-parametric approach revealed that dependency of life expectancy on income is tethered to time and space; income explains life expectancy only below a certain range and that range is moving up over time. Some studies confirmed the positive relationship between human development and economic growth using time-series data for developing nations (HDR, 1996 and Ranis *et al.*, 2000). Ranis and Stewart (2000) in their study outlined two chains: from economic growth to human development and from human development to economic growth. Boozer *et al.* (2003) while exploring the dual relationship between economic growth and human development urged that economic growth is just a means of human development while human development reinforces economic growth. Strong complementarities between investments in human development and attained sustained economic growth were emerged in the study of Muysken *et al.,* (2003). In the endogenous growth model, Schaper (2003) found that investment

in education is able to enhance economic growth and income equality depending upon the way of financing it. Dholakia (2003) in his study examined the trends in regional disparity in India's economic and human development over the past two decades. Findings suggested a two-way causality between the two. The structure of the relationship varied over time when human development indicators were the cause and the PCI was the effect, but in the reverse causality case the structure of the equations was found to be stable over time. Estimation revealed that HDI positively influenced PCI with a lag of about eight years whereas PCI affected the HDI within two years. World Bank (2004) by using mortality statistics of India documented that both household living standards and national income levels have a positive effect on the reduction of infant mortality rate (under age 1). Drawing attention on a series of advanced studies in human capital theory, basic needs as well as welfare approach, Ranis and Stewart (2005) viewed that in most cases economic growth and human development run parallel.

The review of literature on human development reveals that very few studies have been undertaken to focus on the status and trend of human development of the north eastern region using human development index. Therefore, the present paper in this regard is a humble attempt with the main objectives of testing the following hypotheses:

1. Human development and its growth in North East India are too low as compared to many countries of the world.
2. There exists yawning gap between females and males; the rural-urban gap and State-wise variation is significant over time in the region.

The North East India

North East India having a population of 39.04 million is basically a Region consisting of eight States, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. Among these eight States four States are having tribal population in majority, specifically Mizoram (94.5%), Nagaland (89.1%), Meghalaya (85.9) and Arunachal Pradesh (64.2%) [Table 2]. The region had a literacy rate of 65.8% as against the all India average of 65.2%. However, literacy rate varied from State to State in the region from a lowest figure of 54.7% (Arunachal Pradesh) to the highest figure of 88.5% (Mizoram). Per capita net State Domestic Product in the States varied from lowest figure of Rs. 1675 in Assam to highest figure of Rs. 3571 in Arunachal Pradesh and average of Rs. 2223 in the region in the year 1997-98 at 1980-81 prices. Per Capita Monthly Consumption Expenditure (PCMCE) was as low as Rs. 147.52 in 2000 at 1983 prices. Assam had the lowest PCMCE of Rs. 99.81 as against highest

PCMCE of Rs. 228.04 in Nagaland. 34.7% of people in the region were below poverty line in 2000 as against a national average of 26.1%. Highest percentage of people was estimated to be below poverty line in Sikkim (36.6%) and lowest percentage in Mizoram (19.5%).

Human Development in N.E. India

According to the 18th Human Development Report (UNDP 2007-2008), India has a long way to go. When Norway has a HDI values of 0.968 and 27 other countries in the world are having HDI values above 0.9 the corresponding figure in India is 0.619 (Table 1). Though India is a fast growing developing nation she is placed in the 128th rank at the global level. Even small neighboring countries in Asia like Mauritius (0.804), Sri Lanka (0.743), Maldives (0.741) and Indonesia (0.728) have surpassed India. The country has been witnessing a very poor growth in human development. The HDI value in the country during 1975 which stood at 0.411 was increased to only 0.476 in 1985 and further to 0.619 in 2005. Thus the country has witnessed an annual growth of merely 1.7 per cent on an average in a period of three decades.

The findings of the Planning Commission, Government of India on the magnitude and growth of human development has been quite different from that of the UNDP probably because of differences in their methodology of estimation. HDI value which was estimated to be 0.302 in 1981 improved to 0.381 in 1991 and subsequently to 0.472 in 2001 (NHDR 2001). When UNDP estimates showed a relatively high human development (0.619) with low annual growth (1.7%), estimates of Planning Commission showed a low human development (0.472) with a high annual growth (2.3%) over time.

Rural-urban disparity which was quite low in 1981 (0.179) and 1991 (0.171) which instead of improving got deteriorated and it stood at 0.204 in 2000 (Table 3, 4 and 5). Gender disparity continued to be at a staggering rate. When male literacy rate was 75.6% female literacy was 54.0% in 2001. Besides, there have been a wide spread disparity across the States in the country. The HDI varied between highest values of 0.638 in case of Kerala to the lowest value of 0.365 in Bihar.

As far as North East India is concerned the situation has been no different. During 1981 HDI value varied from the lowest figure of 0.242 in Arunachal Pradesh to the highest figure of 0.461 in Manipur. Similarly in 1991 the lowest and highest figures were 0.328 (Arunachal Pradesh) and 0.548 (Mizoram). The region witnessed further improvements in the last decade of the twentieth century. Assam witnessed the lowest HDI value of 0.362 and Mizoram the highest value of 0.552.

There has been a yawning gap between urban and rural areas. Human development in rural areas of the region has been consistently lower than that of the urban areas. The rural-urban disparity index varied from the lowest figure of 0.113 in Manipur to the highest figure of 0.234 in Tripura in 1981. The situation did not improve much in 1991 and also in 2000. In 2000, the highest disparity was observed in Assam (0.283) and lowest in Sikkim (0.175). The position of Meghalaya in this regard is worth mentioning. Her rank in rural-urban disparity deteriorated over time. Though Meghalaya occupied 3rd rank among all the States in the region in 1981, hers deteriorated to last (8th) rank in 1991 and subsequently to 2nd last in 2000.

Contrary to popular perceptions, the status of women in the region is far from being on an equal footing with that of men. Particularly gender disparity has been consistently very high in Tripura and Assam (Table 6). It was lower in three states, namely, Manipur, Meghalaya and Nagaland in the year 1981 as compared to all India average situations. In 1991 only two states such as Manipur and Meghalaya were better off. Extent of gender disparity has been varying widely from one state to another in the region. Surprisingly when gender disparity has been decreasing over time in all the States in the region it has deteriorated in Nagaland.

Conclusion

Indian economy in spite of being a fast growing developing economy and pursuing the policy of liberalization and globalization since early eighties has not been able to achieve much on account of human development and welfare. Human development index is below 0.62 in India and much below in its North Eastern Region. Rural-urban disparity, gender disparity and uneven human development across the States in the region are quite significant. The disturbing trend of increasing gender disparity in Nagaland and escalating rural-urban gap, particularly in the States of Assam and Meghalaya is a matter of concern. Therefore, there is an urgent need for taking appropriate action in this regard.

References

- Adelman, I. and C.T. Morris (1973): *Economic Growth and Social Equity in Developing Countries,* Stanford University Press, Stanford.
- Arcelus, F.J., Sharma, B. and G. Srinivasan (2005): "The Human Development Index Adjusted for Efficient Resource Utilization" Research Paper No. 2005/08, World Institute for Development Economics Research (WIDER), United Nations University.
- Morris, D.M. (1979): *Measuring the Condition of the World's Poor: The Physical Quality of Life Index,* Elmsford, NY: Pergamon Press.
- Anand, S. and A. Sen (1993): "Human Development Index: Methodology and Measurement", Human Development Report Office, Occasional Paper No.12, United Nations Development Programme, New York.
- Anand, S. and A. Sen (1995): "Gender Inequality in Human Development: Theories and Measurement", Human Development Report Office, Occasional Paper 19, United Nations Development Programme, New York.
- Anand, S. and A. Sen (1997): "Concepts of Human Development and Poverty: A Multidimensional Perspective", In United Nations Development Programme, *Human Development Report 1997 Papers: Poverty and Human Development,* New York.
- Anand, S. and A. Sen (2000): "The Income Component of Human Development Index", *Journal of Human Development*, Vol. 1, No. 1.
- Anand, S. and A. Sen (2006): "Human Development and Economic Sustainability", *World Development*, Vol.28 No.12, pp.2029-2049.
- Anand, S. and M. Ravallion (1993): "Human Development in Poor Countries: On the Role of Private Incomes and Public Services", *Journal of Economic Perspectives*, Vol.7, pp.133-150.
- Aturpane, H., Glewwe, P. and P. Isenman (1994): "Poverty, Human Development and Growth: An Emerging Consensus", *American Economic Review,* Vol.84 (May), pp.144-249.
- Bardhan, K. and S. Klasen (1999): "UNDP's Gender-Related Indices: A Critical Review", *World Development* Vol.27, No.6, pp. 985–1010.
- Bidani, B. and M. Ravillion (1995): "Decomposing Social Indicators Using Distributional Data". <http://www_wds.worldbank.org/external/default/WDSContentservices> (visited on 22 June 2006)
- Boozer, M., Ranis, G., Stewart, F. and T. Suri (2003): "Paths to Success: The Relationship between Human Development and Economic Growth", Discussion Paper No. 874, Economic Growth Center, Yale University. <http://www.econ.yale.edu/~egcenter/> (visited on 15 May 2006)
- Bose, A. (2004): "HDR's: Some Reflections", *Economic and Political Weekly*, January 24, 2004.
- Chakraborty, I (1997): "Living Standard and Economic Growth: A Fresh Look at the Relationship through the Non-parametric Approach". <http://cds.edu/download_files/wp283.pdf> (visited on 15 May 2006)

- Chakravarty, S.R. (2003): "A Generalized Human Development Index," *Review of Development Economics*, Blackwell Publishing, Vol. 7, No.1, pp. 99-114.
- Chaubey, P.K. (2002): "The Human Development Index: A Contribution to its Construction", *Indian Journal of Economics*, Vol.83, No.328, pp.95-100.
- Dalal, K.L. (1991)(ed.): *Human Development- An Indian Perspective,* Har-Anand Publications, Based on the papers presented in the National Symposium held in New Delhi, March 1991.
- Desai, M. (1991): "Human Development: Concept and Measurement", *European Economic Review*, Vol.35, pp.350-357.
- Dholakia, R.H. (2003): "Regional Disparity in Economic and Human Development in India", *Economic and Political Weekly*, September 27, 2003.
- Geeta Rani, P. (1995): "Human Development in India: A District Profile", *Arthavijnana*, Vol. 41, No. 1, pp. 9-30.
- Govt. of India (2002): *National Human Development Report 2001*, Planning Commission, New Delhi.
- Haq, M. Ul (1995): *Reflections on Human Development*, OUP, New York.
- Hicks, D.A. (1997): "The Inequality Adjusted Human Development Index: A Constructive Proposal", *World Development*, Vol.25, No.8, pp.1283-1298.
- Jain, L.C. (1991): "Human Development in Rural India – A Blue Print", in K.L Dalal (ed.) *Human Development-An Indian Perspective*, Based on the papers presented in the National Symposium held in New Delhi, March.
- Leigh, Andrew and Justin Wolfers (2006): "Happiness and the Human Development Index: Australia Is Not a Paradox", *The Australian Economic Review*, Vol. 39, No. 2, pp. 176–84.
- Mahanty, G. (2000): "Human Development in Andhra Pradesh: A District Level Analysis", *The Indian Journal of Labour Economics*, Vol. 43, No. 2.
- Muysken, J., Yetkiner, I.H. and Z. Thomas (2003): "Health, Labour Productivity and Growth" in H. Hagemann and S. Seiter (ed.) *Growth Model and Growth Policy*, Routledge, London, pp. 187-206.
- N.C.A.E.R New Delhi (1999): *India Human Development Report- A Profile of Indian States in the 1990's*, Oxford University Press, Oxford, p.7.
- N.I.R.D (1999): *India Rural Development Report 1999: Regional Disparities in Development and Poverty*, Hyderabad, p.86.
- Nagar, A.L. and S.R. Basu (2000): *Weighting Socio-Economic Indicators of Human Development*, ICSSR Project Report submitted to NIPFP.
- Nayak, P. and E.D. Thomas (2007): *Human Development and Deprivation in Meghalaya*, Akansha Publishing House, New Delhi.
- Neumayer, Eric (2001): "The Human Development Index and Sustainability — A Constructive Proposal", *Ecological Economics*, Vol. 39, pp.101–114.

- Noorbakhsh, Farhad (1998): "A Modified Human Development Index", *World Development*, Vol.26, No.3, pp. 517-528.
- Ogwang, Tomson and Abdou, Abdella (2003): "The Choice of Principal Variables for Computing Some Measures of Human Well-Being" *Social Indicators Research*, Vol.64, pp.139–152.
- Pal, S.P. and D.K. Kant (1993): An Alternative Human Development Index, *Margin*, Vol.25, No.2, Part-II (Special Issue on Human Development).
- Purohit, B.C. (2008): "Health and Human Development at Sub-State Level in India", *The Journal of Socio-Economics*, Accepted on 11th December 2007 for publication in 2008 issue. www.elsevier.com/locate/soceco
- Ranis, G. and F. Stewart (2000): "Strategies for Successful Human Development", *Journal of Human Development*, Vol. 1, No. 1, pp. 49-69.
- Ranis, G. and F. Stewart (2005): "Dynamic Links between the Economy and Human Development", <http://www.un.org/esa/desa/papers/2005/wp8_2005pdf> (visited on 27 March 2006)
- Ranis, G., Stewart, F. and A. Ramirez (2000): "Economic Growth and Human Development", *World Development*, Vol. 28, No. 2, pp. 197-219.
- Rao, V.M. (2000): "Towards Human Development: Glimpses from India and Selected States", *The Indian Journal of Labour Economics*, Vol.43, No.2, pp.327-338.
- Sagar, A.D. and A. Najam (1998): "The Human Development Index: A Critical Review", *Ecological Economics*, Vol. 25, No. 3, pp. 249-264.
- Schaper, C. (2003): "Growth and Distribution Effects of Education Policy in an Endogenous Growth Model with Human Capital Accumulation" in H. Hagemann and S. Seiter (eds.) *Growth Model and Growth Policy*, Routledge, London, pp.136-155.
- Shiva Kumar, A.K. (1991): "UNDP's Human Development in India - A Computation for Indian States", *Economic and Political Weekly*, October 12, pp.2343-2345.
- Shiva Kumar, A.K. (1996): "UNDP's Gender-Related Development Index – A Computation for Indian States", *Economic and Political Weekly*, April 6.
- Tilak, J.B.G. (1991): "Human Development Index of India", *IASSI Quarterly*, Vol.10, No.2, pp.132-138.
- United Nations Development Programme (UNDP) (1990, 1991, 1994, 1999, 2003, 2006 and 2007-2008): *Human Development Report.*
- Vijayabhaskar M., P. Swaminathan, S. Anandhi and G. Balagopal (2004): "Human Development in Tamil Nadu", *Economic and Political Weekly*, February 21, 2004.
- Viswanathan, R. (1999): "Human Development Report for Madhya Pradesh – Some Hidden Truths", *Economic and Political Weekly*, May 29.
- Vyasalu, V. and B.P. Vani (1997): "Development and Deprivation in Karnataka: A District Level Study", *Economic and Political Weekly*, November 15.

- Zaidi, N.A. and M.A. Salam (1998): "Human development in India: an Inter-state Comparison", *Indian Journal of Economics*, Vol. 78, No.371, April.
- World Bank (2004): *Attaining the MDGs in India*, Washington DC.

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Table 1
Per Capita GDP and Human Development in India and Abroad

Country	Per Capita GDP (PPP US $)	HDI Value	HDI Rank
Iceland	36,510	0.968	1
Norway	41,420	0.968	2
Mauritius	12,715	0.804	65
Georgia	3365	0.754	96
Sri Lanka	4595	0.743	99
Maldives	5261	0.741	100
Jamaica	4291	0.736	101
Indonesia	3843	0.728	107
South Africa*	11,110	0.674	121
INDIA	3452	0.619	128

Source: Human Development Report 2007-2008, UNDP.

Table 2
General Information on North East India

State/ Country	Total Population (in million)	% of ST Population	Literacy Rate (%)	Per Capita NSDP	Per Capita MCE	% Below Poverty Line
Arunachal Pradesh	1.09	64.2	54.74	3571	129.38	33.47
Assam	26.64	12.4	64.28	1675	99.81	36.09
Manipur	2.39	34.2	68.87	1948	130.88	28.54
Meghalaya	2.31	85.9	63.31	1804	145.65	33.87
Mizoram	0.89	94.5	88.49	NA	202.99	19.47
Nagaland	1.99	89.1	67.11	NA	228.04	32.67
Sikkim	0.54	20.6	69.68	NA	117.52	36.55
Tripura	3.19	31.1	73.66	2117	125.92	34.44
N.E Region	39.04	26.9	65.77	2223	147.52	34.69
INDIA	1027.02	-	65.20	2840	111.28	26.10

Source: North Eastern Council (2002): *Basic Statistics of North Eastern Region,* Ministry of Home Affairs, Govt. of India, Shillong.

Note: 1. Population and literacy figures refer to the year 2001.
2. Per Capita NSDP and Per Capita MCE refer to the years 1997-98 and 1999-2000 respectively.
3. Percentage of people below poverty line refers to the year 1999-2000.

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Table 3

Human Development in North East India in 1981

State/Country	Rural	Urban	Combined	Disparity
Arunachal Pradesh	0.228	0.419	0.242	0.191
Assam	0.261	0.380	0.272	0.119
Manipur	0.440	0.553	0.461	0.113
Meghalaya	0.293	0.442	0.317	0.149
Mizoram	0.381	0.558	0.411	0.177
Nagaland	0.295	0.519	0.328	0.224
Sikkim	0.302	0.515	0.342	0.213
Tripura	0.264	0.498	0.287	0.234
INDIA	0.263	0.442	0.302	0.179

Source: National Human Development Report 1991, Planning Commission, Govt. of India.

Table 4

Human Development in North East India in 1991

State/Country	Rural	Urban	Combined	Disparity
Arunachal Pradesh	0.300	0.572	0.328	0.272
Assam	0.326	0.555	0.348	0.229
Manipur	0.503	0.618	0.536	0.115
Meghalaya	0.332	0.624	0.365	0.292
Mizoram	0.464	0.648	0.548	0.184
Nagaland	0.442	0.633	0.486	0.191
Sikkim	0.398	0.618	0.425	0.220
Tripura	0.368	0.551	0.389	0.183
INDIA	0.340	0.511	0.389	0.171

Source: National Human Development Report 2001, Planning Commission, Govt. of India.

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Table 5

Human Development in North East India in 2000

State/Country	Rural	Urban	Combined	Disparity
Arunachal Pradesh	0.379	0.622	0.411	0.243
Assam	0.330	0.613	0.362	0.283
Manipur	0.404	0.640	0.455	0.236
Meghalaya	0.390	0.671	0.436	0.281
Mizoram	0.473	0.687	0.552	0.214
Nagaland	0.477	0.738	0.515	0.261
Sikkim	0.396	0.571	0.411	0.175
Tripura	0.397	0.656	0.434	0.259
INDIA	0.380	0.584	0.435	0.204

Source: The figures are estimated by the author.

Table 6

Gender Disparity Indices in North East India

State/Country	Year	
	1981	1991
Arunachal Pradesh	0.537	0.776
Assam	0.462	0.575
Manipur	0.802	0.815
Meghalaya	0.799	0.807
Mizoram	0.502	0.770
Nagaland	0.783	0.729
Sikkim	0.643	0.647
Tripura	0.422	0.531
INDIA	0.620	0.676

Source: National Human Development Report 2001, Planning Commission, Govt. of India.