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# POVERTY, GENDER DISCRIMINATION AND ACCESS TO EDUCATION
## —Evidence of Women Empowerment from the North-East India

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### Introduction

Education is widely considered as one of the important component of social security. The experience of many developed countries highlights the importance of promotion of elementary education to achieve larger social goals as well as economic security. Education is vital for ensuring the higher economic growth, income-earning capabilities and for personality development. The access to education increases self-esteem, social dignity and reduces vulnerability and powerlessness. A large number of analytical and empirical studies have provided the evidence of the linkages between education and poverty in India (Tilak, 1989; Dreze and Sen, 1995; Krishnan, 1996; World Bank 1991, 1997). It is widely accepted fact that the spread of education among the poorer groups and women has a significant influence on their participation in democratic process. Education also plays a key role in influencing the priorities of development in accordance with the principles of sustainable development and local needs.

India has made an impressive progress in elementary education sector. The number of primary schools in the country has increased by over four times- from 2, 31,000 in 1950-51 to 9, 30,000 in 1998-99. During the same period primary school enrolment increased six times, from 19.2 million to 110 million i.e., about six times. The

increases in number of schools and enrollment in primary schools has perceptible change in the female literacy rates that increased steadily from 7.9% in 1951 to 39.29% in 1991 at all India level. Possible reason for these changes is educational spending. It increased from 1% of Gross National Product in 1947 to 3.5% in 1991. Accessibility to primary school is enhanced at rural and urban areas, where 94% of country's rural population has schooling facilities with in one-kilometer range (Government of India, 2000). Despite impressive achievements the country is far from achieving the goal of Universalisation of Elementary Education (UEE), there are about 60 million children out of the 200 million children of school going age group (6-14 years) who do not go to school. Out of these group of children, who are not attending school a large proportion are of girls and children of tribal and other socially and economically disadvantaged categories of people.

The issues and problems related to elementary education have been investigated in several studies, for example Minhas (1991), Tilak (1995), Dreze and Sen (1995), Bhatty (1998), Mcdougall (2000) and Banerjee (2000), Lieten (2001) and others. These studies can be classified broadly in two categories. First group of the studies use primary data, e.g. Bhatty (1998), Mcdougall (2000) and Banerjee (2000), Lieten (2001), based on the field surveys. The advantages of micro level studies, like are of having an in-depth analysis of the ground level situation and the factors affecting primary school level education. The other set of studies use secondary data, for instance Tilak (1995), Minhas (1991), and Dreze and Sen (1995).

One of the important features of these studies is that their focus is the major states in the Indian Union. Consequently, the smaller states like states located in the northeastern region have been either left out or the characteristics of Assam (one of the major states in the northeastern region) have been assigned to these states. This paper is an attempt to fulfill this gap in the literature. In this paper we investigate the issues related to elementary education among the northeastern states of India. We also look the effect of poverty and gender differentials in elementary education.

The northeastern region of India possesses some peculiar characteristics. Our endeavour in this paper would be to show to what extent the scenario of elementary education is similar (or dissimilar) to all India level in the light of regional specificities and peculiarities. Further, we would also like to examine the issues related to male-female children of the school going age in rural and urban

sectors of the states of NER. More specifically, the paper mainly focuses on the issues like: The relationship of poverty with the level of elementary education for male and female children for the rural and urban sectors; the literacy rates and gender differentials; the enrollment status of children belonging to Schedule Tribes and Schedule Casts (ST/SC) social groups.

In addition to the above, we have also looked into some of the established facts regarding schooling in India and examine their implications among the NER states. These are:

(1) Gender differentials are higher in rural sectors than urban sectors.

(2) Ceteris paribus female children are more likely to be out of school than male children.

(3) Households belong to ST/SC population face higher degree of poverty than general population.

(4) Children belonging to ST/SC group are less likely to attend school.

The rest of the paper is laid out in the following fashion. Next section outlines the data issues and coverage used in the paper. Section 3 has the special characteristics of the states in the northeastern region. Section 4 investigates the incidence of poverty among the states and its possible consequences on the elementary education. This is followed by the study of consequences of regional characteristics on the schooling in the region in section 5. Section 6 summarises the findings.

**Data and Coverage**

This paper covers all the seven states in the northeastern region. These states are Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. We use the household level data collected by the National Sample Survey Organisation (NSSO). We use the data collected through the socio-economic survey, consumer expenditure (schedule 1.0) and Employment and Unemployment (Schedule 10.0). NSS data has two advantages; firstly, this data is in the form of unit record and suitable for detailed analysis of the problem; secondly, because uniform design of data collection it is comparable for all the northeastern states.

In the 50th round of socio-economic survey of NSS, the entire country was divided in to 77 regions each with rural and urban sector. The seven states of NER consists of ten regions, Assam has three

regions, Manipur has two and remaining five states one each. The poverty measures are estimated from the household consumer expenditure data, while distribution of activities of the children of school going age, i.e., 5-14 years, are based on employment end unemployment house hold schedule. The major economic characteristics of NER are based on statistic published by the North-Eastern Council, Shillong. We also, use the statistics compiled by the National Institute of Educational Planning and Administration (NIEPA) under District Information System for Education (DISE: 2004) for most of the states of India. Out of seven North-eastern states only Arunachal Pradesh and Manipur are not covered by the DISE. Besides these our analysis is also, substantiated by the statistics from various other secondary sources.

The study uses three different indices to measure the poverty, the Head Count Ratio (HCR), the Weighted Poverty Gap Index (PGI), and Foster, Greer and Thorbecke (1984) index (henceforth, FGT). Recall that the NSS collects data expenditure distribution of the population. Consequently in this paper we are using household consumer expenditure data rather than income data for quantifying the poverty.

Gender gap in literacy is used in this study as a reliable and simple indicator of gender bias. This gap is measured as a difference between per centage point male literacy rate to female literacy rate. The sex ratio, i.e., the number of literate females per thousand literate males, is also, being used as an alternative index (of gender bias). The gender differential for the NE states is also quantified in terms of the Coefficient of Discrimination (D), which is defined as the household expenditure on education of per male child is divided by the household expenditure on education of per female child minus one. The positive value of coefficient measures the degree of discrimination against girls and vice versa.[1] If the coefficient is zero, it means no discrimination. A negative value of the coefficient means discrimination against boys or in favour of girls. In order to further analyze the gender discrimination, a gender parity Index is used, which is equal to female children's enrollment in primary school to the male children's enrollment in primary school in a given year.

**An Overview of Northeastern Region**

As mentioned earlier, the northeastern region of India comprises of seven states. The region as a whole accounts for 7.7 per cent of the total geographical area of the country and has 3.88 per cent of the total population. The states Mizoram, Nagaland, Meghalaya and

Arunachal Pradesh have predominantly tribal population. This region is rich in natural resources like land, water and forests resources, of which larger proportion is under utilized. Assam is, relatively speaking, a more economically active state surrounded by less economically active and smaller states. Population is mainly concentrated in Assam, where other states are sparsely populated.

Process of urbanization, which was initially slow before the independence, got momentum afterwards with the reorganization of administrative units. Urban nodes became service centre and place for government jobs. Some industrial estates also developed in and around urban centers. The level of urbanization measured in percentage of urban population to total population is 13.89 per cent in the region, which is significantly lower than the all India level of 26.13 per cent in 1991. Assam Tripura and Nagaland are least urbanized states while Mizoram is most urbanized state (46.10%).

Economy of NER is predominantly agriculture based. There are the places where still most primitive form of cultivation i.e., slash and burn, is being practiced and there are the places in the plains where modern techniques are increasingly being used in cultivation. The variety in economic structure and distribution has significant impact on social settings, which is reflected in the behaviour pattern of the people of the region.

Industrial sector is not very much developed in the region. There were only 177 large and medium scale industries in 1998, out of which 72.3 % were in Assam alone, the other six states were sharing only 27.7 % industries. Tripura, Nagaland and Mizoram were least industrialized states sharing less than five per cent of industries. The distribution of small scale industries (SSIs) was depicting the almost similar picture where almost a half of SSIs of the region are located in Assam, while Arunachal Pradesh, Meghalaya, Mizoram and Nagaland are sharing less than 10% industries in each state. So, Assam is industrially active state, relatively speaking while the other states of the region are yet to be industrially developed.

The Infrastructural sector is also less developed in the region than all India level. Per capita consumption of electricity for the year 1995-96 was much below the national average 335.42 KW and lowest among Tripura, Arunachal Pradesh and Nagaland. Similarly, percentage of surface road to total road length is lowest in Assam The per capita net state domestic product at current prices for the year 1993-94 is also lower than per capita net domestic product at the national level except in Arunachal Pradesh. These observations

show that NER is less economically developed than the rest of India.

Dubey and Srivastav (2001) analyzed the regional disparities in poverty incidence and levels of living at national level. In order to capture the changes in the level of economic development all Indian states were ranked on the basis of their Average Per Capita Total Expenditure (APCTE) for the years 1987-88 and 1993-94. The status of NE states as per the rank of APCTE suggests that Assam, Manipur and Meghalaya were most economically disadvantaged states in the year 1987-88, but during 1993-94, five states of NER were also slipped in to this category. Arunachal Pradesh and Tripura were also gone down in state-wise ranking order. This implies that levels of economic disparities in NE region are growing compared to the rest of India. Further, at all India level income disparities are growing in urban areas but declining at rural areas but for the NER the disparities are growing at both rural and urban regions for these years. This implies that economies of NE states are growing by much slower rate than other states of India and by all India average.

## Poverty Levels and Access to Education

### *Poverty Levels*

State level poverty indices, the HCR, PGI and FGT, are reported in Tables 74.1 and 74.2, for rural and urban sectors. There is 50.77 % of population living below poverty line, which is much higher than all India level (42.68%). But the poverty is mainly concentrated in rural areas of Assam and Arunachal Pradesh. This fact reveals the spatial variation with in NE states; Nagaland and Mizoram reported the lowest proportion of poor people as 4.24 and 10.10%.

**Table 74.1:** Poverty Measures Among the NER States in the Rural Sector

| *States* | *All Population* | | | *ST/SC* | | |
|---|---|---|---|---|---|---|
| | *HCR*[1] | *PGI* | *FGT* | *HCR* | *PGI* | *FGT* |
| Arunachal Pradesh | 51.98 | 0.1231 | 0.0426 | 52.85 | 0.1310 | 0.0468 |
| Assam | 57.05 | 0.1241 | 0.0371 | 58.49 | 0.1092 | 0.0285 |
| Manipur | 33.08 | 0.0428 | 0.0091 | 41.42 | 0.0600 | 0.0134 |
| Meghalaya | 34.36 | 0.0552 | 0.0132 | 34.72 | 0.0553 | 0.0132 |
| Mizoram | 10.10 | 0.0145 | 0.0034 | 10.25 | 0.0147 | 0.0034 |
| Nagaland | 4.24 | 0.0048 | 0.0007 | 3.98 | 0.0047 | 0.0007 |
| Tripura | 32.04 | 0.0731 | 0.0249 | 39.97 | 0.0930 | 0.0307 |
| NER All | 50.77 | 0.1084 | 0.0325 | 47.10 | 0.0893 | 0.0244 |
| All India | 42.68 | 0.1030 | 0.0356 | 54.88 | 0.1424 | 0.0514 |

*Note*: HCR is in percentage and PGI & FGT are ratios.
*Source*: Tabulated by authors using NSS data

**Table 74.2**: Poverty Measures Among the NER States in the Urban Sector

| | *All Population* | | | *ST/SC* | | |
|---|---|---|---|---|---|---|
| *States* | *HCR* | *PGI* | *FGT* | *HCR* | *PGI* | *FGT* |
| Arunachal Pradesh | 12.36 | 0.0264 | 0.0091 | 17.96 | 0.0481 | 0.0179 |
| Assam | 10.03 | 0.0127 | 0.0030 | 13.66 | 0.0242 | 0.0060 |
| Manipur | 26.67 | 0.0264 | 0.0052 | 27.19 | 0.0340 | 0.0059 |
| Meghalaya | 3.48 | 0.0056 | 0.0012 | 2.62 | 0.0038 | 0.0009 |
| Mizoram | 0.33 | 0.0001 | 0.0000 | 0.33 | 0.0001 | 0.0000 |
| Nagaland | 2.82 | 0.0020 | 0.0002 | 1.35 | 0.0016 | 0.0002 |
| Tripura | 7.31 | 0.0142 | 0.0043 | 11.57 | 0.0216 | 0.0071 |
| NER All | 10.70 | 0.0134 | 0.0032 | 8.59 | 0.0142 | 0.0036 |
| All India | 32.87 | 0.0820 | 0.0298 | 48.26 | 0.1350 | 0.0528 |

*Note*: As in Table 74.1.
*Source*: As in Table 74.1.

It is to be noted that the HCR as a poverty index does not measure the "depth" and "severity" of poverty among the poor people, to incorporate these we have quantified PGI and FGT respectively. The level of poverty is more severe in Arunachal pradesh and Assam, where the value of PGI and FGT are highest among the NER states and also higher than all India level. This shows that poor in rural Arunachal Pradesh and Assam are more deprived than poor in other NER states. However, poverty is much less severe in Nagaland, Mizoram and Manipur in that order.

The poverty level in rest of the India among the ST/SC population group is higher for well-known historical and socio-economic reasons. This fact is also revealed from all India statistics from Tables 74.1 and 74.2 for rural and urban sectors both that all the three indicators of poverty are higher for ST/SC population than all India average for all population. But this scenario is different in NER where poverty levels for SC/ST population are less than its share in all population in NER rural sector. Assam and Arunachal Pradesh are not only having higher population living below poverty line but also SC/ST population has higher HCR than HCR of all population in these states. Arunachal Pradesh has highest 'depth' and 'severity' of poverty among the NE states but still lower than all India average.

Poverty measures among the NER states in urban sector in Table 74.2 display lower levels of poverty in general. Manipur has the highest HCR (26.67), which is still lower than all India average (32.87). The extent of poverty measured in terms of PGI, reveals that depth of poverty is much less in Mizoram, Nagaland, Meghalaya and Tripura. The gap between rural and urban poverty is more glaring in NER than

all India level i.e., this gap is about four times more than the gap at all India level. This suggests that poverty in NER is concentrated mainly in rural sector, especially in Assam and Arunachal Pradesh. This fact supports the view that major economic activities and developments are highly urban biased and growth impulses are not percolating to the rural sectors. Employment opportunities are concentrated and located in urban sectors due to up coming of state sponsored economic activities because of administrative reorganizations.

## Elementary Education and Gender Issues

In order to capture the status of elementary education, first we discuss the distinctive features of the literacy rates among the various groups of population and across the region. Table 74.3 and 74.4, expresses the literacy rate in terms of percentage literate persons to total population based on 1991 census for rural and urban sectors. It shows that except in Arunachal Pradesh and Meghalaya, the remaining NE states, have higher literacy rate than all India average. Mizoram has the highest literacy rate 72.47% in the region (Table 74.3). As expected, the literacy rate in urban sector is higher than rural sectors.

**Table 74.3:** State-wise Literacy Rates in NER (Rural)

| *States* | *Males* | *Females* | *All Persons* | *Gender Gap* |
|---|---|---|---|---|
| Arunachal Pradesh | 47.00 | 25.31 | 37.02 | 21.69 |
| Assam | 58.66 | 39.19 | 49.32 | 19.17 |
| Manipur | 67.64 | 43.26 | 55.79 | 24.38 |
| Meghalaya | 44.83 | 37.12 | 41.05 | 07.71 |
| Mizoram | 77.36 | 67.03 | 72.47 | 10.33 |
| Nagaland | 63.42 | 50.36 | 57.23 | 13.06 |
| Tripura | 67.07 | 44.33 | 56.08 | 22.74 |
| All India | 57.87 | 30.62 | 44.69 | 27.25 |

*Note*: Literacy rate is reported as percent of total population in the age group of 6 years and above.

*Source*: Table-125, based on 1991- Census, Basic Statistics of NER: 2000, NEC, Ministry of Home Affairs,Government of India, Shillong

Next, we turn to the literacy rate among males and females for the rural and urban sectors in order to capture the nature and extent of gender bias in literacy in NER. The female literacy is invariably lower than corresponding male literacy irrespective of states. But in all the NE states, female literacy rate is higher than all India average literacy (30.62%) in both the sectors. Mizoram (urban) has female literacy rate as high as 93.45%. The degree of urban biasness is the difference of urban and rural literacy rate that is highest in Meghalaya

followed by Arunachal Pradesh and Assam and higher than all India average for all the three states. The urban biasness of literacy is more against the females in the states Assam and Tripura, whereas in other states this difference is well within the all India average.

The gender differentials as shown in Tables 74.3 and 74.4 are obtained by subtracting the female literacy with male literacy rate. The degree of gender differential is lower than all India average for all the regions and the states except for Manipur (rural). Gender gap is lowest in Meghalaya (rural) followed by Mizoram. All the four tribal dominated states have lower gender gap except in the case of Arunachal Pradesh. Though the gender gap in the case of Arunachal pradesn is relatively higher than other NE states but still lower than all India average. It is not surprising in the case of Meghalaya (rural), which is a tribal dominated region and major tribes are practicing matrilineal social system.

**Table 74.4**: State-wise Literacy Rates in NER (Urban)

| *States* | *Males* | *Females* | *All Persons* | *Gender Gap* |
|---|---|---|---|---|
| Arunachal Pradesh | 77.99 | 62.03 | 71.59 | 15.96 |
| Assam | 84.37 | 79.39 | 81.88 | 04.98 |
| Manipur | 82.11 | 58.67 | 70.53 | 23.44 |
| Meghalaya | 85.72 | 77.32 | 81.74 | 08.44 |
| Mizoram | 95.15 | 93.45 | 94.30 | 01.70 |
| Nagaland | 85.14 | 79.10 | 83.10 | 06.84 |
| Tripura | 89.00 | 76.93 | 83.09 | 12.07 |
| All India | 81.09 | 64.05 | 73.08 | 17.04 |

*Note*: As in Table 74.3.
*Source*: Same as in Table 74.3.

We have correlated the literacy rate and gender gap in literacy against poverty (HCR) for both rural and urban sectors. It was noticed a weak positive correlation between poverty and gender gap in rural areas. This could mean that at least some parents were forced to spend less on education of their female children for economic reasons. The better performance of Mizoram (having highest literacy and lowest gender gap) and to some extent Nagaland appears to be related to lower poverty levels. This, however, needs further investigation. Srivastava (2001) analyzed the state wise enrolment rate of 6-14 year old children in rural India by household income group and found that in the states of NER the enrollment rates in the highest and lowest income groups are very nearly equal. This shows that almost equal access to education among the states of NER.

The coefficient of discrimination captures the differences in household expenditures on education by gender, i e., between girls

and boys. The national level aggregates clearly show that there is some gender discrimination against the girl child in the households on spending on education was found in rural areas (0.17) but relatively less in urban areas (0.09) as the table 74.5 reveals. But in all the sates of Northeastern India shows lower gender discrimination than all India figure for urban areas. It is interesting to note that there are states like Arunachal Pradesh, Meghalaya, Mizoram and Nagaland, which are revealing the discrimination in favour of girls. Almost similar picture immerge in the case of rural regions of NE states with a difference that Tripura and Manipur have higher than national average value of the coefficient of discrimination against the girls. The lower degree of gender discrimination in urban regions can be attributed by the facts that importance of girl's education is recognised by the most of the households and accordingly they do not discriminate against the girl with regard to spending on their education, as compared to the boys. In case of Meghalaya and Arunachal Pradesh, it is revealed that the discrimination is in favour female children even in rural areas.

**Table 74.5:** Coefficient of Gender Discrimination in Average Household Expenditure on General Education per Student (Aged 5-24 years)

| *States* | *Rural* | *Urban* |
|---|---|---|
| Arunachal Pradesh | -0.12 | -0.08 |
| Assam | 0.06 | 0.05 |
| Manipur | 0.39 | 0.04 |
| Meghalaya | -0.12 | -0.08 |
| Mizoram | 0.01 | -0.02 |
| Nagaland | 0.02 | -0.07 |
| Tripura | 0.24 | 0.09 |
| All India | 0.17 | 0.09 |

*Source*: Calculated from tables A.8 and A.9 based on 52nd round of Household Expenditure Survey of NSS (1995-96), Tilak (2001).

We have also correlated the Gender discrimination with Poverty for rural and urban regions of NER. It was found that value of coefficient of correlation is low, so both are uncorrelated This could be interpreted as, that even poverty doesn't contribute much towards gender

discrimination. As pointed out earlier, the Arunachal Pradesh (rural) and Assam (rural) are relatively poorer regions than all India average, but Arunachal Pradesh has lower literacy rate, while, Assam has higher literacy rate than all India level. Gender differentials are lower in both the states despite the higher poverty levels. This observation indicates towards an important feature that condition of poverty doesn't lead to gender bias against the females in providing the elementary education in this part of India. This is contrary to the observation noted in other states of India (Kaul, 2001). Female literacy is considered as, one of the proxy measure of social status of women. On this front, the women in NER have better social status than all India level. It appears that the factors which discourage the female education in other parts of India like property rights and family system which results in to a lower "economic worth" and "cultural worth" of women are not the dominating factors in determining the role of women in the society of NER, in general and tribal societies in particular. This evidence supports the major finding of Murthy, Guio and Dreze (1997) that in traditional societies, the status of women is found better when compared with the contemporary sector of people among non-tribal societies.

We have also, correlated the gender discrimination with poverty for rural and urban regions of NER. It was found that value of coefficient of correlation is low, so both are uncorrelated. This could be interpreted that even poverty does not contribute to gender discrimination. Gender parity index (GPI) reveals the proportion of female children's enrollment in primary school to male children's enrollment in primary school in a given year. Table 74.6 shows that five states of NE reported to have higher GPI than all India average (0.91). Meghalaya shows more

**Table 74.6:** Gender Parity Index on the Basis of Enrollment in Primary Classes (2004)

| *State* | *Gender parity Index* | | |
|---|---|---|---|
| Assam | 0.96 | 0.97 | 0.96 |
| Meghalaya | 1.03 | 1.01 | 1.02 |
| Mizoram | 0.92 | 0.98 | 0.95 |
| Nagaland | 0.93 | 0.95 | 0.94 |
| Tripura | 0.92 | 0.96 | 0.94 |
| All India | 0.90 | 0.93 | 0.91 |

*Source*: Tables 4.1, 4.2 and 4.3, Elementary Education in India: Where do We Stand? Analytical Report 2004, National Institute of Educational Planning and Administration, New Delhi, 2005

*Note* Arunachal Pradesh and Manipur were not covered under 'District Information System for Education', DISE 2004

than one value of index more number of female children is enrolled in school than male children in a given year. This index is invariably higher in urban areas than rural areas for well known reasons but Meghalaya is the only state which has higher GPI in rural areas than urban region. On the basis of above observations it can be concluded that the problems of the children out of school, is very complex and heterogeneous by nature. It would not be correct to say that children are out of school due to poverty alone. So in order to achieve the long cherished goal of universalisation of elementary education (UEE), there is a need to pay special attention which should be region specific and separately for the distinctive groups of population rather than dealing the situation in a aggregate and centralized manner.

**Table 74.7:** Percentage of Male and Female Children's Enrollment in Primary Classes (2004)

| *State* | *Urban* | | *Rural* | | *All* | |
|---|---|---|---|---|---|---|
| | *Male Children* | *Female Children* | *Male Children* | *Female Children* | *Male Child* | *Female Children* |
| Assam | 50.8 | 49.2 | 51.0 | 49.0 | 51.0 | 49.0 |
| Meghalaya | 49.8 | 50.2 | 49.3 | 50.7 | 49.3 | 50.7 |
| Mizoram | 50.5 | 49.5 | 52.2 | 47.8 | 51.7 | 48.3 |
| Nagaland | 51.2 | 48.8 | 51.8 | 48.2 | 51.6 | 48.4 |
| Tripura | 51.1 | 48.9 | 52.2 | 47.8 | 52.1 | 47.9 |
| All India | 51.8 | 48.2 | 52.7 | 47.3 | 52.5 | 47.5 |

*Source*: Tables 4.6, 4.7 and 4.8, Elementary Education in India: Where do We Stand? Analytical Report: 2004, National Institute of Educational Planning and Administration, New Delhi, 2005

*Note*: as in Table 74.6.

## Special Group of Population and Access to Elementary Education

The Scheduled Castes and Scheduled Tribes have been traditionally considered a social and economically disadvantaged group for well-known and established socio-cultural reasons prevailing since long in India. Therefore, a sizable population belonging to these sections of society still living under poverty and deprived of benefits of economic development. This fact is revealed from the Table 74.1 and 74.2 where SC\ST population have higher degree of poverty (on account all the three types of poverty measures) than all population in both rural and urban India. As a result, the children of these categories are reported to have lower literacy rate, higher proportion of out of school children than the corresponding category of children belong to general population at all India level for both the rural and urban sectors. So it is proposed to pay special attention to tackle with the problems of the children of ST/SC population.

To facilitate a comparative view, distribution of the children belonging to ST/SC population and all children for rural and urban sectors is given in Tables 74 8 and 74.9. Reviewing the proportion of school going children in NER (rural), it is noticed that this proportion (77.64) is higher not only with all India average of ST/SC category (55.01), but also higher than all India average for all population (64.12). The gender gap among school going children is significantly small in

**Table 74.8**: Percentage of SC\ST and All Children in School in NER (Rural)

| *States* | *In School (all children)* | | | *In school (SC\ST) Children* | | |
|---|---|---|---|---|---|---|
| | *Male* | *Female* | *Total* | *Male* | *Female* | *Total* |
| Arunachal Pradesh | 65.48 | 55.96 | 60.66 | 66.10 | 55.21 | 60.69 |
| Assam | 81.73 | 75.85 | 79.06 | 75.59 | 70.89 | 73.52 |
| Manipur | 76.34 | 73.60 | 75.00 | 87.17 | 86.35 | 86.75 |
| Meghalaya | 72.01 | 71.04 | 71.53 | 72.38 | 71.61 | 72.00 |
| Mizoram | 81.95 | 89.32 | 85.37 | 80.76 | 88.28 | 84.24 |
| Nagaland | 91.75 | 90.20 | 90.98 | 90.62 | 90.14 | 90.39 |
| Tripura | 79.98 | 78.85 | 79.46 | 83.63 | 82.95 | 83.32 |
| NER All | 79.66 | 75.35 | 77.64 | 76.78 | 73.08 | 75.11 |
| All India | 71.63 | 55.55 | 64.12 | 63.20 | 45.54 | 55.01 |

*Notes*: (1) Figures are in percentage of respective total number of children
(2) Children are of school going age, i.e., of years 5 to 14

*Source*: As in table 74.1.

**Table 74.9**: Percentage of SC\ST and All Children in School in NER (Urban)

| States | In School (all children) | | | in school (SC\ST Children) | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| Arunachal Pradesh | 70.58 | 83.53 | 76.39 | 72.29 | 78.61 | 75.89 |
| Assam | 83.94 | 82.88 | 83.41 | 77.28 | 86.26 | 81.64 |
| Manipur | 96.20 | 97.44 | 96.78 | 95.82 | 100.00 | 97.76 |
| Meghalaya | 96.31 | 93.76 | 95.07 | 97.08 | 95.42 | 96.24 |
| Mizoram | 95.55 | 95.12 | 95.34 | 95.51 | 95.06 | 95.29 |
| Nagaland | 91.12 | 94.10 | 92.25 | 96.03 | 97.31 | 96.56 |
| Tripura | 91.89 | 91.21 | 91.55 | 89.24 | 85.72 | 87.23 |
| NER All | 87.83 | 87.45 | 87.64 | 90.22 | 91.96 | 91.07 |
| All India | 85.69 | 80.85 | 83.41 | 79.48 | 70.75 | 75.42 |

*Notes*: (1) Figures are in percentage of respective total number of children
(2) Children are of school going age, i.e., of years 5 to 14

*Source*: As in table 74.1

tribal dominated states. The remaining 22.36% of children are not going to school out of which the proportion of female children is higher than male children. Arunachal Pradesh is the state, which has highest proportion of children (39.34), not going school among the NE states. It appears that the factors that are inhibiting the children of ST/SC category of population to attend the school do not prevail in NE states. So, the proportion of school going children is much higher in this region. This is point to be elaborated in much detail later.

The proportion of school going children in urban sector of NE is much better than rural sector, where more than 90% children are going school among SC/ST categories of population. Manipur recorded 100% school going female children. Arunachal Pradesh, Assam, Manipur and Nagaland have higher proportion of female school going children than male children. This is in contrast with all India average for children belong to special group population. It is to be highlighted that children belong to ST/SC population are not deprived of elementary school because of any group` specific reason, while such factors are considered as one of the relevant factor for deprivation of school education to the children of special group of population in rest of India. This was found that there exists a relatively high degree of awareness and understanding of the value, importance and relevance of school education prevailing in urban sector, but there is a need for much more concerted efforts to enhance the awareness among the rural population towards the relevance of school education.

**Table 74.10:** Percentage of SC and ST Children's Enrollment to Total Enrollment (2004)

| *State* | *Percentage of SC population as Census 2001* | *Percentage of ST population as Census 2001* | *Percentage of SC Female Children Enroll to Total SC Enrollment* | *Percentage of ST Female Children Enroll to Total ST Enrollment* |
|---|---|---|---|---|
| Assam | 6.9 | 12.4 | 48.2 | 48.8 |
| Meghalaya | 0.5 | 85.9 | 52.1 | 50.8 |
| Mizoram | 0.0 | 94.5 | 47.4 | 48.3 |
| Nagaland | 0.0 | 89.1 | 44.8 | 48.5 |
| Tripura | 17.4 | 31.1 | 48.9 | 46.8 |
| All India | 23.0 | 8.2 | 47.3 | 46.6 |

*Source*: Tables 4.14, Elementary Education in India: Where do We Stand? Analytical Report 2004, National Institute of Educational Planning and Administration, New Delhi, 2005

*Note*: as in Table 74.6

## Summary and Conclusions

Education is considered as one of the best measures of ensuring social security as it enhances the capabilities of individuals, which in turn reduces the probability of vulnerability On this background the present study is an attempt to discuss the status of access to

elementary education and its relationship with poverty and gender differentials among the north-eastern states of India. The present study is based on unit record data collected by the NSS on household expenditure and employment-unemployment for rural and urban India for the year 1993-94 and 1999-2000. The northeastern region of India comprises of the seven states, out of which four states namely, Arunachal Pradesh, Meghalaya, Mizoram and Nagaland are predominantly tribal population states. We briefly summarized the major findings.

First, this region as a whole is less economically developed than all India average in many respects. Poverty is, mainly, concentrated in the rural sectors of Arunachal Pradesh and Assam, where a large proportion of population of households are living below the poverty line. In addition to this the 'depth' and 'severity' of poverty is also higher in these states.

Second, the level of poverty among the NER states is concentrated in rural areas and gap between rural and urban poverty is four times than all India average. This indicates that these states are passing through the initial stage of development, where, 'economic duality' exists in the form of urban-rural dichotomy and economic growth in the urban centers does not appear to percolate and stimulate the rural economy by way of spill-over effects.

Third, despite low levels of economic development, entire region has higher literacy rates. The degree of gender differentials in the male and female literacy rates and household level expenditure on education of male and female child,, appears to be on the lower side in the region. Even the poorest rural regions have higher literacy rates than national averages. This suggests that poverty does not lead to gender bias against the female children in accessing the elementary education.

Fourth, in the urban sector of the tribal dominated states, the population of female school going children is higher than male children.

Fifth, there is no evidence of poverty of the households affecting school enrollment of the girls unlike in the rest of country. The schooling among the children belonging to ST/SC groups does not differ significantly from the children belonging to other social groups.

Finally, in spite of the lower level of economic development and growth and prevailing poverty NE states ensures better educational security for the children including children belonging to special group

of population, female group and rural population. The relatively higher education access and spread of education among these groups of people is the reflection of existing indigenous culture and less social inequalities. It is evident that there exists a relatively high degree of awareness and understanding of the value, importance and relevance of school education prevailing in urban sector, but there is a need for much more concerted efforts to enhance the awareness among the rural population towards the relevance of school education. It is extremely significant for socio-economic progress of these groups of people in particular and region at large. It is to be noted that the conclusions that we report here are based on a preliminary analysis of the data. A more rigorous and robust analysis is indeed necessary to firmly establish these findings.

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## APPENDIX 1

### *A Note on Poverty Measures*

The simplest index of poverty is Head Count Ratio (HCR), which is defined as

$$(1) \qquad HCR = \frac{q}{n} * 100$$

where the population consists of n individuals with per capita total expenditure (PCTE), $y_i$, ranked in ascending order. q is the number of persons who are below the poverty line 'z'. HCR gives the proportion of the population that has PCTE below the poverty line.

One of the main shortcomings of HCR is that it is insensitive to the depth of poverty of the poor person, thus violating what Sen (1976), defined as the monotonicity axiom. This axiom ensures that any poverty index should increase if there is a drop in the income of any poor individually, *cteris paribus*.

The Weighted Poverty Gap Index (PGI) satisfies the above axiom, which is defined as

$$(2) \qquad PGI = \frac{1}{q.z} \sum_{i=1}^{q} (z - y_i)$$

Where n, q, $y_i$ and z are as defined above. But this measure is insensitive to income transfer against the poor, thus violating Sen's Weak Transfer Axiom – the requirement that any transfer of income from a poor person to any one richer should increase poverty, so long as no one crosses the poverty line as a result. There are several such measures described in the literature, which satisfy the transfer axioms. Foster, Greer and Thorbecke (1984) index (henceforth, FGT) has almost become standard in the literature for its simplicity and useful properties. FGT ($\alpha$), a generalized index, is a normalized weighted sum of the poverty gaps of the poor, with weights given by those poverty gaps themselves raised to an appropriate power. The FGT index is defined as

$$(3) \qquad FGT(\alpha) = \frac{1}{n.z^{\alpha}} \sum_{i=1}^{q} (z - y_i)^{\alpha}, \alpha \geq 0$$

where n, q, $y_i$ and z are same as defined above. For $\alpha = 0$, the FGT

($\alpha$) equals HCR, for $\alpha = 1$, the index equals PGI. For greater values of $\alpha$, it satisfies the criteria of diminishing transfer sensitivity. In case of $\alpha = 2$, FGT index is defined as

$$FGT(2) = \frac{1}{n.z^2} \sum_{i=1}^{q} (z - y_i)^2 \qquad (4)$$

The advantage of using weights independent of position in the distribution ensures decomposability of the index across different household types.

In this paper we have estimated all the three poverty indices, namely, HCR, PGI and FGT using FGT generalized index. Recall that for $\alpha$=0, from equation 3 we get HCR; for a=1 it yields PGI and for $\alpha$=2 it is FGT as shown in equation 4. Recall that we use unit record data available at the household level from the 50th and 55th rounds of NSS to calculate the three poverty measures described above on the basis of the per capita consumption expenditure.