Analysis of Multidimensional Poverty Index Status of Nagaland

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Abstract: *Poverty has been around for the past few decades. It is an irony and a tragedy that poverty still continue to exists when science and technology has progressed and advanced so much. Eradicating poverty has been the primary goal and objectives internationally and nationally, which is evidently known from the Sustainable Development Goal1: "No poverty, i.e., eradicating poverty in all its forms and dimensions by 2030". Thus, this paper tries to estimates and analyses the multidimensional poverty status in Nagaland based on primary source of data. Multidimensional poverty has been estimated using Alkire and Foster methodology which considers dimensions namely education, health and standard of living than the traditional method confined to only one dimension: income. The study reveals that,twenty-two percent of the population are multidimensionally poor,wherethirty percent live in rural and twelve percent live in urban. Years of schooling indicator contributes most to multidimensional poverty followed by housing, sanitation, assets and cooking fuel. Rural households have higher percentage of multidimensional poverty as compared to the urban. Thus, to ameliorate povertyin the state, poverty measures have to be complemented by measures which considers other dimensions of povertyand poverty reduction schemes needs to be implemented, regulated and monitored effectively under strict supervisions.*

Key words: Censored Headcount Ratio, Incidence, Intensity, Multidimensional Poverty Index

INTRODUCTION

Poverty has been around for the past few decades. It is an irony and a tragedy that poverty still continue to exists when science and technology has progressed and advanced so much. Eradicating poverty has been the primary goal and objectives internationally and nationally, which is evidently know from the Sustainable Development Goal1: "No poverty i.e., eradicating poverty in all its forms and dimensions by 2030". As per the Planning Commission of India 2011-2012, based on Tendulkar methodology 21.9% of the people were still Below the Poverty Line consisting of 25.7% from Rural area and 13.7% from the Urban and based on Rangarajan methodology 2011-2012 reported in 2014, 29.5% of the population were below the poverty line, 30.9% from the rural areas and 26.4% from the urban areas. Nagaland in particular, 18.9% of the people are below the poverty line where, Rural area contributing 19.93% and urban 16.48%. The Government of India had suspended the decadal census which was due for 2021, as a result of which, after 2011-2012 there is no official data on population for estimating poverty.

The Planning Commission which was superseded by NITI Aayog in 2015 accepted the multidimensional nature of poverty. In 2021, NITI Aayog presented India's first National Multidimensional Poverty Index in association with OPHI and UNDP based on AF methodology unlike the conventional method of estimating poverty the consumption-based poverty and as per the report 25.01% of the population were multidimensionally poor. The report was again reviewed in 2023 and according to it,14.96% of the proportion of people are multidimensionally poor, 19.28% in rural areas and 5.27% in urban areas.

REVIEW OF THE LITERATURE

Multidimensional nature of poverty has been widely accepted by the Planning Commission Government of India yet, "it continued to provide estimates based on money-metric poverty" (Dehury&Mohanty, 2015, p. 14). The same opinion was shared by Mohanty (2011) "Poverty eradication program in India which identifies poor using the concept of multidimensional poverty but the official estimates of poverty continue to be derived from consumption expenditure data" (p.5) and "it remains unused as almost all government policies and programmes" applies "the poverty estimates still relying on 2011-12 estimates based on the 2009 Tendulkar Committee" (Himanshu, 2022, p.1)

Estimating Poverty based on one facet leads to excluding other aspects of poverty encountered by the poor and that "poverty measures, must reflect the multifaceted nature of poverty" (Alkire et al., 2015, p.3). As rightly articulated by various eminent author and economist, "Counting poor based only on income deprived can lead to omitting a significant proportion of poor people in some

areas and over reporting in other areas" (Alkire& Foster, 2007, p.1). "Income do provide useful information but poor people themselves define in a broader way as lack of education, health, housing, empowerment, employment, personal security and more" (Alkire et al., 2011, p.1). "Income alone is an incomplete measure of well-being of any society" (Madan, 2012b, p.81) and "income does not accurately proxy non-monetary deprivations in identifying the poor" (Alkire et al., 2015, p.10). Despite the fact that poverty is viewed as multidimensional it has not been able to capture the multiple dimensions of poverty (Madan, 2012b, p.81). Thus, estimating poverty solely by unidimensional approach "never represents the whole situation of poverty within a country. It also simplifies poverty and reduces all of the multidimensional aspects of poverty" (Titumur& Rahman, 2013, p.6). "Income poverty measures must be complemented by measures reflecting other dimensions of poverty" (Alkire et al., 2015, p. 13)

The perquisite for multidimensional poverty measures arose as human life is baffled and intertwined with multiple aspects of deprivation and that income indicator alone is not an appropriate approach (Alkire& Santos, 2010, p.6-7). "A comprehensive measure of poverty is one which reflects multiple dimensions in which poverty manifests". (Abraham & Kumar, 2008, p.79). It is on this circumstantial that, UNDP and OPHI initiated the global MPI in 2010 for measuring poverty in all its dimensions.

MPI progress and proceeds beyond the traditional approach to exhibit different pattern of deprivations that a poor person encounters. It is a tool which shows directly the deprivation that people are trapped in, at the same time is an index which reflect other aspects of poverty as it examines beyond income. As well as, it shows both the extent and intensity of poverty (Alkire& Santos, 2010b, p.6-20) (Alkire et al., 2011b, p.3-4, 20). The MPI indicators and dimensions, align with the Sustainable Development Goals (SDGs) (Alkire et al., 2018). "Eradicating multidimensional poverty has been at the Centre of India's development agenda" yet there are only a "few studies that estimated multidimensional poverty" (Dehury&Mohanty, 2015, p.4). Thus, this paper is an attempt to examines the deprivations faced by the people of Nagaland, taking into account the non-material deprivations as set by the MPI and the joint deprivations confronted by an individual/household.

METHODOLOGY

It is a primary data collected from the households of Nagaland. It is based on stratified random sampling. The paper takes into account two districts: Kohima and Peren for the study. Further two villages(rural) and two colonies/wards(urban) from each district is studied to come to overall conclusion of Nagaland.

Multidimensional poverty index is explored and constructed using Alkire and Foster counting approach Methodology developed by Sabina Alkire and James Foster which is a multidimensional extension of FGT approach. There are three dimensions in MPI: Education, Health and Standard of Living, consisting of 10 indicators: two for education-Years of schooling and School attendance, two for health-Nutrition and Mortality, and six for standard of living. All these indicators complement to SDG.

The formula for calculating MPI

MPI=H×A

It is a by- product of incidence (H) and intensity (A), where

H is the multidimensional headcount ratio or the incidence- it is the percentage of people in the population who faces multiple deprivations in the population.

$$H=q/n$$

Where, q is the number of people who are multidimensionally poor and n is the total population.

A is the intensity of poverty. It is the average proportion of the weighted indicators in which poor people are deprived. Households whose deprivation score ciof 33.3 percent or higher, the deprivation scores are summed and divided by the total number of poor people:

$$A=(?_i^q|c_i)/q,$$

Where ,c_i is the deprivation score the ith poor person experiences.

RESULTS AND DISCUSSIONS

The result of the analysis on multi-dimensional poverty index are divided into five sections. The first one shows the overall all MPI of the State followed by Rural-Urban depiction of MPI of the state. Then the overall depiction of the two districts MPI followed by Rural areas and the Urban areas of the two districts.

a) MPI of Nagaland. Table no. 1 shows the censored headcount ratio and the percentage contributions of deprivations in MPI under the study. From the table it can be observed that 22% of the population in Nagaland are multidimensionally poor as represented by multidimensional headcount ratio (H). The intensity of deprivation as shown by A was 36%. In other words, poor people are unable to have access to 36% of the weighted indicators. The value of Multidimensional Poverty Index for Nagaland comes out to be 0.081. Among the various indicators, it can be seen that years of schooling contributes the highest to MPI followed by housing, sanitation, assets, cooking fuel and water. The result also shows that Health is better off in the state as it has zero contribution to MPI. In other words, people are not deprived in terms of health.

Table 1: MPI of Nagaland

Nagaland			
Dimensions	**Indicators**	**HCR**	**%**
Education	Schooling	0.222	45.90
	Attendance	0.000	0
Health	Nutrition	0.000	0
	Mortality	0.000	0
Living Standards	Electricity	0.000	0
	Water	0.016	1.08
	Sanitation	0.212	14.71
	Housing	0.212	15.39
	Assets	0.222	13.76
	Cooking-fuel	0.199	9.15
MPI		0.081%	
H		22.4%	
A		36.09%	

Source: Field Survey 2021-22

b) MPI of Rural and Urban Nagaland. The MPI of Rural and Urban areas of Nagaland are shown in table no. 2. From the table it can be observed that 30% of the rural population in Nagaland aremulti-dimensionally poor as represented by multidimensional headcount ratio (H) which is higher than the overall multidimensional headcount ratio and urban multidimensional headcount ratio. The intensity of

deprivation is marginally higher in rural areas 36% as compared to urban areas 35%. Rural areas share almost the same intensity of deprivation as the overall state. The Multidimensional Poverty Index value comes out to be 0.110. The contribution of different indicators to MPI is almost the same as that of the overall state MPI with zero deprivation in health indicators.

For the urban areas, multidimensional headcount ratio is lower than the overall H and rural areas H with 12% of the population who are multidimensional poor. However, the intensity of deprivation is slightly lower than the overall A and rural areas A with 35% showing us that people are unable to have access to 35% of the weighted indicators. The MPI value in the urban areas comes out to be 0.043 which is lower than the overall state (0.081) and rural areas (0.110). The contribution of different indicators to MPI are marginally higher than the overall state and rural areas in indicators years of schooling, housing and assets.

Table No. 2: MPI of Rural and Urban Nagaland

Nagaland					
		Rural		**Urban**	
	Indicators	**HCR**	**%**	**HCR**	**%**
Dimensions	Schooling	0.298	45.45	0.122	47.43
	Attendance	0.000	0	0.000	0
Health	Nutrition	0.000	0	0.000	0
	Mortality	0.000	0	0.000	0
Living Standards	Electricity	0.000	0	0.000	0
	Water	0.022	1.14	0.007	0.88
	Sanitation	0.294	15.01	0.105	13.70
	Housing	0.298	15.24	0.122	15.90
	Assets	0.257	13.12	0.122	15.90
	Cooking-fuel	0.196	10.03	0.047	6.18
MPI			0.110		0.043
H			30.15%		12.16%
A			36.35%		35.21%

Source: Field Survey 2021-22

c) MPI of Kohima and Peren Districts. A comparison between the two district MPI are shown in table no 3. As shown in the table, the multidimensional headcount ratio of Kohima (8%) is much lower than Peren (29%). This explains that people of Kohima constitute lesser multidimensional poor as to the people of Peren. In terms of intensity of deprivation, both the district experienced similar deprivation. In both districts, it can be seen that the poor persons are unable to have access to about 36% of the weighted indicators. The result also shows that Kohima district has lower MPI value (0.027) as compared to MPI value for Peren (0.104). The highest contributing indicator to MPI in Kohima was Schooling (46%) followed by Housing (16%) Sanitation (15%), Assets (13%), Cooking fuel (8%) and Water (2%). For Peren district the contributing factors are almost the same as Kohima district but marginally lower in indicator water (1%), and marginally higher in indicators Assets (14%) and Cooking -fuel (9%).

Table No 3: MPIs of Kohima and Peren districts.

		Kohima		Peren	
Dimensions	**Indicators**	**HCR**	**%**	**HCR**	**%**
Education	Schooling	0.075	46.18	0.286	45.87
	Attendance	0.000	0	0.000	0
Health	Nutrition	0.000	0	0.000	0
	Mortality	0.000	0	0.000	0
Living Standards	Electricity	0.000	0	0.000	0
	Water	0.010	1.97	0.018	0.98
	Sanitation	0.075	15.48	0.272	14.63
	Housing	0.061	15.58	0.286	15.38
	Assets	0.061	12.53	0.255	13.90
	Cooking-fuel	0.041	8.36	0.174	9.25
MPI			0.270		0.104
H			7.5%		28.9%
A			36.2%		36.1%

d) Rural Area MPI of Kohima and Peren Districts. A comparison between the two districts MPI of rural areas are shown in table no 4. From the table it can be seen that multidimensional head count ratio of Kohima rural is 16% which is much lower than Peren rural 33%. It indicates that 33% of rural Peren are multidimensional poor which is much higher than 16% of rural Kohima. The intensity of deprivation is similar for both the districts, 36% respectively. The Multidimensional poverty index value shows that Kohima rural (0.055) is lower than Peren rural (0.120). The highest contributing indicator to MPI for Kohima rural is years of schooling (47%), followed by sanitation and housing (16%, respectively), then assets and cooking fuel (11%, respectively). Kohima rural faces deprivation marginally higher than Peren rural in indicators years of schooling, sanitation, housing and cooking fuel. Kohima rural does not face deprivation in indicator water.

Table No. 4: Rural MPI of Kohima and Peren Districts.

Rural					
		Kohima		Peren	
	Indicators	**HCR**	**%**	**HCR**	**%**
Dimensions	Schooling	0.156	47.03	0.325	45.31
	Attendance	0.000	0	0.000	0
Health	Nutrition	0.000	0	0.000	0
	Mortality	0.000	0	0.000	0
Living Standards	Electricity	0.000	0	0.000	0
	Water	0.000	0	0.027	1.24
	Sanitation	0.156	15.77	0.320	14.95
	Housing	0.156	15.77	0.325	15.19
	Assets	0.108	10.92	0.285	13.32
	Cooking-fuel	0.104	10.51	0.214	9.99
MPI			0.055%		0.120
H			15.6%		32.9%
A			35.5%		36.4%

Source: Field Survey 2021-22

e) Urban Area MPI of Kohima and Peren Districts. Looking at the urban areas of both the districts, we can see that multidimensional headcount ratio of Kohima urban is 4% which is much lower than Peren urban, 20% indicating that the population of Kohima urban has lower multidimensional poor than Peren urban. However, the intensity of deprivation is higher in Kohima (37%) than Peren (35%). The MPI value for Kohima urban is 0.015 lower than Peren urban, 0.070. The highest contributing deprivation indicator for Kohima urban is years of schooling, sanitation, housing and assets having the same percentage of contribution, followed by water and cooking fuel. Peren urban has marginally higher percentage of deprivation than Kohima urban in indicators, years of schooling, housing, assets and cooking fuel. However, for urban areas water indicator as deprivation did not contribute to Peren district but it was for Kohima district.

Table No. 5 Urban Area MPI of Kohima and Peren Districts.

Urban					
		Kohima		Peren	
	Indicators	**HCR**	**%**	**HCR**	**%**
Dimensions	Schooling	0.041	44.85	0.201	47.98
	Attendance	0.000	0	0.000	0
Health	Nutrition	0.000	0	0.000	0
	Mortality	0.000	0	0.000	0
Living Standards	Electricity	0.000	0	0.000	0
	Water	0.014	5.01	0.000	
	Sanitation	0.041	15.04	0.167	13.41
	Housing	0.041	15.04	0.201	16.09
	Assets	0.041	15.04	0.201	16.09
	Cooking-fuel	0.014	5.01	0.080	6.44
MPI			0.015		0.070
H			4.1%		20.1%
A			37.2%		34.8%

CONCLUSION AND SUGGESTION

The result shows that MPI is an index which present not only the headcount ratio (incidence of poverty-who is poor) but it also shows the intensity of poverty (how poor they are), as well how deprived are they. The findings reveals that 22% of the population of the state live in multidimensional poverty where 30% live in rural and 12% live in urban. Between the two districts, Peren experiences higher MPI than Kohima.

Thus, to ameliorate poverty situation in the state, schemes like Mahatma Gandhi National Rural Employment Guarantee Schemes (MGNREGS), Deendayal Antyodaya Yojana- National Rural Livelihoods Mission (DAY- NRLM) and Sampoorna Grameen Rozgar Yojana (SGRY) should be implemented effectively for better livelihood by giving employment opportunities.

In the state, 46 % has not completed six years of schooling for which Right to Education (RTE) Act, 2009 and SamagraShiksha, SarvaShikshaAbhiyan (SSA), needs to be strictly scrutinized by the government so that free and compulsory education reach out to the children aged 6-14 years and the state in general is able to eliminate the deficiency in years of schooling. Also, special scheme like Mid-Day Meal Scheme (MDMS) which aims in improving attendance and retention and schemes such as BetiBachao, BetiPadhao (BBBP) and National Programme for Education of Girls at Elementary Level (NPEGEL) which is gender specific, meant in providing compulsory education and addressing gender inequality has to be properly supervised.

The result depicts 1 % of the household lack access to safe and clean drinking water. Jal Jeevan Mission (JJM) which aims to supply safe drinking water to each household in rural areas should be properly monitored, so that those 1% of the household left behind are covered.

The result also shows that 14 % of the household does not have access to improved sanitation which indicates that Swachh Bharat Mission- Grameen which was supposed to improve sanitation and hygiene in rural areas could not reach out to the targeted population, which calls for a proper vigilance to mitigate the situation and make the state zero defecation state.

The result shows that 15 % of the households live in a house build on a substandard housing material, it indicates Pradhan MantriAwasYojana -Gramin (PMAY-G) Schemes has not been able to reach the deserving beneficiaries. The government should take necessary precautions to check corruption in the department handling the schemes so that everyone has a proper housing. The result also shows 14 % of the households lack assets, which is primarily due to low or no income. The various programmes initiated by the government as mentioned above needs to be implemented vigorously so that the deserving individuals can avail the schemes for better employment opportunities. The result also indicates that 9 % of the household lack access to clean cooking fuel, Pradhan MantriUjjwalaYojana (YMUY) needs to be provided to the deprived households so that they can have access to clean cooking fuel instead of the traditional cooking fuels which in general is hazardous to the overall health of women as well to the environment.

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