

Multidimensional Deprivation: A Reflection of Urban Concentration in Manipur, India

Utpal Kumar De¹, Loitongbam Hena Devi²

Abstract

Deprivation is a measure of relative disadvantage socially, economically, and politically that represent a clear picture of the ineffectiveness of various developmental policies leading to resource polarization in a particular sub-group of the population. The paper, examine multidimensional deprivation in a North-Eastern state, Manipur and its change over time by using the most recent approach to find out its functional relation with relevant factors. The analysis is done by using different rounds of the two data sets namely, the National Sample Survey and the National Family Health Survey in India. Deprivation measures are decomposed both inter-regionally and across socio-economic groups. The findings of the study do not show any significant relation of deprivation with inequality and poverty. Unlike the traditional expectation of higher remote / rural concentration of deprived people, the poisson regression result points to a higher urban concentration of deprived people. Female-headed households are found to be more deprived. Regionally, the Imphal-West district overtook the Tamenglong District in 2015-16 and became the most deprived district in Manipur. Scheduled tribes (STs) are the most deprived social category in 2011-12 and other backward community (OBC) overtook them in 2015-16. The factors like district (spatial variation), sector, education of the head of household, and monthly per capita consumer expenditure have significant impact on deprivation level in Manipur.


Keywords: *Multidimensional deprivation, Decomposition of deprivation measure, Inequality, Poverty, Manipur.*

JEL Classification: *D63, I32, D31, I3*

Introduction

The regional disparities and discriminations are the signal of exclusion from the process of development in an economy that is inhibited in the internal socio-

1 **Mr. De** is a Professor at the Department of Economics, North-Eastern Hill University, India. Email: utpalkde@gmail.com;  ORCID: <https://orcid.org/0000-0001-6444-0126>.

2 **Ms. Devi** is a Research scholar at the Department of Economics, North-Eastern Hill University, India. Email: henadevi88@gmail.com;  ORCID: <https://orcid.org/0009-0002-1489-6445>.

cultural systems and traditions of the societies. Several poverty alleviation programmes in India like *Garibi Hatao* and Minimum Needs Programme (MNP) during the Fifth Five-Year Plan (1974-78) have not succeed in improving socio-economic status of the deprived or excluded section significantly. Still now, India shares a major portion (32.9%) of the global extreme poor (UNDP, 2014). Even after the introduction of ‘Inclusive Growth’ in the 11th Five-Year Plan (2007-12), the share of multidimensional poor population remained 43 percent, and it has large scale regional variations (Dehury & Mohanty, 2015). Despite significant economic growth, India is still struggling to recognize the primary social issues requiring urgent attention.

It is stated that poverty as pronounced deprivation in well-being (World Bank, 2000). But there is huge disagreement that uni-dimensional poverty fails to capture the extent of multidimensional deprivation in various aspects of well-being and it can be considered as only one of the varying indicators of economic deprivation. Deprivation is a measure of relative disadvantage or vulnerability socially, economically, and politically that provide a clear picture of the ineffectiveness of various developmental policies that led to resource polarization in a particular sub-group of the population. In other words, it represents the exclusion of a particular section of society or individuals from certain welfare enhancing facilities.

Thus, ‘Deprivation’ is a widely accepted multidimensional concept. It is a state of observable and demonstrable disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs (Townsend, 2009). People are relatively deprived when they are denied access to resources for certain conditions of life. Deprived people have lack of voice and feel helplessness that are socially ignored and indifferent treatment in the society. Therefore, deprivation in any way in society needs to be controlled for the well-being of all the sections in the society.

For the inability of the one-dimensional monetary indicator to fully capture the welfare of people in a society, there are continuous debates to revise procedures on examining the multifaceted poverty and deprivation (Subramanian 2011). A commonly used composite index of development like ‘Physical Quality’ of Life Index (PQLI) is constituted of infant survival rate, adult literacy rate, and life expectancy at birth (Morris, 1979). The UNDP also recommended a number of composite indexes like Capability Poverty Measure (CPM) and Human Poverty Index (HPI) for measuring multidimensional poverty (UNDP 1996, 1997). The Multidimensional Poverty Index (MPI) has also been notified for 104 countries (UNDP, 2010). The MPI identifies people (at micro-level) who are deprived in overlapping multiple dimensions and it captures both the extent and intensity of poverty (Alkire & Santos, 2010). Following UNDP several researchers have been advancing the measurement and estimation of multidimensional poverty (Chakravarty & D’Ambrosio, 2006; Jayaraj & Subramanian, 2010; Alkire &

Foster, 2011a; Mishra & Ray, 2013). The deprivation index is considered as a tool for studying the pattern and degree of socio-economic disparities in the society (Drukker et al., 2003; Sarkar et al., 2014).

Deprivation can be linked with growing urbanization and inequality in a region as these phenomena are likely to raise family disruption, stress, societal crimes, and violence causing breakdown of social cohesiveness. Further, widespread disparities in income or consumption may produce higher level of deprivation among individuals (Weisskopf, 2011). With rising inequality in any form, individuals would be unhappy as they feel more deprived relative to others. In other words, inequality and deprivation can be considered the principle causes of social conflicts in an economy. Pattern of economic growth, urbanization, regional economic structures, nature of regional, and local government are the major contributors to increasing regional disparities in Spain (Barke, 1989). It is also stated the role of income and wealth to be integrated into a broader, fuller picture of success, and deprivation (Sen, 1999).

‘Absolute Poverty’ is considered to be a condition for severe deprivation of basic human needs like shelter, food, health, education, safe drinking water, sanitation, and information (UN, 1995). ‘Relative Poverty’ represents the social inequality that needs attention for an acceptable standard of living and to prevent social instability arising out of severe deprivation (ILO, 2020). It may be argued that the Covid-19 pandemic in recent past has accelerated inequities and deprivation in end-of-life circumstances in the world. More often, looking at the variation in deprivation over space or social groups is a first step to depict the socio-economic inequalities. The susceptibility of development process can be spatially explained by looking at the patterns of sub-regional deprivation (Sarkar et al, 2014). It is obvious that the when there is higher deprivation and inequality in a society, it makes worse the quality of life of people in that society.

The ‘Capability Approach’ (developed by Sen, 1985) brought the concept of deprivation occurring in multiple dimensions which is applied in various deprivation studies on different dimensions (Majumdar & Subramanian, 2001; Mishra & Ray, 2013; Klasen, 2000). By using standard expenditure-based poverty indicators, Klasen (2000) finds that the incidence of deprivation is more among rural dwellers, female-headed, and poorly educated households in South Africa. Agarwala and Hazarika (2002) reveal a failure of the government of Assam to reduce regional disparities. Based on Chakravarty - D’Ambrosio Approach, Punjab and Bihar are the least and most deprived states of India during 1991-92 and 2005-06 (Jayaraj & Subramanian, 2010). Using the same method, Mishra and Ray (2013) observe that the national level of multidimensional poverty has not declined across various population sub-groups and similar observations are also followed in India by Ohlan (2013).

The existing literature defines deprivation as a wider concept and a process that is reflected in inequality in various aspects and causes poverty in relative

sense. Thus, a study on deprivation is more important to understand the real reasons for inequality and poverty in a society and that helps in identifying the areas of action for eliminating deprivation to prevent aggravating poverty and inequality.

Despite huge allocation of non-lapsable funds by the union government and several other initiatives, economic development across North-Eastern Region (NER) is uneven, and there are wide variations in the reduction of poverty and inequality (Dehury & Mohanty, 2015). After economic reform, Manipur replaced Sikkim as the poorest state in NER (Debnath & Roy, 2010). Meghalaya records the maximum average deprivation in basic facilities and Nagaland is the most socio-economically deprived state in NER (Konwar, 2015). The relative deprivation is severe in rural Tripura, in urban Sikkim and Manipur during 2004-05 (Khan & Padhi, 2017).

Despite having huge natural resources, the NER of India experiences immense regional deprivation in economic development as compared to the mainland (Cappellari & Jenkins, 2006). The region further experienced a phase of retarded economic growth since the adoption of market-driven policies in 1991 that has widened disparities across regional population groups in terms of income and in other indicators of development (Bezbaruah, 2007). India's North-Eastern Region (NER) would face a low-level equilibrium with poverty and underdevelopment-driven civil conflicts, disbelief in political leadership, and government machinery, causing further political instability (World Bank, 2007). Along with these, corruption puts further barriers to poverty reduction measures, progressive development, and growth. These circumstances are bound to register various types and levels of discrimination and deprivation in society.

Research Gap and Objectives

The state of Manipur, owing to social fragmentation, continued elite-pressure groups, fragile law, and order situation recorded disruptions in the regional administration and restricted socio-economic transformation. Though the process of economic growth is mainly concentrated in urban areas with a change in economic structure, it is of great significance to have an in-depth analysis of urban inequality. Urban inequality appears to be very high in Manipur. There is a heavy shortage of literature in North-East India with reference to the dynamics of the urban deprivation, especially in Manipur. Also, no significant study is made with respect to the regression-based inequality decomposition on the basis of various household characteristics such as caste, household type, and education, etc.

This study seeks to examine the pattern and depth of deprivation or social exclusion in Manipur and also tries to find out its association with inequality, place of residence, social groups, and gender. In section 2, it presents a brief conceptualization of terms like poverty, inequality, and deprivation along with a review of selected literature. Section 3 focuses on the significance, and

objectives of the study based on the literature review. Section 4 deals with the appropriate data and methodological issues. Section 5 discusses the empirical results obtained from the estimation followed by the conclusion and policy implication in the last section.

Rationale of the Study

Unlike inequality, poverty deals with a just the portion of the population below a certain threshold level and is insensitive to the distribution of resources in terms of the entire population. Deprivation, on the other hand, helps us to understand the consequences of these huge imbalances in terms of opportunities in both income and non-income domains. Strategies to reduce inequalities and disparities will ultimately lead to the eradication of poverty in society. As a result, studies focusing on population deprivation have become a significant issue of the present day to have a clear picture of the socio-economic development in the economy.

Most development studies in India based on uni-dimensional money-metric poverty or multidimensional poverty focus mainly on a state as the unit of analysis (Kurian, 2000). Since India is inhabited by multiple ethnic, castes, religious, and language groups, the overall analyses fail to capture large variations across the regions, particularly the NER. This study examines the pattern and extent of multidimensional deprivation in Manipur at different dimensions and examines the spatial variations across the different population sub-groups, male and female-headed households, and across social groups. Also, the study assesses the association of the multiple deprivation index and its various components with expenditure, poverty, and inequality in the state and identified the factors responsible for deprivation experienced by the households by using 'Poisson Multiple Regression model'.

Data and Methodology

This state-level analysis is done by using the secondary data of various rounds of the 'National Sample Survey Organisation (NSSO)' and 'National Family Health Survey (NFHS)' in order to identify the socio-economic profile of the families living in the study area. But the data is not uniformly available for all variables across different rounds. Various rounds of the 'Consumer Expenditure Surveys (CES)' carried out in the 50th (1993–1994), 55th (1999–2000), 61st (2004 - 2005), and 68th Round (2011–12) of the NSSO. Among the five rounds of NFHS conducted till now, the three rounds, NFHS 2–4 carried out during 1998–99, 2005–06, and 2015–16 respectively are considered here. NFHS 1 and 5 have been excluded for the unreliability of 1st round data sets and unavailability of NFHS-5 data sets. The information is available at the household and various sub-groups of the population so that it can be checked out the decomposable properties of the multidimensional deprivation used in this paper.

Dimensions and Indicators of Deprivation

It is widely accepted that different regions of an economy are subject to different kinds of social, economic, or political shocks that may cause a region to be deprived in several aspects. Thus, a particular set of indicators is unlikely to represent the true picture of deprivation in its entirety. The choice of indicators fulfils the purpose of making efforts to address multi-dimensional deprivation (Alkire et al., 2015). Here, rural-urban / district-level and demographic (male-female headship) disparities are examined by using both qualitative and quantitative information at the household level. A region-specific set of dimensions, data source, and deprivation cut-off considering the data constraints that can collectively reflect the actual socio-economic setting is displayed in

Table 1: Dimensions, Indicators, and Deprivation Cut-off

Dimensions (Data Source)	Indicators	Deprived if
Deprivation from a healthy Housing Environment (NFHS)	Types of house structure	No pucca / semi-pucca house
	Sources of drinking water	No access to piped water
	Types of toilet facility	Absent
	Availability of electricity	No electricity
	Types of fuel for cooking	No access to Gas/ LPG/natural gas/ biogas.
Social Deprivation (NFHS)	Education of household head	Illiterate
	Education of mother	Illiterate
	Health insurance	Household does not have any health insurance
	Standard of living index (SLI)	SLI is in the low category
Economic Deprivation (NSSO)	Monthly per-capita expenditure (MPCE)(URP)	MPCE is less than half the median value
	Total food expenditure in the last 30 days	Value is less than half the median value
	Total expenditure on wearable in last 365 days	Value is less than half the median value
	Total expenditure on education and medical treatment (institutional) in the last 365 days	Value is less than half the median value
	Total expenditure on fuel and light (30 days)	Value is less than half the median value
Material Deprivation (NFHS)	Ownership of house	Not owned
	Wealth index	The family is poorer or poorest
	Possession of phone (telephone / mobile)	Do not possess
	Possession of two-wheeler	The household does not have any two-wheeler

Source: Author's creation, 2022.

Tools and Techniques of Data Analysis

The study examines the degree and pattern of deprivation of various population sub-groups or regions. Deprivation is represented by a dichotomous variable, that take value 1 if deprived and 0 if not. Household that is deprived in at least two dimensions is identified as multidimensionally deprived. Let, total number of households be denoted by n , n^j the number of households in j^{th} sub-group and n_k denotes the number of households deprived in exactly k dimensions, (where $k \geq 1$ dimensions of deprivation) and n_k^j is the number of households deprived in k dimensions in the j^{th} sub-group. For identification of the deprivation pattern in the study area, It is used the standard formula of the multiple deprivation index.

Here, $x_k^j = \frac{n_k^j}{n^j} * 100$, ($k= 1, 2...K$; $j = 1, 2...J$) denotes the percentage of households in population sub-group, j that is deprived in dimension k . Now, $x_k = (\frac{n_k}{n})$ corresponds to the deprivation rate for dimension k in the state as a whole. Then, the deprivation of the population sub-groups, j is given by –

$$DI_\alpha^j = (1|K) \sum_k (x_k^j)^\alpha \dots \dots \dots (1)$$

Where, $\alpha \geq 1$ is the poverty-aversion parameter (Foster et al., 1984). The higher the value of α , the greater the weight placed on the poorest individuals. The higher the DI statistic, the more deprived is the economy. A special case of the deprivation measure given by the above equation is the Human Development Index, HDI with $K = 3$, and $\alpha = 1$. If all the population sub-groups are pooled together and considered the state as a whole, then the measure of deprivation is given by -

$$DI_\alpha = (1|K) \sum_k (x_k)^\alpha, \alpha \geq 1, \dots \dots \dots (2)$$

The value of DI varies from zero to one. It is 1 if the given unit is the most deprived in comparison to the other units in the state. It is 0 when there is no deprivation. It is to be noted that the population sub-groups here refer to the headship-wise, caste-wise, households of rural / urban area, or of different districts in the state. Here, for poverty and inequality measurement, expenditure-based approach is preferred over income due to constraints of income data in India. Gini coefficient is used for knowing the pattern and extent of inequality, and the state-specific official poverty line of Manipur given by the Planning Commission that is used for the poverty ratio in different population sub-groups.

Ray and Sinha (2015) also used principal component analysis (PCA) to measure household wealth and then examined distribution of deprivation and multidimensional poverty in China, India, and Vietnam. They examined relative contribution of various dimensions to total deprivation in these countries. But the paper examines the relationship of deprivation with expenditure poverty

and social inequality status by Pearson correlation coefficient (PCA). PCA cannot be applied here to examine presence or absence of deprivation, which follows a negative binomial distribution and to understand impact of various factors. Finally, the 'Multivariate Poisson Regression' is run for its suitability (if a household is deprived or not) to explore the factors significantly related to multiple hardships experienced by the population. The model used is like -

$$\text{No. of Deprivations} = f(\text{district, sector, headship, caste, edu of hh head, MPCE}) \dots \dots (3)$$

Results and Discussion

The study briefly describes various dimension-specific deprivation by using equations no. 1 and 2 (with $\alpha = 1$) for different sub-groups based on NFHS data. The corresponding deprivation index is for the four NSS rounds as follows (*not displayed in tables for big sizes*). Overall, the state has progressed in all dimensions for both data sets during the selected study period except for expenditure on education and medicine (institutional) in 61st round of NSS (2009-10). But, there is a great deal of spatial variation in dimensions of deprivation.

The deprivation is comparatively higher in hills than the valleys with Tamenglong and Chandel being the most deprived districts over the study period. It indicates a development deficit in the hilly areas. The regional pattern of households' dwelling characteristics reveals no deprivation in terms of ownership of a house and food expenditure among the SC people during 1993-94. Overall, it is observed that there is much improvement in housing structure with only 6 percent *kachha* houses in 2015-16 as against 79 percent in 1998-99. Urban areas are more materially-deprived in 2004-05 and 2011-12. The ownership percentage of houses in urban areas is less as compared to rural counterparts. This may be due to differences in income uncertainty with upsurged migration in urban regions.

The lowest proportion of households having availability and access to drinking water in both rural and urban areas was seen in 2012 (Konwar, 2015). A rising trend of deprived households with access to improved drinking water during 1998-99 to 2015-16 is also observed. It implies that many people are still struggling for safe drinking water - a basic human need.

Despite much smaller size in comparison to counterparts, female-headed households are the more deprived in terms of both economic and material deprivation for all the study years. Higher prevalence of female-headed families in the category 'low living standard' as compared to male-headed households is also observed. It can be attributed to less access to economic opportunities and lower average earnings of females as compared to male. The NFHS data reveals that female-headed households have significantly less access to electricity, while the male-headed households are more deprived in toilet facilities except in the

year 2015-16. Scheduled Tribes (STs) appear to be the most deprived category in respect of housing environment, social, and material dimensions during the study period. But, in view of economic deprivation, OBC replaced STs Category in 2004-05 and 2011-12.

Table 2: Measures of Multidimensional Deprivation

Sub-groups	NFHS-2 (1998-99)				NFHS-3 (2005-06)				NFHS-4 (2015-16)			
	Pop ⁿ Share	Π_1	Π_2	Π_3	Pop ⁿ Share	Π_1	Π_2	Π_3	Pop ⁿ Share	Π_1	Π_2	Π_3
Senapati	0.09	0.34	0.21	0.15	-	-	-	-	0.07	0.41	0.30	0.24
Tamenglong	0.04	0.33	0.19	0.12	-	-	-	-	0.08	0.45	0.33	0.28
Churachandpur	0.08	0.51	0.39	0.33	-	-	-	-	0.07	0.36	0.23	0.17
Bishnupur	0.07	0.57	0.43	0.36	-	-	-	-	0.16	0.32	0.20	0.15
Thoubal	0.18	0.44	0.30	0.23	-	-	-	-	0.16	0.34	0.21	0.16
Imphal-West	0.41	0.56	0.44	0.38	-	-	-	-	0.16	0.26	0.15	0.11
Imphal-East					-	-	-	-	0.15	0.29	0.18	0.13
Ukhrul	0.08	0.69	0.59	0.54	-	-	-	-	0.08	0.42	0.32	0.27
Chandel	0.05	0.52	0.40	0.34	-	-	-	-	0.07	0.40	0.28	0.22
Manipur	1	0.51	0.37	0.30	1	0.36	0.22	.16	1	0.34	0.21	0.16
Urban	0.32	0.42	0.28	0.20	0.45	0.29	0.16	.11	0.35	0.28	0.17	.12
Rural	0.68	0.55	0.42	0.35	0.55	0.42	0.28	.22	0.65	0.38	0.26	0.20
Male-headed HH	0.85	0.51	0.37	0.29	0.83	0.35	0.22	.16	0.83	0.34	0.21	0.16
Female-headed HH	0.15	0.53	0.39	0.32	0.17	0.39	0.24	.17	0.17	0.37	0.23	0.17
SCs	0.06	0.52	0.37	0.31	0.08	0.34	0.22	.17	0.07	0.32	0.30	0.15
STs	0.43	0.54	0.38	0.30	0.22	0.46	0.31	.25	0.37	0.40	0.27	0.22
OBCs	0.05	0.50	0.38	0.31	0.12	0.35	0.23	.17	0.17	0.31	0.19	0.14
Others	0.46	0.51	0.39	0.32	0.58	0.33	0.20	.14	0.39	0.30	0.18	0.13

Source: Author's calculation, 2022

Notes: Imphal district was split into Imphal-East district and Imphal-West district in 1997.

Measures of multidimensional deprivation for the whole state as well as various population sub-groups computed by using measurements as given in equation no. 1 for various values of ' α ' are presented in Table 2 for NFHS data and Table 3 for NSS data. There has been an overall decline in deprivation ratio especially in the post-reform period and supported by both the NFHS and NSS data, for both rural and urban areas. The district level analysis also results in line with the expectations that poorer districts like Senapati and Chandel record higher levels of deprivation at higher ' α ' values than the richer districts of Tamenglong and Imphal-East districts. Churachandpur district with only 18.1 percent of the poor population is the only exception having an approximately equal deprivation ratio with the Chandel district of Manipur (62.3 % poor population) both shares international border with Myanmar.

This shows that bordering-districts suffer from higher poverty or deprivation. It is worth noting that people residing in far-flung areas close to borders

specifically international borders are generally forgotten and live in perpetual uncertainties. Consistent with results of the dimension-specific headcount ratios, these tables confirm that STs households suffer from higher level of deprivation than non-STs households.

Table 3: Correlation between Deprivation Index and its Various Factors

Deprivation Index (DI)	(α) 68 th Round of NSS (2011-12)											
	Gini Index	BPL Pop ⁿ	MPCE	Food Exp.	Wearable Expenditure (cloth & footwear)	Education + Medical						
DI (Π_1)	0.151	0.452	0.290	0.507*	0.678**	0.800**						
DI (Π_2)	- 0.137	0.505*	0.285	0.114	0.305	0.649**						
DI (Π_3)	- 0.266	0.451	0.184	0.005	0.098	0.524*						
(β) NFHS-4 (2015-16)												
Deprivation Index (DI)	House structure	Improved water	Toilet	Electricity	Cooking fuel	Head Edu.	Mothe Edu.	Health Insurance	House ownership	Wealth Index	Possession of phone	Two-wheeler
DI (Π_1)	0.720**	0.702**	0.713**	0.665**	0.896**	0.348	0.703**	0.559*	0.486*	0.905**	0.749**	0.868**
DI (Π_2)	0.740**	0.709**	0.755**	0.728**	0.968**	0.307	0.698**	0.621**	0.513*	0.983**	0.830**	0.944**
DI (Π_3)	0.756**	0.724**	0.762**	0.697**	0.967**	0.273	0.736**	0.593**	0.482*	0.977**	0.828**	0.925**

Source: Computed based on NSS 6th Round and NFHS-4 data.

Notes: a. Poverty line of Manipur is INR. 1118 for rural and INR. 1170 for urban areas. In 2011-12, b. ** and * indicate statistical significance at 1 % and 5% respectively.

The coefficients in Table 3 indicate a very strong impact on deprivation of various socio-economic indicators of life (part b. of Table 3). The indicators like Gini-index, MPCE, and education of the household head do not seem to have significantly strong association with the Deprivation Index (part a. of Table 3). Nevertheless, the Gini-coefficient which is an indicator of economic inequality is positively correlated with the deprivation index for lower values of $\alpha = 1$, but negatively correlated with higher ' α ' values. As it is considered higher values of ' α ' (i.e., the more deprived households), high deprivation is associated with lower inequality. The severity of inequality is higher for the highly deprived population with lower values of ' α '.

Table 3 also shows that with high deprivation index the number of *Kachha* housing, households without improved water, toilet, or health insurance facilities indicate a lack of hygiene tend to increase. Also, a poor housing environment led to poor living conditions in the highly deprived regions. The significantly positive correlation of deprivation index (DI) with mother's education addresses the intergenerational correlation of education with the degree of household deprivation signifying those limited opportunities inherited by parents lead to lack of basic amenities for a comfortable living for their children. Despite insignificant relation between the DI and MPCE, the results suggest a significant positive correlation at 1 percent level between DI and the indicators of material deprivation. For this reason, material deprivation can be used to examine the living standard of the population more directly than income (MPCE).

Regression Analysis of Multiple Deprivations and Discussion

Poisson Regression is applied to further explore the significant factors that are responsible for the multiple hardships faced by the people of Manipur and the result is displayed in Table 4. The Likelihood Ratio Chi-square test indicates that the full model is a significant improvement in fitness over a null model. Factors like education of the household head, and MPCE play important roles in influencing the level of deprivation, as per the NSS 68th Round data. Also, it varies significantly across districts. The NFHS also gives consistent evidence of a strong relationship between gender and education of the household head and the place of residence (rural / urban) or district characters of the areas and their level of deprivation.

Table 4: Estimates from Poisson-Regression Analysis

Variables: District / Sector / Headship / Education of Head / Caste	Dependent Variable: No of Deprivation			
	NSS 68 th Round (2011 - 12)		NFHS - 4 (2015-16)	
	Coeff.	Std. Error	Coeff.	Std. Error
Reference Category: Imphal-West				
Senapati	- 0.134**	0.0518	- 0.139**	0.0193
Tamenglong	0.013	0.0581	- 0.200**	0.0207
Churachandpur	- 0.153**	0.0507	- 0.057**	0.0201
Bishnupur	0.003	0.0289	- 0.042**	0.0109
Thoubal	- 0.004	0.0252	- 0.071**	0.0112
Imphal-East	- 0.041	0.0297	- 0.014	0.0108
Ukhrul	- 0.081	0.0529	- 0.188**	0.0205
Chandel	- 0.120*	0.0496	- 0.110**	0.0198
Reference Category: Urban				
Rural	- 0.005	0.0207	- 0.070**	0.0071
Reference Category: Male				
Female	- 0.023	0.0316	0.059**	0.0094
Reference Category: Illiterate				
Primary	0.137**	0.0386	0.140**	0.0116
Secondary & Higher Secondary	0.249**	0.0236	0.245**	0.0093
Graduate and above	0.359**	0.0253	0.375**	0.0110
Reference Category: Others				
Scheduled Caste (SC)	-0.011	0.0430	0.004	0.0132
Scheduled Tribe (ST)	0.019	0.0418	0.003	0.0157
Other Backward Caste (OBC)	-0.001	0.0265	-0.008	0.0090
MPCE MRP	4.258E-5**	1.2192E-5	-	-
Intercept	1.957**	0.0340	2.397**	0.0104
Likelihood Ratio Chi-Square	141.911**	-	1999.509**	-
No of observations	2560	-	11724	-

Source: Authors' calculation, 2022.

Notes: ** and * indicate statistical significance at 1 % and 5% respectively.

The NSS-based coefficients from ‘Poisson Regression Model’ imply that all districts except Tamenglong and Bishnupur districts experienced lesser deprivation than the Imphal-West district, where Tamenglong was the most deprived district in 2011-12. However, the Imphal-West district replaced Tamenglong in 2015-16 to be the most deprived district in Manipur. In contrast to the traditional expectation of higher concentration of deprived people in remote / rural areas, there is a clear indication of higher concentration of deprived people in the urban areas in both the study periods. This ironically seems to relate to increasing remoteness of urban areas. Like the results of previous studies, STs are deprived most in the state in 2011-12 and OBC replaced them in 2015-16. Looking at the education of household heads and the coefficients, it can be said that deprivation increases with the level of education, which is very contrasting.

Findings of this study have significant contribution to the existing literature. Unlike most of the previous studies (Ayala et al., 2011; Ray & Sinha, 2015), this paper has done a comparative analysis based on different data sets offered by NSSO and NFHS. This paper not only analysed the deprivation status of various sub-groups of populations, but also checked its correlation with the inequality and poverty index. Further, the results provide a better understanding of the socio-economic status of the people living in the study area.

Conclusion and Policy Implication

Study on deprivation is very important to understand and take necessary steps for alleviating multidimensional poverty. The multidimensionality of deprivation faced by the people of Manipur is examined by using the decomposable deprivation measures both at the regional level and across socio-economic groups. Much improvement in housing structure with only 6 percent *Kachha* houses in 2015-16 as against 79 percent in 1998-99 has been observed. As expected, ownership of houses in urban areas is less as compared to rural counterparts.

The district-wise analysis results in line with our expectations that the poorer districts of Senapati, Churachandpur, and Chandel record higher levels of deprivation than the richer districts of Imphal-East and Imphal-West. Factors like bordering districts or geographical conditions (hilly) can't be ignored for high concentration of poverty or deprivation. This is to note that people residing in far-flung and bordering areas (specifically international borders) and isolated hilly areas are generally neglected and live in distressed perpetual uncertainties. In contrast to the traditional notion of a higher concentration of deprived people in rural areas, the analysis reveals a higher concentration of deprived population in the urban areas. A higher prevalence of female-headed deprived households is also observed in the study.

The factors like sector, education of the household head, and MPCE are significant ($p = 0.000$) in influencing the level of deprivation. Inequality, poverty,

and caste do not seem to play a significant role in influencing level of deprivation in Manipur. However, it is to be noted here that STs are the most deprived category in 2011-12 and is replaced by OBC in 2015-16. Overall, it is highly significant to think over that not everyone in the deprived areas is deprived and also not all deprived people live in deprived areas. A call for a healthy socio-economic policy change is needed for the continuity of inclusive economic progress that reaches the deprived groups in the last corner of the area.

Future Scope of Study

It is noteworthy to state here that the present paper is a household-level data analysis. Researchers can go for further studies based on the individual level data. It is also possible to examine the deprivation or inequality status of the particular society by using a primary survey and compare the results with that obtained from secondary data for a better introspection.

References

- Alkire, S., & Santos, M. E. (2010). Acute multidimensional poverty: A new index for developing countries. *Oxford Poverty and Human Development Initiative (OPHI) Working Paper 38*, Department of International Development, Oxford University. Retrieved from <http://www.ophi.org.uk/acute-multidimensional-poverty-a-new-index-for-developing-countries/> (accessed 04-09-2021).
- Alkire, S., & Foster, J. (2011a). Counting and multidimensional poverty measurement. *Journal of Public Economics*, 95 (7), 476–87.
- Alkire, S., Foster, J., Seth, S., Santos, M., Roche, J., & Ballon, P. (2015). *Multidimensional poverty measurement and analysis*. Oxford University Press. Oxford.
- Ayala, L., Jurado, A. & Peez-Mayo, J. (2011). Income poverty and multidimensional deprivation: Lessons from cross-regional analysis. *The Review of Income and Wealth*. 57 (1), 40-60. <https://doi.org/10.1111/j.1475-4991.2010.00393.x>
- Barke, M. (1989). Provincial disparities in levels of living: The case of Spain, 1970-1981, *Geo Journal*, 18 (4), 407-416.
- Bezbaruah, M. P. (2007). Indo-Myanmar border trade: The stakes for North-East India. *Dialogue*, 9 (1), 83-104.
- Cappellari, L., & Jenkins, S. P. (2006). Summarizing multiple deprivation indicators. *ISER Working Paper 2006-40*. Colchester: University of Essex.

- Chakravarty, S.R., and C. D'Ambrosio (2006). The measurement of social exclusion. *Review of Income and Wealth*, 52 (3), 377–398. Retrieved from (accessed 04-09-2021).
- Debnath, A. & Roy, N. (2010). Performance of the states of north-east India: A comparative analysis of post and pre-reforms periods. *Man and Society: A Journal of North-East Studies*, 7, 125-134.
- Dehury, B., & Mohanty S.K. (2015). Regional estimates of multidimensional poverty in India. *Economics: The Open-access, open-assessment E-Journal*, 9(2015-36), 1–35. Retrieved from <http://dx.doi.org/10.5018/economics-ejournal.ja.2015-36> (accessed 04-09-2021).
- Drukker, M., Kaplan, C., Feron, S., & Os, J. (2003). Children's health-related quality of life, neighbourhood socioeconomic deprivation and social capital: A contextual analysis. *Social Science and Medicine*, 57, 825-41.
- UNDP (1995). *Human Development Reports*. United Nations Development Programme, 341.
- ILO (2020). *Beyond the goal of eradicating absolute poverty in China: Relative poverty indicators and social security policies*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-beijing/documents/briefingnote/wcms_752212.pdf (accessed 04-09-2021).
- Jayaraj, D. & Subramanian, S. (2010). A chakravarty-d'ambrosio view of multidimensional deprivation: Some estimates for India. *Economic and Political Weekly*, 45 (6), 53-65.
- Khan, M.K., & Padhi, B. (2017). Poverty, inequality and relative deprivation among North- Eastern States of India: Evidence from NSS. In U.K. De, M. Pal, & P. Bharati, (eds). *Inequality, Poverty, and Development in India*. Springer, 207-222.
- Klasen, S. (2000). Measuring poverty and deprivation in South Africa, *Review of Income and Wealth*, 46 (1), 33-58.
- Konwar, P. (2015). *Socio-economic conditions, inequality, and deprivation in North East India*. Retrieved from <http://mpira.ub.uni-muenchen.de/65407/> (accessed 7-08-2021).
- Kurian, N. J. (2000). Widening regional disparities in India: Some indicators. *Economic & Political Weekly*, 35 (7), 538–50.
- Majumdar, M. & Subramanian, S. (2001). Capability failure and group disparities: Some evidence from India for the 1980s. *Journal of Development Studies*, 37(5), 104-40
- Mishra, A. & Ray, R. (2013). Multi-dimensional deprivation in India during and after the reforms: Do the household expenditure and the family health surveys present consistent evidence? *Social Indicators*

- Research*, 110 (2), 791-818. Retrieved from <http://link.springer.com/article/10.1007%2Fs11205-011-9959-6> (accessed 7-08-2021).
- Morris, M. D. (1979). *Measuring the Condition of the World's Poor*. Oxford: Pergamon.
- Ray, R. & Sinha, K. (2015). Multidimensional deprivation in China, India, and Vietnam: A comparative study on microdata, *Journal of Human Development and Capabilities*, 16 (1), 69-93, DOI: 10.1080/19452829.2014.897311
- Sarkar, B., Banerji, H., & Sen., J. (2014). Patterns of socioeconomic deprivation and its impact on quality of life: Case of a less developed region in West Bengal, India. *Athens Journal of Health*, 1(4), 271-286.
- Sen, A. (1985). *Commodities and capabilities*. North-Holland.
- Sen, A. (1999). *Development as freedom*. Oxford University Press, Oxford.
- Subramanian, S. (2011). Identifying the income-poor: Some controversies in India and elsewhere, *Working Paper No. 46*, Courant Research Center, University of Gottingen.
- Townsend, P. (2009). The peter townsend reader. In David Gordon et al. (Ed) (2009). Bristol, UK: The Policy Press. In Bhattacharjee, D. & Wang, J. (2011). Assessment of Facility Deprivation in the Households of the North Eastern States of India, *Demography India*, 40 (2), 35-54.
- UN (1995). *Report of the World Summit for Social Development*. Copenhagen, 6-12 March 1995.
- UNDP (1996). *Human Development Report 1996*. New York: Oxford University Press. Retrieved from http://hdr.undp.org/sites/default/files/reports/257/hdr_1996_en_complete_nostats.pdf
- UNDP (1997). *Human Development Report 1997*. New York: Oxford University Press. Retrieved from http://hdr.undp.org/sites/default/files/reports/258/hdr_1997_en_complete_nostats.pdf
- UNDP (2010). *Human Development Report 2010*. New York: Palgrave Macmillan. Retrieved from http://hdr.undp.org/sites/default/files/reports/270/hdr_2010_en_complete_reprint.pdf
- UNDP (2014). *The Millennium Development Goals Report 2014*. United Nations, New York. Retrieved from <https://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>
- Weisskopf, T. E. (2011). Why worry about inequality in the booming Indian economy? *Economic and Political Weekly*, 46(47), 41-51.
- World Bank (2000). *World Development Report 2000/2001: Attacking Poverty*. Washington, DC: World Bank.
- World Bank (2007). *India: Development and Growth in North-East India: The Natural Resources, Water, and Environment Nexus*. Washington, DC, World Bank.