
# Analyzing Poverty and Inequality Dynamics Across North-Eastern States of India

Balakrushna Padhi
Jawaharlal Nehru University

Mohammad Kashif Khan
University of Hyderabad, India

Paper prepared for the IARIW-ICIER Conference

New Delhi, India, November 23-25, 2017

Session 5: Poverty

Time: Friday, November 24, 2017 [Morning]

**Draft paper, not to be quoted/limited circulation**

# Analyzing Poverty and Inequality Dynamics across North-Eastern States of India

**Balakrushna Padhi[1] and Mohammad Kashif Khan[2]**

**Abstract**

*This study intends to explore the poverty inequality dynamics across North Eastern States (NES) of India during recent decade. Based on NSSO's Consumer Expenditure Survey Rounds an analysis has been carried out for two time points i.e. 2004-05 (61st round) and 2011-12 (68th round) to examine the changing pattern of poverty and inequality in these regions by decomposing changes in poverty in to growth, redistribution and interaction components. This paper used headcount ratio to measure poverty, Gini Index as well as poverty decomposition method (Datt and Ravallion, 1992) to quantify the relative contribution of economic growth and redistribution to changes in poverty. The results depict that the NES are quite different in terms of basic socioeconomic attributes from the mainland as per the level of development. As per the decomposition results the growth mean effect and redistribution component determines the rise or fall in the poverty effect. States where economic reforms were initiated properly with other developmental activities those NES performs better than the rest in terms of the said effects.*

**Keywords**: Poverty, Inequality, Decomposition, Relative Deprivation, North-East India.

[1] Doctoral Scholar in Economics, Centre for the Study of Regional Development (CSRD), Jawaharlal Nehru University, New Delhi, 110067, mail id: padhicds@gmail.com

[2] Doctoral Scholar in Economics, School of Economics, University of Hyderabad, Telangana, mail id- kashifiips@gmail.com

# Analyzing Poverty and Inequality Dynamics across North-Eastern States of India

*"Another India, the most diverse part of a most diverse country, very different, relatively little known and certainly not too well understood, once a coy but now turbulent and in transition within the Indian transition." B.G Verghese*[3]

## 1. Introduction

Indian economy has witnessed a spectacular transformation in its economic structure in terms of growth, production and consumption structure since last two decades. One of the common striking features observed during this period is the growth cot accompanied with a moderation in the level of income in its content on poverty and inequality. In recent years, the phenomenon of shrinking poverty accompanied with widening inequality in India has raised serious concern for its implied ill fare and exclusion (Sen and Himanshu 2005; Pal and Ghosh 2007; Abraham 2007; Chauhan et al. 2016). A growing body of research also cautions that high inequality may slow down as well as threaten the sustainability of economic growth. Hence the diagnosis of inequality becomes pertinent to comment on the implied ill-fare connotation of this persistent and rising inequality levels. One view on this poverty inequality change/transformation is that the benefits or fruits of growth going to the poor could always be less than those accruing to the non-poor in the process of growth during last two decades. In other words it may happen that, the positive effects of growth on poor tend to get offset by the adverse effects of rising inequality, emerging in the process of economic growth (Bhanumurthy and Mitra, 2004). However, if economic growth is accompanied by a fall in inequality, the poor gain more than the non-poor – the situation is portrayed in the literature as pro-poor growth (see Kakwani, Prakash and Son, 2000; Kakwani and Pernia, 2000). In this regard it is essential to comprehend even when inequality rises, observed poverty may still decline if the growth effect predominates over the inequality effect i.e. the extent of fall in poverty due to growth is higher than the rise in poverty

[3] Mentioned in Haokip (2010) for details see India's Northeast Policy: Continuity and Change, BG Verghese (21 June, 1927 - 30 December, 2014) was a senior Indian journalist. He started his career in journalism with the Times of India and was later Editor of the Hindustan Times (1969-75) and Indian Express (1982-86).

due to a rise in inequality effect in an economy. Also to understand the relative contributions of economic growth and redistribution (e.g. changes in inequality) to changes in poverty.

In this respect, while talking about welfare orientation approach towards economic growth, it is essential to measure the dividends of growth in terms of income distribution, changing poverty and inequality across regions. In Indian context given the wider regional variation in terms of various socioeconomic development economic reform process was initiated at different levels across states in India. As the disproportionate growth in the crucial indicators can have a substantial impact on the standard of living of the people. Here it is imperative to comprehend the nature and causes of differential growth across regions in terms of poverty, inequality and other welfarist socioeconomic dimensions. The State-specific studies are of prime significance given the current policy emphasis towards achieving faster and inclusive growth across regions. In this context the importance of state specific studies are rightly pointed out by Ahluwalia (2002) that,

> "*The performance of individual states in the post-reforms period has not received comparable attention and yet there are very good reasons why such an analysis should be of special interest. First, balanced regional development has always been one of the declared objectives of national policy in India and it is relevant to ask whether economic reforms have promoted this objective. Second, India's federal democracy is increasingly characterized by regionalisation of politics, with politics at the state level being driven by state rather than national issues, and this makes the economic performance of individual states an issue of potential electoral importance. This is particularly so because liberalisation has eliminated many of the controls earlier exercised by the central government and thereby increased the role of state governments in many areas that are critical for economic development. Finally, since state level performance shows considerable variation across states, with many states recording strong growth in the post-reforms period, it is important to identify the reasons for their success in order to replicate it in other states.*"

In this case the regional analysis on core socioeconomic performances in terms of poverty, inequality, growth, employment, literacy etc. is imperative for a proper understanding of these differences in developmental with state level specificities.

While there are plentiful studies dealing with the national poverty and inequality scenario, state specific studies are not many to come by (Sen and Himanshu, 2005; Chauhan et al. 2016; Abraham, 2009; Rangarajan et al. 2007). Even studies evaluating the state level poverty, inequality and employment scenario have limited their analysis to seventeen major states of India only, Assam being the only north-eastern state featured in this list (Rangarajan et al, 2008; Bhaumik, 2007; Chadha and Sahu, 2004). Although the existing literature on economic growth dynamics across regions are many a substantial study on north eastern states are less in number. In this respect, the most crucial issues here is to examine of poverty and inequality dynamics among north eastern states of India. This is basically given the different structure of the economy in terms of various socioeconomic parameters from the mainland; it is essential and important to understand changing pattern of poverty and inequality dynamics in these regions. The north-eastern region (NER) has not got due reflection in poverty and inequality studies, partly due to the problem of inadequacy or non-availability or paucity of statistically authentic and representative data. Notwithstanding, the thin sample coverage of the north-eastern region due to geographic limitations and consequently the statistical reliability of the data, few researchers have attempted for a detailed and incisive assessment of various facets of employment based on different rounds of NSS consumer expenditure data. (Srivastava and Dubey, 2003; Sahu, 2012). Although this crucial topic has been debated since independence but, few papers have extensively analyzed poverty, inequality and deprivation in North East India. This aforesaid topic has found a place in government reports but not in research paper. To the best of our knowledge, there are only a few studies which deal with this area in north eastern states of India (Khan and Padhi, 2017; Sahu, 2012, Srivastava et al., 2003; NITI Aayog, 2015; Dikshit and Dikshit, 2014; Sarma, 2013).

In this respect some more associative analysis with some other forms of deprivation is important to argue out a case that consumption poverty in the north east is quite different from that of the main land, when it comes to its implied extent of deprivation in other spheres of living. Here some basic aspects and questions that needs to analyze includes, how does poverty in the north east relate to the poverty in the main land, how does other forms of deprivation such as

availability of proper infrastructural facilities, basic amenities and employment relate to poverty in the north-east and what is the relative contributions of economic growth and redistribution (changes in inequality) to change in poverty in the northeast states of India. These are some of the core issues which will be addressed in this present study. Hence it is important to analyze the effect of growth and inequality separately on poverty in different North Eastern States (NES) of India.

Given this pretext, this present study tends to analyze the poverty inequality dynamics in the north eastern states of India. This study tends to access aspect of changing poverty by decomposing the changes in poverty ratio between two time points into growth component, redistribution component and residual component across North Eastern States of India given the methodology developed by Datt and Ravallion (1992) for North East India. In this methodology the population shift effect is not quantified. The national representative data sets of consumer expenditure survey have used in this study to access the changing nature of poverty is due to which factor. Such an analysis enables a critical policy issue and offers a propounding understanding of the current developmental process.

**2. North Eastern states (NES)**

The North Eastern states (NES) of India earlier comprised the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, popularly known as the 'Seven Sisters states, recently the State of Sikkim also comes under the umbrella of this region owing to its proximity to the area and somewhat similar type of developmental features, now referred as "seven sister states" and one brother state.

The NES regions occupy strategic importance geopolitical situation due to its international boundries with Bangladesh, Bhutan, China, Myanmar and Nepal. The states comprising the NES, while unique in most respects, have similar economic and geographical attributes that merit special policy interventions. These eight particular North eastern states are under the category of "special category states", as per the lagging in basic socioeconomic indicators such as strategic location, economic and infrastructural bottlenecks, low population density, the preponderance of hilly and difficult terrain etc. The eight states of North-East endowed with a large amount of forest and natural resources account for almost 4 percent of the total population

and 8 percent of India's geographical area of the country (NitiAayog, 2015). As per the studies of World Bank the conditions in the region can be described as a low-level equilibrium of poverty, non-development, civil conflict and lack of faith in political leadership (Bhatia, 2009).

**North East India**


Source: Source: "North-East India Map", http://www.mapsofindia.com/maps/northeast/sevensisters.htm , Copyright © 2008 Compare Infobase Limited, Accessed on 25th October 2017.

These states also have some particular specific characteristics such as 40 percent of India's hydropower, 34 percent of India's water resources. The particular geographical location and lack of infrastructural development facilities makes the North eastern states isolated from the rest of the country (Agnihotri, 2004; Kumar 2004). With these, prevalence of certain other factors such as the dominance of subsistence agrarian economies, poor industrial base, lack of infrastructure, significant dependence on public sector employment, political insurgency and violence and gross negligence by the centre and respective state government towards overall development lacked these regions from the mainland (Sahu, 2012). Although of having immense natural and human resources potentials, the North Eastern states are isolated geographically from the mainland that has led to deprivation of economic development in core sectors (Cappellari & Jenkins, 2006). In

this regard the study on deprivation is not only crucial for these particular regions, but also important for establishment of equity toward balanced development across the nation (Bhattacharya & Wang, 2011:35). To address the concerns on development of these particular regions, first the Department of Development of North Eastern Region was created during 2001, which was later converted into a full fledged ministry during 2004 (Sahu, 2012). Afterwards a large number of projects are being undertaken in different sectors such as infrastructure (power, road, railways, air connectivity, inland waterways, telecommunication and information technology), plantations, irrigation and flood control, tourism, human resource development (education and health), handlooms and handicrafts etc. for these regions.[4]

All the eight states have different developmental prospects and resources to support their efforts in contributing to the regional as well as national economy. A critical appraisal of the key economic indicators along with a detailed sketch of the individual strengths of the eight states is necessary to achieve a holistic framework to target growth in the region. The region stands way below and ahead in comparison with the rest of India in socio-economic indicators. The economy of the region has expanded over the years, even with this development, some of the core socioeconomic parameters of these states are far behind from the mainland.

Although mostly hilly, the potentially arable land rich in natural resources is found in vast tracts on both sides of the Brahmaputra river valley. In spite of fertile land and relatively educated people (68.5% literacy rate, compared to 64.8% nation-wide) the North-East remains one of the most underdeveloped regions in India (Nair, M., et al., 2013) due to various infrastructural bottlenecks. But, all the development process in north east regions is not rosy, economy of the region marked with pervasiveness of unskilled labour force and two-third of the work force of this region engage in the agriculture sector. This region also lack of fecund investment, basic infrastructure facilities and pervasiveness of unskilled labour force, these states remain economically backward (Mahajan, 2009). Still, these regions are not completely self-sufficient in agricultural production. In terms of Industrial development, the region is manifest by lack of proper or nearly absence of proper industries or manufacturing unit. Most of the industries are found only in Assam, Meghalaya and Arunachal Pradesh, which are medium scale and few large scale industries. Given this context, the primary objective of this present study is to examine the

[4] For details kindly see Annual reports of the Ministry for the Development of North East Regions for Various years.

various socioeconomic characteristics of these regions along with examining the changing structure of poverty and inequality among rural and urban areas across North Eastern States of India.

This paper contributes to poverty and inequality literature at the regional level and sub- sector level. It also addresses socioeconomic characteristics of these regions along with the poverty, inequality dynamics across the north east states of India. Firstly, this study will examine the socioeconomic characteristics of these regions. Secondly, the macroeconomic scenario of these regions will be examined.

## 3. Data and Methodology

### 3.1. Data

This paper makes use of two rounds of National Sample Survey Organization (NSSO) 61$^{st}$ (July 2004-June 2005) and 68$^{th}$ (July 2011-June 2012) rounds of the India's nationally representative survey on 'Household Consumption Expenditure' of unit level data provided by the NSSO. The data were collected through the multi-stage stratified sampling design was used for the 61$^{st}$ and 68$^{th}$ round survey, with a total of 79298 in rural household and 45346 urban households selected for 61$^{st}$ round, with a total of 59695 in the rural household and 41697 urban households selected for 68th round respectively. Out of which 12629 rural households and 5069 urban households were selected for the 61$^{st}$ round and 9144 rural households and 4979 urban households were selected from 68$^{th}$ round were selected in this present study for the North Eastern states of India. The data collected on the household characteristics, food and non-food consumption expenditure etc. (NSSO 2006, 2013). The 61$^{st}$ and 68$^{th}$ NSSO round have been used for the temporal comparison of poverty, inequality of household consumption expenditure in rural as well as urban area of North East India. To calculate the real MPCE figures the CPI-AL has used for the rural area and CPI-IW has used for the urban area. To examine the basic socioeconomic indicators statistics from CSO, Census, SRS statistics were used.

This study tends to decompose the changes in the poverty over two periods, for rural and urban area, in eight North Eastern States of India (NES) by using the decomposition methodology developed by Datt and Ravallion (1992). In this study the consumption expenditure has taken as a proxy for income. For the purpose of comparison we have taken the distribution of consumer

expenditure data from 50th, 61st and 68th rounds of consumer expenditure survey conducted by the National sample survey organization for the year 1993-94, 2004-05 and 2011-12 i.e. over a span of two decades.

### 3.2. Methodology

This present study will make use of different poverty and inequality measures to understand the changing dynamics of poverty and inequality in the North Eastern States (NES) of India. In this present study, we have attempted to examine the trends and patterns of poverty and inequality from consumer expenditure surveys of 2004-05 and 2011-12. This present paper contributes to poverty and inequality at the regional level and sub sector level. It also addresses in many ways the poverty and inequality of average consumption expenditure in the North East State of India. This paper uses the group of poverty and inequality indices for robustness of results. To begin with the pattern and level of poverty and inequality will be examined from the simple Gini and headcount ratio of poverty. This paper tries to understand the poverty, inequality among the North Eastern State of India and also the decompose the factor leads to differences of average consumption expenditure among the poor and non-poor population during 2004-05 and 2011-12 by using 61st and 68th round of NSSO data. In this present study we have used the Tendulkar proposed poverty line will be used to quantify head count poverty across North Eastern States of India (NES).

These measures include Gini Index, Head count poverty Index, Datt and Ravallion (1992) measure of poverty decomposition to understand the dynamic aspect of poverty and inequality in the NES.

**Gini Coefficient**

In this study the Gini Index basically measures inequality in the distribution of Monthly per capita consumption expenditure. The Gini coefficient[5](Datta, 2005) varies between 0 and 1 and it is defined as follows:

[5] For detail understanding of the methodology kindly follow Datta (2005), Chauhan et al. (2015), Haughton, J., & Khandker, S. R. (2009)

$$Gini = \frac{1}{2n^2\overline{w}}\sum_{i=1}^{n}\sum_{j=1}^{n}|w_i - w_j| \quad ----(2)$$

Where,

n=number of individuals in the sample

w=Arithmetic mean per capita consumer expenditure

$w_i$= Income of individual i, and

$w_j$= Income of individual j

***Head Count Index of Poverty***

$$\text{HCP} = \frac{q}{N} ----- (3)$$

Where q is number of poor person and N is total population of State in particular year. This Index gives us the head count estimates of poverty. In other words, it estimates the proportion of the population that is poor.

**Datt and Ravallion (1992) Methodology**

This present study used the methodology proposed by Datt and Ravallion (1992) quantify the relative contribution of economic growth and redistribution to changes in poverty. This is basically called as growth inequality decomposition. The estimated results can infer whether the changes in welfare distribution have offsets gain from economic growth in reducing poverty. This proposed methodology decomposes the changes in poverty into growth, redistribution and residual effect. So the changes in poverty between two years could be decomposed into three components. The growth component is the difference between the two poverty indices keeping the distribution constants. Along with this, the redistribution component is the change in poverty if the mean of the two distributions is kept constant over two time points. The interaction component (residual component) shows the change in poverty due to interaction of growth and inequality[6]. This can be presented as,

[6] Here the proposed methodology (Datt and Ravallion, 1992) is explained (Including equations and analysis) directly from the studies of Datt and Ravallion and from the World Bank Poverty new portal which can be accessed on http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPGI/0,,contentMDK:21931502~menuPK:5461445~pagePK:210058~piPK:210062~theSitePK:342771~isCURL:Y,00.html

$$P_{t_n} - P_{t_0} = G(t_0, t_n; r) + D(t_0, t_n; r) + R(t_0, t_n; r)$$

Where, the first part reflects the, changes in poverty and the right hand side components reflects growth component, which represents the changes in poverty attributable to changes in mean welfare, when holding the relative distribution of the reference year constant, in other words,

$$G(t_0, t_n; r) = P\left(\frac{z}{\mu_{t_n}}, L_r\right) - P(\frac{z}{\mu_{t_0}}, L_r)$$

Where, z is the poverty line, μ mean income and L is the Lorenz curve. This is the change in poverty that could have occurred if everyone have experienced the same rate of growth as at the mean and therefore maintain their position relative to one another. Second one is redistribution component, which represents changes in poverty attributable to changes in the distribution curve holding mean welfare constant, in other words,

$$D(t_0, t_n; r) = P\left(\frac{z}{\mu_r}, L_{t_n}\right) - P\left(\frac{z}{\mu_r}, L_{t_0}\right)$$

This represents changes in poverty that would have occurred if the observed change in the shape of the welfare distribution curve had occurred without any shift in the mean of the curve. The last one is residual component i.e. $t_0, t_n; r$ reflects the initial year, final year and reference year at which the welfare distribution and mean welfare has fixed for growth and redistribution components separately (Datt and Ravallion, 1992). The residual component also represented as the interaction effect. In other words it represents the effect of simultaneous changes in mean income and distribution on poverty that is not accounted for by the other two components. This method has certain limitations such as it can't tell us regarding population shift effect on poverty reduction.

Including these estimates the PGE and IGE are calculated based on the studies of Arndt et al. 2017; Ram, 2011, 2013. By focusing on the changes in aggregate poverty (Head count poverty) and inequality (Gini Inequality) and growth (GSDP growth based on 2004-05 base year price) the PGE and IGE are calculated as,

$$PGE = \frac{\frac{p_t - p_0}{p_0}}{\frac{GSDP_t - GSDP_0}{GSDP_0}} \qquad IGE = \frac{\frac{i_t - i_0}{i_0}}{\frac{GSDP_t - GSDP_0}{GSDP_0}}$$

Where, $p_t$ is the current year poverty and $p_0$ is the previous year poverty rate and $i_t$ is the current year inequality and $i_0$ is the previous year inequality rate, $GSDP_t$ is the current year GSDP and $GSDP_0$ is the previous year GSDP rate. In this case the head count poverty is given in percentage terms.

## 4. Results and Analysis

### 4.1. Socioeconomic characteristics of North Eastern States

Before analyzing the level of poverty and inequality in the NES the basic socioeconomic characteristics of these regions are examined, because the outcome indicators are based on some of these socioeconomic parameters. Some of the core basic socioeconomic indicators showing a positive picture for these states as compare to the mainland, while in other it is left behind. In some of the core developmental indices some of these NES performed well as compare to national picture in the recent decades. These include some of the variables such as, education, sex ratio, infant mortality rates and broad macro aggregate indicators in terms of sectoral contribution to the states GSDP. Here we are explaining some of these socioeconomic parameters. The results portrays that expect few states most of the states having lower population growth as compare to the national average. Even Nagaland (-0.5) shows a negative population growth during 2001 to 2011. As per the level of sex ratio (except Nagaland, Arunachal Pradesh and Sikkim) the NES performance is above than the national figure. As per HDI index Mizoram followed by Tripura has higher level of HDI as compared to the NES of India. Not only is this in terms of education which is considered as a means to enhance capability and positive impact upon peoples wellbeing (% literate as per 2001 and 2011 Census) the performance of the states (Except Arunachal Pradesh and Assam) well above national average. Among the NES Mizoram is the state with highest literacy rate (92%). The Gross Enrolment ratio is higher in Meghalaya (29). As per the unemployment status Nagaland followed by Tripura has higher level of unemployment as compare to other NES. As per the level of unemployment measured in terms of UPSS status states such as Nagaland (173 per 1000) and Tripura (144 per 1000) having higher

level of unemployment as compare to other NES. In terms of population growth Manipur, Meghalaya and Mizoram all other NES are showing a less population growth as compare to the national figure. As per the GSDP figures states such as Sikkim shows a higher growth rate of 17 percent as compare to the others NES of India. Even in some of the core economic indicators these states performed well as compare to the national average. The next basic question arises as this impact upon other socioeconomic indicators of these NES. This can be understood by looking at the core sectoral change over the point of time 2004-05 to 2011-12. It is interesting to note that most of the NES exhibit higher percentage of agricultural (Nagaland 26.6 percent during 2011-12) and industry (Sikkim 59.2%) share to the total GSDP as compare to the national figure. In the service sector Mizoram (61.9%) followed by Nagaland (60.1%) having higher percentage share to state GSDP as compare to other NES during 2011-12. Although performing in a better manner in some of the key socioeconomic parameters, as per the availability of infrastructure facilities the performance of these NES are not good enough. In case of infrastructure Assam is leading ahead among all other NES. Due to the presence of hilly terrain connectivity to these states is low. This can be visualized if we look at the railway connectivity, tele-dencity and highway connectivity.

### 4.2. Broad Growth, Poverty and Inequality in NES

To begin the analysis the overall poverty, inequality and growth in GSDP has analyzed for the eight north eastern regions and all India as well (Figure-1). The both the macro and micro economic pictures has shown for the particular eight north eastern states of India. The growth rate in GSDP are given as per the 2004-05 base year price and the poverty and inequality figures shown as the only difference between poverty head count between 2004-05 and 2011-12 and Gini percentage difference between 2004-05 and 2011-12. In this study the poverty head count and Gini figures of 2011-12 is subtracted from 2004-05. In this respect the negative sign is showing an improvement in the parameters of poverty and inequality and positive showing increase in it. The results portray some interesting analysis. The compound annual growth rate has shown in the GSDP figures at 2004-05 base year price. Out of all the states except Arunachal Pradesh (3.6%), Nagaland (9.9%) and Mizoram (6%) all other states shows a decline in head count poverty parameters with highest decline in Tripura (26.6 %) followed by Sikkim (22.9%). As per the GSDP growth states such as Sikkim (17.3), Meghalaya (8.6) and Mizoram (8.8)

showing more than all India growth rate. The lowest growth rate has shown in Manipur (5.2) over the period from 2004-05 to 2011-12. As per the level of Inequality states such as Arunachal Pradesh (9.1) shows an increase in the level of Inequality while Sikkim shows a highest decline in the level of Inequality (3.3). Overall except Nagaland, Sikkim and Tripura all other states are showing an increase in the level of income inequality ( Expenditure as a proxy of Income) Out of all the North eastern states Sikkim only shows an improvement in the level of three core indicators (Growth, Poverty and Inequality) as compare to other NES of India. The growth elasticity of poverty and Inequality elasticity of poverty is calculated by using the particular formula given by the studies of (Arndr et al., 2017). Including this the poverty growth elasticity and inequality growth elasticity quite showing different picture for different NES of India. These IGE and PGE components are quite diverse among the states. This is completely depends upon the changing pattern of poverty and inequality in the concerned states. The Growth elasticity of Poverty results depicts that out of all the NES only Arunachal Pradesh (0.337), Mizoram (0.647) and Nagaland (2.095) only showing positive figures, while all others NES showing a negative value in it. As per Inequality growth elasticity except Nagaland (-0.169), Sikkim (-0.064) and Tripura (-0.082) al other states are showing positive IGE. The NES are performing quite differently even opposite as per PGE and IGE.

### 4.3. Changing Nature of Poverty and Inequality in the Rural and Urban Area of NES

Although the NES regions showing different picture in terms of poverty and inequality decline but the rural and urban scenario depicts some different picture in this study. NES are positioning differently as per their poverty and inequality change. The overall pattern of poverty and inequality is different in rural and urban north eastern states. For a better understanding of the changing nature of poverty and inequality among NES of India both in the rural and urban setting, first we have taken both the periods poverty and inequality figures, afterwards we have subtracted the 2011-12 poverty and inequality figures with the 2004-05 figures to check the increase or decrease in it. In this case, while the negative sign indicates improvement in the indicator while the positive sign indicates deteriorating in the indicator. Our preliminary analysis depicts that, all the NES is showing different level of poverty and inequality change over the period from 2004-05 to 2011-12. Results also divulge that states like Sikkim, Mizoram, Tripura and Meghalaya have less than 10 per cent poverty level in 2011-12 in urban area. The urban

poverty is lower for all the states than rural area. Within rural the inequality has increase in 2011-12 for Sikkim and Nagaland whereas urban area two more states joined in this category i.e. Tripura and Meghalaya. States such as Assam and Manipur exhibit decline in poverty and increase in the level of inequality both in rural and urban settings. States such as Sikkim only exhibit decline in both poverty and inequality both in rural area and Meghalaya, Sikkim and Tripura is showing an improvement in the level of poverty and inequality in the urban area. In the urban area none of the NES are showing increase in the level of level of inequality and poverty just as rural area. Only Nagaland exhibit an increase in the level of poverty and decline in the level of inequality both in rural and urban settings. While most of the states shows a decline in the level of poverty and inequality in rural India, Arunachal Pradesh showing an increase in the level of Inequality.

Positions of the states as per poverty and inequality in the rural and urban NES

| | | Inequality (2004-05 to 2011-12) | | | |
|---|---|---|---|---|---|
| | | Rural | | Urban | |
| | | Decline | Increase | Decline | Increase |
| Poverty (2004-05 to 2011-12) | Decline | Sikkim | Assam, Manipur, Meghalaya, Tripura, India | Meghalaya, Sikkim, Tripura | Arunachal, Assam, Manipur, Mizoram, India |
| | Increase | Nagaland | Arunachal, Mizoram | Nagaland | |

The picture is same for the urban area as well for Arunachal Pradesh. In the urban area while most of the north eastern showing decline in the level of poverty with a simultaneous increase in the level of inequality level (Figures-3). The differential level of poverty and inequality changes is due to the available level of proper socioeconomic indicators and availability of infrastructural facilities in those regions.

### 4.4. Poverty Decomposition Results

The decomposition results shows that the poverty change over last two decades has took places with changes in various core macro and micro economic parameters. The decomposition results portray interesting results for the NES. The rural poverty is higher than that of the urban poverty in this study. Table-2, represents the changes in poverty into growth component (GC), Redistribution component (RC) and Interaction component (IC) as per three measures of poverty

which include poverty head count, poverty gap and poverty gap square for eight North Eastern states and all India both in rural and urban settings. In few states the poverty increase or decrease accounted for the increase or decrease in the growth and redistribution component. The base year (BY-1) 1 represents for the year 2004-05 and base year (BY-0) 0 represent for the year 2011-12. Along with this the average effect (AE) also shown in this study. The Table-2 gives the increment in percentage point both in aggregate and by components. For states such as Assam in the rural area the poverty rates (head count poverty) are 36.4 and 33.9 percent for the year 2004-05 and 2011-12 respectively. This verifies that the poverty rates in the table are consistent with other measures of poverty. Changes in poverty over this point of time in rural Assam are -2.5 percent. The other Growth component represent that If the Lorenz curve had remained constant as observed in 2004-05 (2011-12), the headcount index would have decreased by 35 percentage points (54.7 points) during this period of growth. If mean consumption had remained constant as observed in 2004-05 (2011-12), the rise in inequality, that is an increase in the variance of the distribution, would have increased poverty by 52.2 percentage points (32.6 points). In other words, the rise in inequality offset gains from growth in reducing headcount poverty (World Bank, Poverty Net). The last component is also referred to as the residual term. The results of the decomposition are questionable when this term is not small relative to the change in poverty. This column presents the mean of each of the marginal contributions of each factor (i.e. the average of "Base year 1" and "Base year 2" results). Given the path dependence of this decomposition, one may choose to use the mean values (i.e. Shapley decomposition). The same can be explained for the urban area too. In the Urban Assam the interaction effect is higher than that of the rural Assam and the growth and redistribution components are lower. The largest decline in poverty is in Tripura followed by Sikkim in the rural area. Following this growth and redistribution components is also showing different in these two states. Corresponding to these the decomposition is also done as per the poverty Gap and Poverty severity Index across NES for rural and urban settings. These results can be interpreted accordingly.

## 5. Conclusion

This paper tries to understand the poverty, inequality, relative deprivation among the North East region of India during 2004-05 and 2011-12 by using 61$^{st}$ and 68$^{th}$ round of NSSO data.

Our analysis showed that among the NES the headcount poverty ratio of Tripura has highest in the rural North-Eastern states, which has worse than the national averages in 2004-05. Results also divulge that states like Sikkim, Mizoram, Tripura and Meghalaya have less than 10 per cent poverty level in 2011-12 in the urban area. The highest reduction in poverty has shown in the rural Tripura during 2004-05 to 2011-12 for the rural area and Sikkim for the urban area. The urban poverty is lower for all the states than rural area. Inequality is lower in the rural area as compare to urban area both periods except Sikkim in 2004-05 and Arunachal Pradesh both periods. Along with this the poverty decomposition exercise portrays an interesting picture. The overall decline in poverty is explained through growth and interaction components for the eight north eastern states both in rural and urban settings. The results showed that the overall decline in poverty is attributed through these components. These results clearly reflect the need for a proper policy for the north eastern states of India.

**References**


Abraham, V. (2007). Growth and inequality of wages in India: Recent trends and patterns. *Indian Journal of Labour Economics*, *50*(4), 927-41.

Abraham, V. (2009) Employment Growth in Rural India: Distress-Driven?. *Economic and Political Weekly*, 54(16), 97-104.

Agnihotri, V. K. (2004). *Socio-economic profile of Rural India: North East India*. Mussoorie: Lal Bahadur Shastri National Academy of Administration.

Ahluwalia, M. S. (2002). State level performance under economic reforms in India. *Economic policy reforms and the Indian economy*, 91-125, access on https://s3.amazonaws.com/academia.edu.documents/35532383/siepr.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1509390639&Signature=0GjLvWZ5ZX%2FE6B3oOFdG1WS4ddE%3D&response-content-disposition=inline%3B%20filename%3DState_Level_Performance_Under_Economic_R.pdf

Arndt, C., Mahrt, K., & Schimanski, C. (2017). *On the poverty–growth elasticity* (No. 149). World Institute for Development Economic Research (UNU-WIDER).

Bhanjdeo, A. M. (2015). India and Its Northeast Exception: From Frontier to Forefront. Accessed from http://digitalcommons.bard.edu/cgi/viewcontent.cgi?article=1290&context=senproj_s2015

Bhanumurthy, N. R., & Mitra, A. (2004). *Economic Growth, Poverty and Reforms in Indian States*. Institute of Economic Growth.

Chadha, G K and P. P. Sahu (2002), 'Post-Reform Setbacks on Rural Employment: Issues that Need Further Scrutiny', *Economic and Political Weekly*, 37 (21): 1998-2026.

Chadha, G.K. and Sahu, P.K. (2004) Recent Changes in Agricultural Employment in Rural India: A State-Level Analysis. *Agricultural Situation in India*, 61(5),249-272.

Chauhan, R. K., Mohanty, S. K., Subramanian, S. V., Parida, J. K., & Padhi, B. (2016). Regional Estimates of Poverty and Inequality in India, 1993–2012. *Social Indicators Research*, Springer, *127*(3), 1249-1296.

Cappellari, L., & Jenkins, S. P. (2006). Summarizing multiple deprivation indicators. *ISER Working Paper 2006-40*. Colchester: University of Essex.

Chauhan, R. K., Mohanty, S. K., Subramanian, S. V., Parida, J. K., & Padhi, B. (2015). Regional Estimates of Poverty and Inequality in India, 1993–2012. *Social Indicators Research*, 1-48, Springer

Dikshit, K. R., & Dikshit, J. K. (2014). *North-east India: Land, people and economy*. Dordrecht: Springer.

Govt. of India (2011): *Human Development Report of North East States*. New Delhi: Ministry of Development of North Eastern Region.

Haokip, T. (2010). India's northeast policy: Continuity and Change. Man and Society: A Journal of North East Studies, Vol-III,pp-86-99

Himanshu Sen, A. (2004). Poverty and Inequality in India: Getting close to the truth. *Economic and Political Weekly*, 4247-4263.

Konwar, P. (2015). Socio-economic conditions, inequality and deprivation in North East India. Access on https://mpra.ub.uni-muenchen.de/65407/

M K Khan and B. Padhi (2017). Poverty, Inequality and Relative Deprivation among North-Eastern States of India: Evidence from NSSO. in U. K. De, M. Pal and P. Bharati (Eds.) *Inequality, Poverty and Development in India: Focus on the North Eastern Region,* Springer Publication (Forthcoming).

Mahajan, S. K. (2009) Attainment of Human Development: a Study of North-East India. *Delhi Business Review*, 10(2).

Mazumdar, D and Hyun Hwa Son (2002); "Vulnerable groups and the labour market in Thailand: impact of the Asian financial crisis in the light of Thailand's growth process", paper presented at a workshop on '*Impact of globalisation on the labour markets'* at NCAER, Delhi.

Ministry of Development of North Eastern Region and National Eastern Council (2008) North Eastern Region Vision 2020. *Government of India, New Delhi.*

Mukherjee, S., Chakraborty, D., & Sikdar, S. (2014). Three decades of human development across Indian states: Inclusive growth or perpetual disparity?. *National Institute of Public Finance and Policy, New Delhi, India*.

Padhi, B., Mishra, U. S., & Khan, M. K. (2015). Is Poverty Comparable Across Varying Size of Population Among Indian States? In Almas Heshmati, Esfandiar Maasoumi and

Guanghua Wan (Eds.) *Poverty Reduction Policies and Practices in Developing Asia* (pp. 205-215), Asian Development Bank, Springer Singapore.

Pal, P., & Ghosh, J. (2007). Inequality in India: A survey of recent trends. *Economic and Social Affairs Working Paper*, *45*.

Ram, R. (2011). 'Growth elasticity of poverty: Direct estimates from recent data'. Applied Economics, 43(19): 2433–440.

Ram, R. (2013). 'Income elasticity of poverty in developing countries: Updated estimates from new data'. Applied Economics Letters, 20(6): 554–58.

Rangarajan, C., Kaul, I., and Seema, S. (2007) Revisiting Employment and Growth. *ICRA Bulletin-Money & Finance*, *3*(2).

Rangarajan, C.; Padma Iyer Kaul and Seema (2014). "Developments in the Workforce between 2009-10 and 2011-12", *Economic and Political Weekly*, Vol. 49 (23), June 7.

Ravallion, M. (2002) On the Urbanization of Poverty. *Journal of Development Economics*, 68(2), 435-442.

Sahu P.P. (2012) Employment Situation in North Eastern Region of India: Recent Trends and Emerging Challenges. *V.V.Giri National Labour Institue, NLI Research Studies Series, No*. 096/2012.

Sarma G.K. (2013). Growth of Income Inequality and its Trend in North Eastern States of India, International Journal on Social Science and Research

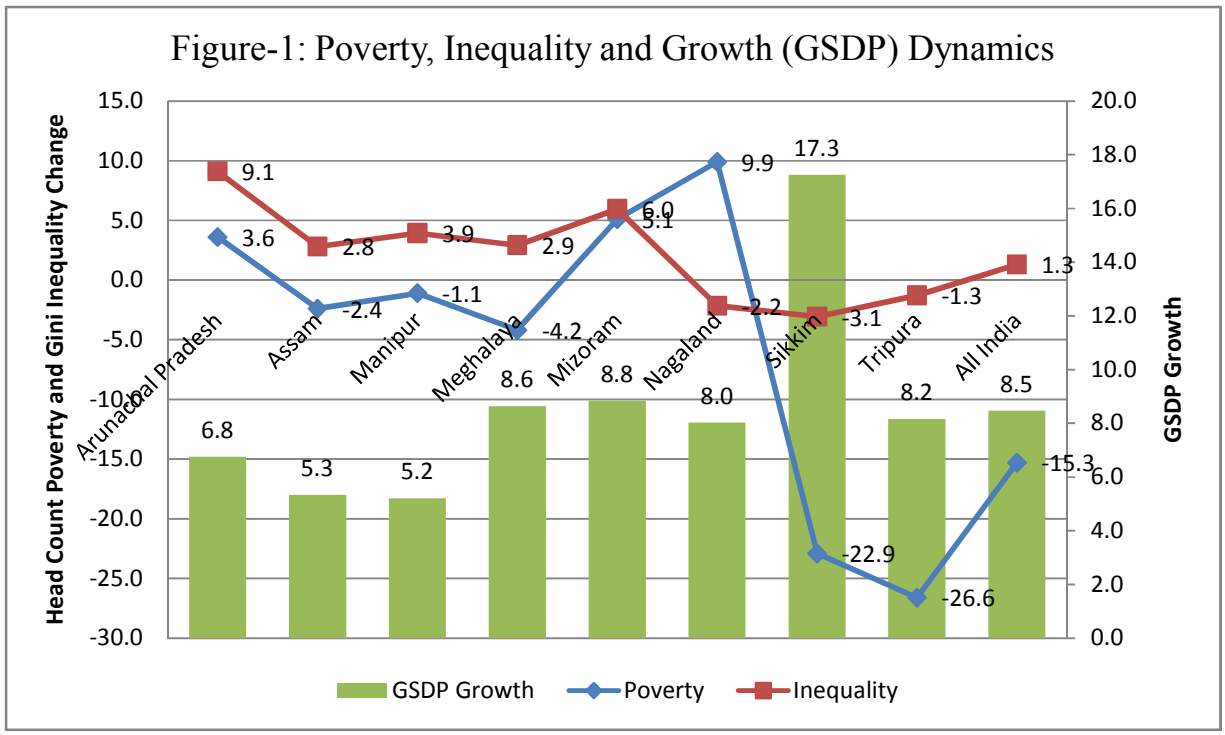
Srivastav, N. and Dubey, A. (2003) Unemployment in North East India: Some Issues, in A C Mohapatra and C R Pathak (Eds), *Economic Liberalization and Regional Disparities in India: Special Focus on the North-eastern Region (*pp. 208-220*)*. Star Publishing House, Shillong.

Table-1: Various Socio Economic Indicators of North Eastern States

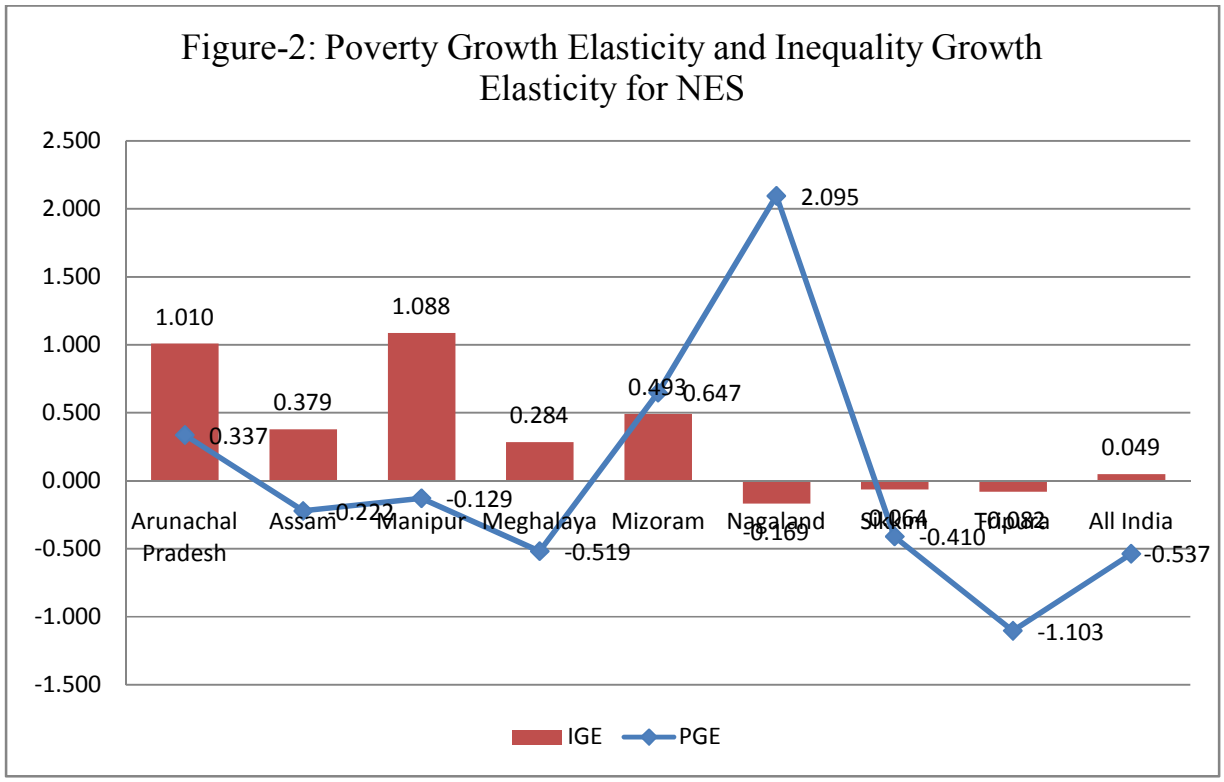
| | | Arunachal Pradesh | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura | All India |
|---|---|---|---|---|---|---|---|---|---|---|
| Population Growth | (2001-2011) | 25.9 | 17 | 18.6 | 28.5 | 22.6 | -0.5 | 12.1 | 15 | 17.6 |
| Sex Ratio | 2001 | 893 | 935 | 974 | 972 | 935 | 900 | 875 | 948 | 933 |
| | 2011 | 920 | 954 | 987 | 986 | 975 | 931 | 889 | 961 | 940 |
| Infant Mortality Rate | 2005 | 37 | 68 | 13 | 49 | 20 | 18 | 30 | 31 | 58 |
| | 2012 | 33 | 55 | 10 | 49 | 35 | 18 | 24 | 28 | 42 |
| HDI | 2004-05 | 0.234 | 0.234 | 0.256 | 0.34 | 0.529 | 0.403 | 0.299 | 0.288 | |
| | 2011-12 | 0.124 | 0.138 | 0.199 | 0.246 | 0.408 | 0.257 | 0.324 | 0.354 | |
| Employment Elasticity | | 0.01 | -0.05 | 0.22 | 0.08 | 0.16 | -0.47 | 0.24 | 0.49 | 0.06 |
| GSDP Growth | 2004-05 to 2011-12 | 6.8 | 5.3 | 5.2 | 8.6 | 8.8 | 8 | 17.3 | 8.2 | 8.5 |
| Agricultural growth | | 4.7 | 2.9 | 1.9 | 2.6 | 7 | 4 | 7.9 | 7.4 | 4.2 |
| Indus. Growth | | 5.8 | 2.5 | 1.3 | 12.2 | 9.5 | 8.4 | 29.9 | 7.8 | 8.6 |
| Service growth | | 9.5 | 7.9 | 9.8 | 9 | 9.3 | 10.2 | 8.4 | 8.7 | 9.7 |
| Agriculture | 2004-05 | 35.1 | 25.6 | 24.7 | 23.3 | 23.5 | 34.8 | 18.6 | 25.1 | 19 |
| Industry | | 31.9 | 27.5 | 36.7 | 26.1 | 16.6 | 12.9 | 28.8 | 24.2 | 27.9 |
| Services | | 33 | 46.9 | 38.6 | 50.6 | 59.9 | 52.4 | 52.6 | 50.7 | 53 |
| Agriculture | 2011-12 | 30.7 | 21.8 | 19.8 | 15.6 | 20.9 | 26.6 | 10.4 | 23.8 | 14.4 |
| Industry | | 30 | 22.8 | 28.2 | 32.8 | 17.3 | 13.2 | 59.2 | 23.6 | 28.2 |
| Services | | 39.4 | 55.4 | 52 | 51.7 | 61.9 | 60.1 | 30.4 | 52.6 | 57.4 |
| Literacy % | 2001 | 54.3 | 63.3 | 69.9 | 62.6 | 88.8 | 66.6 | 68.8 | 73.2 | 64.8 |
| | 2011 | 67 | 73.2 | 79.9 | 75.5 | 91.6 | 80.1 | 82.2 | 87.8 | 74.1 |
| Gross Enrolment Ratio: Primary Level (%) | 2013 | 27 | 23 | 29 | 28 | 26 | 24 | 25 | 22 | |
| Drop our Rates | 2005 | 46.9 | 50.1 | 31.2 | 50.0 | 49.8 | 42.7 | 49.4 | 43.2 | 29.0 |
| | 2012 | 30.9 | 32.2 | 44.8 | 62.9 | 40.8 | 38.5 | 9.1 | 26.8 | 22.3 |
| | 2005 | 70.8 | 75.0 | 43.0 | 79.2 | 67.0 | 67.3 | 82.3 | 73.4 | 61.9 |
| | 2012 | 61.4 | 72.4 | 71.1 | 74.5 | 44.5 | 53.6 | 57.4 | 49.6 | 50.3 |
| Unemployment Rate (UPSS) per-1000) | 2004-05 | 10 | 32 | 21 | 8 | 10 | 24 | 26 | 164 | 24 |
| | 2011-12 | 23 | 47 | 38 | 8 | 33 | 173 | 13 | 144 | 22 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highway Length per sq km2012 | 2012 | 19 | 11 | 2 | 4 | 5 | 16 | 22 | 8 |
| State Highways per sq km-2012 | 2012 | 28 | 14 | 12 | 17 | 19 | 9 | 24 | 8 |
| Per Capita Consumption of Electricity (kWh)2012-13 | 2012-13 | 19 | 28 | 25 | 20 | 23 | 27 | 16 | 26 |
| Total Rail Route (km) per sq km of area-2013-14 | 2013-14 | 4 | 27 | 26 | 28 | 25 | 23 | 28 | 17 |
| Rural Tele Density (%)-2013-14 | 2013-14 | 13 | 25 | 13 | 13 | 13 | 13 | 13 | 13 |
| Urban Tele Density (%)-2013-14 | 2013-14 | 10 | 25 | 10 | 10 | 10 | 10 | 10 | 10 |
| Household availing banking services-2011 (Census) | 2011 | 11 | 4 | 1 | 3 | 14 | 2 | 18 | 26 |
| Households with latrine facility within premises (2011 Census) | 2011 | 15 | 17 | 26 | 16 | 28 | 21 | 25 | 24 |
| Safe Drinking Water (Tap/Handpump/Tubewell) (%age)(RGI-2011) | 2011 | 13 | 8 | 3 | 2 | 6 | 4 | 15 | 7 |
| Forest Cover (% of geographical area) | 2013 | 28 | 18 | 25 | 26 | 29 | 27 | 22 | 24 |

Source: National Sample Survey Organization-Consumption, National Sample Survey Organization-Consumption, Census- 2001, Census-2011, Sample Registration System-2004-05, 2011-12, Basic Road Statistics of India 2011-12, Ministry of Power, Annual Statistical Statement 2013-14, DISE; 2013-14 data for 2013-14, Forest Survey of India; 2013, The HDI figures for NES are taken from the study of Mukherjee et al. (2014)

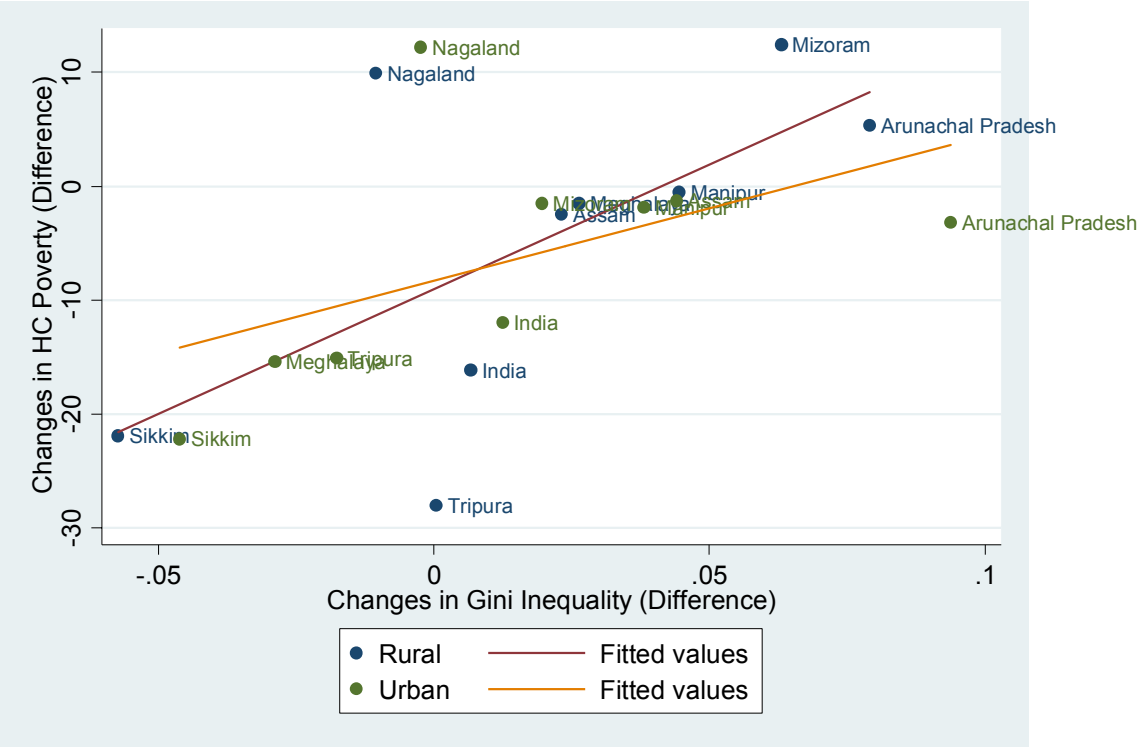



Source: Authors own calculation based on NSSO and CSO




Source: Authors own calculation based on 61st and 68th Unit level data of NSSO Consumption survey

Figure-3: Changing Nature of Poverty and Inequality across NES of India




Source: Authors own calculation based on NSSO Consumer Expenditure Rounds

**Table-2: Growth and Inequality Poverty Decomposition in rural and urban North East India (Datt and Ravallion Decomposition-(1992))**

| | poverty head count (P0) | | | | | | poverty gap (P1) | | | | | | poverty severity (P2) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rural | | | Urban | | | Rural | | | Urban | | | Rural | | | Urban | | |
| | BY-1 | BY-0 | AE | BY-1 | BY-0 | AE | BY-1 | BY-0 | AE | BY-1 | BY-0 | AE | BY-1 | BY-0 | AE | BY-1 | BY-0 | AE |
| | **India** | | | | | | | | | | | | | | | | | |
| Poverty rate (P0) | 41.9 | 25.7 | | 25.8 | 13.7 | | 9.7 | 5.1 | | 6.1 | 2.7 | | 3.17 | 1.50 | | 2.05 | 0.80 | |
| Change in P0 | -16.2 | -16.2 | -16.2 | -12.1 | -12.1 | -12.1 | -4.6 | -4.6 | -4.6 | -3.4 | -3.4 | -3.4 | -1.67 | -1.67 | -1.67 | -1.25 | -1.25 | -1.25 |
| GC | -40.8 | -59.4 | -50.1 | -24.9 | -48.0 | -36.5 | -9.5 | -31.7 | -20.6 | -6.0 | -20.5 | -13.2 | -3.12 | -17.31 | -10.21 | -2.02 | -10.39 | -6.21 |
| RC | 43.3 | 24.6 | 33.9 | 35.9 | 12.9 | 24.4 | 27.1 | 4.9 | 16.0 | 17.1 | 2.6 | 9.9 | 15.64 | 1.45 | 8.55 | 9.14 | 0.77 | 4.95 |
| IC | -18.6 | -18.6 | 0.0 | -23.1 | -23.1 | 0.0 | -22.2 | -22.2 | 0.0 | -14.5 | -14.5 | 0.0 | -14.19 | -14.19 | 0.00 | -8.37 | -8.37 | 0.00 |
| | **Arunachal Pradesh** | | | | | | | | | | | | | | | | | |
| Poverty rate (P0) | 33.6 | 39 | | 23.5 | 20.3 | | 7.4 | 9.8 | | 4.6 | 4.9 | | 2.45 | 3.14 | | 1.25 | 1.92 | |
| Change in P0 | 5.4 | 5.4 | 5.4 | -3.2 | -3.2 | -3.2 | 2.4 | 2.4 | 2.4 | 0.3 | 0.3 | 0.3 | 0.70 | 0.70 | 0.70 | 0.67 | 0.67 | 0.67 |
| GC | -31.5 | -34.7 | -33.1 | -23.2 | -49.5 | -36.3 | -7.1 | -24.1 | -15.6 | -4.6 | -23.9 | -14.2 | -2.37 | -15.35 | -8.86 | -1.25 | -13.39 | -7.32 |
| RC | 40.1 | 37 | 38.4 | 46.3 | 20.0 | 33.1 | 26.5 | 9.5 | 18.0 | 24.2 | 4.9 | 14.5 | 16.04 | 3.07 | 9.55 | 14.07 | 1.92 | 7.99 |
| IC | -3.15 | -3.15 | 0.0 | -26.3 | -26.3 | 0.0 | -17.0 | -17.0 | 0.0 | -19.2 | -19.2 | 0.0 | -12.98 | -12.98 | 0.00 | -12.15 | -12.15 | 0.00 |
| | **Assam** | | | | | | | | | | | | | | | | | |
| Poverty rate (P0) | 36.4 | 33.9 | | 21.8 | 20.6 | | 7.0 | 5.8 | | 4.2 | 3.8 | | 2.01 | 1.44 | | 1.14 | 1.00 | |
| Change in P0 | -2.5 | -2.5 | -2.5 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -0.4 | -0.4 | -0.4 | -0.57 | -0.57 | -0.57 | -0.15 | -0.15 | -0.15 |
| GC | -35.0 | -54.7 | -44.9 | -20.9 | -42.0 | -31.4 | -6.9 | -28.6 | -17.7 | -4.2 | -16.9 | -10.5 | -1.97 | -14.25 | -8.11 | -1.13 | -8.30 | -4.71 |
| RC | 52.2 | 32.6 | 42.4 | 40.8 | 19.7 | 30.2 | 27.4 | 5.6 | 16.5 | 16.5 | 3.8 | 10.1 | 13.69 | 1.41 | 7.55 | 8.15 | 0.99 | 4.57 |
| IC | -19.6 | -19.6 | 0.0 | -21.1 | -21.1 | 0.0 | -21.8 | -21.8 | 0.0 | -12.7 | -12.7 | 0.0 | -12.28 | -12.28 | 0.00 | -7.17 | -7.17 | 0.00 |
| | **Manipur** | | | | | | | | | | | | | | | | | |
| Poverty rate (P0) | 39.2 | 38.8 | | 34.3 | 32.4 | | 5.7 | 6.6 | | 5.1 | 6.1 | | 1.25 | 1.55 | | 1.03 | 1.71 | |
| Change in P0 | -0.4 | -0.4 | -0.4 | -1.9 | -1.9 | -1.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 0.30 | 0.30 | 0.30 | 0.68 | 0.68 | 0.68 |
| GC | -39.2 | -56.5 | -47.9 | -34.3 | -58.7 | -46.5 | -5.7 | -36.9 | -21.3 | -5.1 | -31.4 | -18.3 | -1.25 | -20.60 | -10.92 | -1.03 | -15.99 | -8.51 |
| RC | 56.1 | 38.8 | 47.4 | 56.8 | 32.4 | 44.6 | 37.9 | 6.6 | 22.3 | 32.4 | 6.1 | 19.3 | 20.89 | 1.55 | 11.22 | 16.66 | 1.71 | 9.19 |
| IC | -17.3 | -17.3 | 0.0 | -24.4 | -24.4 | 0.0 | -31.2 | -31.2 | 0.0 | -26.3 | -26.3 | 0.0 | -19.34 | -19.34 | 0.00 | -14.96 | -14.96 | 0.00 |
| | **Meghalaya** | | | | | | | | | | | | | | | | | |
| Poverty rate (P0) | 14.0 | 12.5 | | 24.7 | 9.3 | | 1.4 | 1.6 | | 5.1 | 6.1 | | 0.23 | 0.32 | | 0.54 | 0.26 | |
| Change in P0 | -1.5 | -1.5 | -1.5 | -15.4 | -15.4 | -15.4 | 0.2 | 0.2 | 0.2 | 1.0 | 1.0 | 1.0 | 0.09 | 0.09 | 0.09 | -0.28 | -0.28 | -0.28 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GC | -14.0 | -72.8 | -43.4 | -24.7 | -37.9 | -31.3 | -1.4 | -25.1 | -13.2 | -5.1 | -31.4 | -18.3 | -0.23 | -9.98 | -5.11 | -0.54 | -4.89 | -2.71 |
| RC | 71.4 | 12.5 | 42.0 | 22.5 | 9.3 | 15.9 | 25.3 | 1.6 | 13.4 | 32.4 | 6.1 | 19.3 | 10.08 | 0.32 | 5.20 | 4.61 | 0.26 | 2.44 |
| IC | -58.8 | -58.8 | 0.0 | -13.2 | -13.2 | 0.0 | -23.7 | -23.7 | 0.0 | -26.3 | -26.3 | 0.0 | -9.75 | -9.75 | 0.00 | -4.35 | -4.35 | 0.00 |
| | | | | | | | | | **Mizoram** | | | | | | | | | |
| Poverty rate (P0) | 23.0 | 35.4 | | 7.9 | 6.4 | | 3.5 | 7.5 | | 1.0 | 0.6 | | 0.89 | 2.39 | | 0.22 | 0.10 | |
| Change in P0 | 12.4 | 12.4 | 12.4 | -1.6 | -1.6 | -1.6 | 4.0 | 4.0 | 2.7 | -0.4 | -0.4 | -0.4 | 1.50 | 1.50 | 1.50 | -0.12 | -0.12 | -0.12 |
| GC | -21.4 | -44.8 | -33.1 | -7.9 | -45.8 | -26.9 | -3.3 | -21.8 | -10.4 | -1.0 | -13.4 | -7.2 | -0.86 | -10.68 | -5.77 | -0.22 | -5.03 | -2.62 |
| RC | 57.2 | 33.8 | 45.5 | 44.2 | 6.4 | 25.3 | 25.9 | 7.3 | 13.1 | 13.0 | 0.6 | 6.8 | 12.18 | 2.36 | 7.27 | 4.91 | 0.10 | 2.51 |
| IC | -23.5 | -23.5 | 0.0 | -37.9 | -37.9 | 0.0 | -18.5 | -18.5 | 0.0 | -12.4 | -12.4 | 0.0 | -9.83 | -9.83 | 0.00 | -4.81 | -4.81 | 0.00 |
| | | | | | | | | | **Nagaland** | | | | | | | | | |
| Poverty rate (P0) | 9.7 | 19.9 | | 4.3 | 16.5 | | 1.0 | 3.8 | | 0.5 | 1.8 | | 0.19 | 1.02 | | 0.10 | 0.30 | |
| Change in P0 | 10.2 | 10.2 | 10.2 | 12.2 | 12.2 | 12.2 | 2.7 | 2.7 | -4.7 | 1.2 | 1.2 | 1.2 | 0.83 | 0.83 | 0.83 | 0.20 | 0.20 | 0.20 |
| GC | -9.7 | -57.5 | -33.6 | -4.0 | -23.0 | -13.5 | -1.0 | -19.7 | -15.6 | -0.5 | -8.0 | -4.2 | -0.19 | -8.06 | -4.13 | -0.10 | -2.84 | -1.47 |
| RC | 67.7 | 19.9 | 43.8 | 35.2 | 16.3 | 25.7 | 22.4 | 3.8 | 10.9 | 9.2 | 1.7 | 5.5 | 8.89 | 1.02 | 4.96 | 3.04 | 0.30 | 1.67 |
| IC | -47.8 | -47.8 | 0.0 | -19.0 | -19.0 | 0.0 | -18.7 | -18.7 | 0.0 | -7.4 | -7.4 | 0.0 | -7.87 | -7.87 | 0.00 | -2.74 | -2.74 | 0.00 |
| | | | | | | | | | **Sikkim** | | | | | | | | | |
| Poverty rate (P0) | 31.9 | 9.9 | | 25.9 | 3.7 | | 5.6 | 1.0 | | 3.4 | 0.5 | | 1.44 | 0.15 | | 0.89 | 0.10 | |
| Change in P0 | -22.0 | -22.0 | -22.0 | -22.3 | -22.3 | -22.3 | -4.7 | -4.7 | -7.4 | -2.9 | -2.9 | -2.9 | -1.30 | -1.30 | -1.30 | -0.79 | -0.79 | -0.79 |
| GC | -31.6 | -73.1 | -52.4 | -25.5 | -65.2 | -45.3 | -5.6 | -25.5 | -22.9 | -3.3 | -16.0 | -9.7 | -1.44 | -9.93 | -5.69 | -0.86 | -5.61 | -3.23 |
| RC | 51.1 | 9.6 | 30.3 | 42.9 | 3.2 | 23.0 | 20.8 | 0.9 | 15.5 | 13.1 | 0.4 | 6.7 | 8.64 | 0.14 | 4.39 | 4.82 | 0.07 | 2.44 |
| IC | -41.5 | -41.5 | 0.0 | -39.7 | -39.7 | 0.0 | -19.9 | -19.9 | 0.0 | -12.8 | -12.8 | 0.0 | -8.49 | -8.49 | 0.00 | -4.76 | -4.76 | 0.00 |
| | | | | | | | | | **Tripura** | | | | | | | | | |
| Poverty rate (P0) | 44.4 | 16.2 | | 22.5 | 7.4 | | 9.5 | 2.2 | | 3.8 | 1.7 | | 2.88 | 0.45 | | 0.96 | 0.52 | |
| Change in P0 | -28.2 | -28.2 | -28.2 | -15.1 | -15.1 | -15.1 | -7.4 | -7.4 | -7.4 | -2.1 | -2.1 | -2.1 | -2.43 | -2.43 | -2.43 | -0.44 | -0.44 | -0.44 |
| GC | -43.9 | -75.2 | -59.6 | -22.3 | -48.1 | -35.2 | -9.5 | -36.4 | -22.9 | -3.8 | -17.4 | -10.6 | -2.88 | -18.29 | -10.58 | -0.96 | -7.58 | -4.27 |
| RC | 47.0 | 15.8 | 31.4 | 33.1 | 7.2 | 20.1 | 29.0 | 2.1 | 15.5 | 15.3 | 1.7 | 8.5 | 15.86 | 0.44 | 8.15 | 7.14 | 0.52 | 3.83 |
| IC | -31.3 | -31.3 | 0.0 | -25.9 | -25.9 | 0.0 | -26.9 | -26.9 | 0.0 | -13.6 | -13.6 | 0.0 | -15.41 | -15.41 | 0.00 | -6.62 | -6.62 | 0.00 |

Source: Authors own computation based on NSSO Consumer Expenditure Unit level data sets