Determinants and Correlates of Multidimensional Poverty among Social Groups in the Selected States, India

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Abstract: The present study pertains to the results and interpretations with 'determinants' and 'correlates' of multidimensional poverty among the social groups in the study area. Apart from the conventional income based approach, the present study follows 'capability approach' developed by Amartya Sen as an alternative paradigm. Basic capabilities are the ability of the people to satisfy the certain crucial 'functionings' such as education, health and standard of living to the minimum set standard level. According to Sen, people and societies differ in their capability to convert 'income' and 'commodities' into preferred outcome where, utility-based evaluations of individual well- being might not reveal important dimensions of life and could results in misleading inter- personal comparison (Sen, 1981). The most important facets of poverty are its multidimensional character subject to continuous evaluation as its determinants vary across countries as well as within the region of the same territory (UNDP, 2010).

Keywords: Multidimensional poverty, health and standard of living, income and commodities, religion, deprivation.

Introduction: The study follows 'capability approach' as theoretical frame and 'human development frame work' of UNDP as analytical frame. It is a broader approach to the poverty analysis in which 'Multidimensional Poverty Index' (MPI) is used as an instrumental measure in the evaluation of poverty. There are ten indicators grouped under three dimensions namely, education, health and living standards in MPI. As the initial exercise, deprivation status of sample households are examined based on the computed score 'c' which, lies in between zero and one ($0 \le c \ge 1$). The dimensions of MPI namely, education, health and living standards are equally weighted as ten indicators. A cut off value 0.33 (33%) which is equivalent to one third of the weighted indicators is used to identify multidimensional poor households. The households are further classified into various categories based on their household deprivation score 'c'. A household is said to be 'multidimensional poor', if the deprivation score is 0.33 (33%) or greater and 'severely multidimensional poor' if 'c' is 0.5 (50%) or greater. Households with a deprivation score greater than or equal to 0.2 (20%) but less than 0.33 (33%) are categorized as 'vulnerable to' risk of becoming multidimensional poor. In the second phase, incidence (H) and intensity (A) of multidimensional poverty of households were sorted-out to estimate MPI for the selected states and social groups. 'Incidence of poverty' (H) indicates the proportion of people who are multidimensional poor where, 'Intensity of poverty' (A) indicates the depth of deprivation experienced by the people who are multidimensional poor. Further, dimension/indicator-wise decomposition analysis has been done to examine the association of each indicator in determining multidimensional poverty of the households. Logistic regression is used to calculate the odds ratio, probability of households being deprived within and between the three states in accordance with its level of performance in human development. In the third phase, a disaggregated estimation of 'incidence', 'intensity' and MPI for the sample households in the selected states has been attempted considering their 'social identity', 'place of residence', 'education' and 'occupation' of earning member. This has been done to trace out the 'correlates' of multidimensional poverty in the study area.

Table: 1
Distribution of sample Households by Social Groups in the selected States

Social Groups	Regions		
	Kerala	West Bengal	Bihar
Scheduled Caste (SC)	120	120	120
Scheduled Tribes (ST)	120	120	120
Other backward Castes (OBC)	120	120	120
General Castes (GC)	120	120	120
TOTAL	480	480	480

Source: Primary data

In the process, using Krejcie and Morgan (1970) method, the total sample size is fixed as 1440 households comprising 480 each from the selected sates Kerala, West Bengal and Bihar. Disproportional weights have been assigned to each social groups, SC, ST, OBC and GC to equate the size of sub sample for making the analysis less intricate. Hence, 120 households are selected from each social group altogether arriving sample size of each state as 480 (120 x 4) ultimately helping to have the total sample size of the study1440 households (480 x 3).

Deprivation Status of Households in the Study Area: Multidimensional poverty Index (MPI)is designed for making better assessment of human deprivation based on non – monetary characteristics, namely, education, health and living standards of households which in turn, help to categorize households into four segments of poverty based on household deprivation score (c) as detailed in Table 2.

Table 2
Distribution of sample Households by Deprivation Status

privation Status	Kerala		West Bengal		Bihar	
	N	%	N	%	N	%
Non –Poor	223	46	157	33	47	10
Vulnerable	99	21	78	16	59	12
Multidimensional Poor	85	18	149	31	143	30
Severely Multidimensional Poor	73	15	96	20	231	48
Total	480	100	480	100	480	100

Source: Estimated from Primary data; 'SM-Poor'-Severely Multidimensional 'M-Poor'-Multidimensional Poor

The deprivation status of sample households belonging to selected states under study are estimated by using their deprivation score and classifying them into four categories namely, non-poor, vulnerable, multidimensional poor and severely multidimensional poor. This categorization highlights various levels of deprivation that households experience in the selected states of India viz. Kerala, West Bengal and Bihar. Deprivation status of households based on their deprivation score reveal that, proportion of non-poor households in the least performing state, Bihar (10%) is registered as the lowest compared to moderate and better performing states namely, West Bengal (33%), and

Kerala (46%). It indicates improvement in human development within the state helping it to reduce the incidence of deprivation among the households.

Looking into both 'multidimensional' and 'severely multidimensional' poor households, their proportions are the highest in least performing state, Bihar (30% and 48%) and seem to be the lowest in better performing state, Kerala (18% and 15%). It highlights the fact that, in a state like Kerala, better human development initiatives on record help to reduce multidimensional poverty where, the section of households who are vulnerable to poor seem to be higher (21%) which could be a development concern in its silver innings of state specific HDI whereas, higher proportion of households in least and moderately performing states include into the multidimensional' and 'severely multidimensional' poor categories.

Deprivation Status of Households by Social Groups in the Selected States: Disaggregated categorization of total sample households based on their 'social identity' and 'deprivation status' reveals that, relatively higher proportions of ST households in all selected states belong to the category of 'severely multidimensional poor' and their proportion under 'non-poor' category seem to be nearly 10 percent in all selected states viz. Kerala, West Bengal and Bihar. If one look at the 'non-poor' category of sample households in the study area, proportion of ST households seem to be the lowest among the other social groups in the respective states which is 12 percent in better performing state, Kerala and two percent in the least performing state, Bihar.

Table 3
Distribution of households by Deprivation status and Social identity (Kerala)

| Social Groups | Deprivation Status of Households | | | | | | | | Total | |
| | SM – Poor (C ≥ 0.5) | | M – Poor (C ≥ 0.3) | | Vulnerable (0.3 > C ≥ 0.2) | | Non –Poor (C < 0.2) | | | |
	N	%	N	%	N	%	N	%	N	%
SC	14	12	32	27	22	18	52	43	120	100
ST	51	43	12	10	43	35	14	12	120	100
OBC	06	5	28	23	13	11	73	61	120	100
GC	02	2	13	11	21	18	84	69	120	100
AG	73	15	85	18	99	21	223	46	**480**	**100**

Source: Estimated from Primary data; 'SM-Poor'-Severely Multidimensional 'M-Poor'-Multidimensional Poor; SC-Scheduled Castes; ST-Scheduled Tribes; OBC-Other Backward Castes; GC-General Castes; AG-All Group

A cross section analysis of the deprivation status of households by social groups in the much acclaimed high human development state, Kerala reveals that severe disparity persist between the social groups where 43 percent of ST sample households are 'severely multidimensional poor', whereas 32 percent of ST sample households are 'multidimensional poor'. Meanwhile, more than 60 percent of households belong to general castes (GC) and OBC households and 43 percent of SC households are 'non- poor' in Kerala, the proportion of ST households (12%) in this category are found to be the lowest. The higher proportion of ST households in the categories of 'severely

multidimensional poor' (43%) and 'vulnerable' (35%) reveals, the severity of multidimensional poverty and vulnerability have become deep rooted among ST households within the state having higher incidence of human development. The given data analysis warrant the need for revisiting the outreach of programmes and policies to ST households which sought to be evaluated with their deprivation status for follow up action. It is further observed that, the proportions of households that belong to general castes (69%) and OBC (61%) seem to be higher in 'non-poor' category and lower in other categories viz. vulnerable, 'multidimensional poor' and 'severely multidimensional poor' (see Table 3).

Table 4
Distribution of households by Deprivation status and Social identity (West Bengal)

| Social Groups | Deprivation Status of Households | | | | | | | | Total | |
| | SM – Poor (C ≥ 0.5) | | M – Poor (C ≥ 0.3) | | Vulnerable (0.3 > C ≥ 0.2) | | Non –Poor (C < 0.2) | | | |
	N	%	N	%	N	%	N	%	N	%
SC	19	16	45	38	22	18	34	28	120	100
ST	48	40	41	34	19	16	12	10	120	100
OBC	26	21	38	32	23	19	33	28	120	100
GC	03	2	25	21	14	12	78	65	120	100
AG	96	20	149	31	78	16	157	33	480	100

Source: Estimated from Primary data; 'SM-Poor'-Severely Multidimensional 'M-Poor'-Multidimensional Poor; SC-Scheduled

In respect of the moderately performing state West Bengal higher proportion of the sample households belong to the category of general castes (GC) is placed as non- poor where higher proportion of other social groups are clustered around the categories of 'vulnerable', and 'multidimensional poor' or 'severely multidimensional poor'. Higher proportion of ST households in West Bengal are found in the categories of either 'severely multidimensional poor' (40%) or 'multidimensional poor (34%), whereas higher proportion (38%) of SC households seem to be found in the category of 'multidimensional poor'. Among all the social groups, the proportion of general castes are appeared to be lower in the categories of 'severely multidimensional poor' (2%), multidimensional poor (21%), and vulnerable (12%) (see Table 6.4). It reveals the significant persistence of social group wise differences in the incidence of deprivation in West Bengal particularly in the case of SC/ ST households.

Table 5
Distribution of households by Deprivation status and Social identity (Bihar)

| Social Groups | Deprivation Status of Households | | | | | | | | Total | |
| | SM – Poor (C ≥ 0.5) | | M – Poor (C ≥ 0.3) | | Vulnerable (0.3 > C ≥ 0.2) | | Non –Poor (C < 0.2) | | | |
	N	%	N	%	N	%	N	%	N	%
SC	71	59	30	25	12	10	07	6	120	100
ST	94	78	23	19	01	1	02	2	120	100

OBC	59	49	49	41	07	6	05	4	120	100
GC	07	6	41	34	39	32	33	28	120	100
AG	*231*	*48*	*143*	*30*	*59*	*12*	*47*	*10*	**480**	**100**

Source: Estimated from Primary data; 'SM-Poor'-Severely Multidimensional 'M-Poor'-Multidimensional Poor; SC-Scheduled Castes; ST-Scheduled Tribes; OBC-Other Backward Castes; GC-General Castes; AG-All Group

In the least performing state, Bihar, higher proportion of households belong to all social groups except the general castes (GC) which clustered around the category of 'severely multidimensional poor'. In Bihar, 78 percent of ST households and 59 percent of SC households are severely multidimensional poor, whereas only six percent or less of them (ST: 2% & SC: 6%) are 'non-poor'. Meanwhile, the proportions of non-poor SC, ST and OBC households seem to be very low in Bihar, whereas higher proportion of OBC households are found in the categories of 'severely multidimensional poor' (49%), and 'multidimensional poor' (41%). It would be further revealing to state that there is skewed distribution in the incidence of deprivation in favour of the backward communities, especially outlier communities, that could explain the social divide persisting in the human development trajectory of Bihar warranting deprivation and social group specific policy interventions promoting human development.

'Incidence' and 'Intensity' of Deprivation among Households in the Study Area: 'Incidence' (H) and 'Intensity' (A) of deprivation and Multidimensional Poverty Index (MPI) are estimated for the households belong to various social groups across the selected states viz. Kerala, West Bengal and Bihar. 'Incidence of deprivation' (H) gives the proportion of people (c) in a state/social group (n) who are multidimensional poor (c/n). This measure is similar to 'head count' of the conventional analysis of poverty. It helps to understand the number of households in the region/social group whose household deprivation score is greater than 0.33 (33%). This cut-off score could be considered as the 'poverty line'. Generally, the incidence (H) of deprivation is expressed in the values that lie between 'zero' and 'one'. It could be converted into percentage by multiplying it with 100 and converted into absolute figure by multiplying with the size of representative sample size. 'Intensity of deprivation' (A) on the other hand, reveals the depth of deprivation experienced by the people who are multidimensional poor (c/q). Multidimensional Poverty Index (MPI) could be figured out from incidence (H) and intensity (A) of deprivation expressed it as product value (H x A). These magnitudes would be revealing to make inter-state /social group specific comparison in the incidence of deprivation than that of other estimates.

Incidence and intensity of Deprivation among Sample Households: Inter-State Comparison: When an inter-state comparison of the 'incidence' (H), 'intensity' (A) and MPI among the sample households in the selected states of India are made, it is found that both 'incidence' and 'intensity' of multidimensional poverty among households belong to better performing state, Kerala (0.329 & 0.469) are the lowest, and it remains the highest in the lower performing state, Bihar (0.781 & 0.673). The estimated Multidimensional Poverty Index (MPI) for these states is 0.154 and 0.456 respectively. These estimated magnitudes reveal that multidimensional poverty is four fold higher in the least performing state, Bihar (0.456) than that of better performing state, Kerala (0.154). In better performing state, Kerala, 33 percent of 'multidimensional poor' households are deprived in indicators of deprivation by 47 percent which includes the basic dimensions of human life namely 'education', 'health' and 'standard of living'.

Table: 6 Estimated Magnitudes of Incidence (H), Intensity (A), and MPI among Sample

Households- Inter-State Comparison

Social Groups	Kerala			West Bengal			Bihar		
	H	*A*	*MPI*	*H*	*A*	*MPI*	*H*	*A*	*MPI*
SC	0.382	0.318	0.121	0.532	0.482	0.256	0.842	0.537	0.452
ST	0.521	0.682	0.355	0.736	0.589	0.433	0.975	0.715	0.697
OBC	0.283	0.356	0.100	0.534	0.473	0.252	0.901	0.657	0.592
GC	0.121	0.252	0.030	0.231	0.354	0.081	0.395	0.487	0.192
All Groups	0.329	0.469	0.154	0.508	0.581	0.295	0.781	0.673	0.456
Source: Estimation of Investigator based on primary data; H-Incidence of multidimensional Poverty; A-Intensity of Multidimensional Poverty; MPI-Multidimensional Poverty Index; SC-Scheduled Castes; ST-Scheduled Tribes; OBC- Other Backward Castes; GC-General Castes									

In the least performing state, Bihar, 78 percent of sample households are multidimensional poor and these households are deprived in indicators of deprivation by 67 percent in respect of the basic dimensions of human life (see Table 6.6). The estimated 'incidence' and 'intensity' of deprivation along with MPI for West Bengal are registered as 0.508, 0.581 and 0.296 respectively explains that 51 percent of sample households are deprived in 58 percent indicators of deprivation pertaining to the basic dimensions of human life in the moderately performing state. In the light of the estimated magnitudes of multidimensional poverty among the sample households in the study area, it could be inferred that, improvement in human development would help the states to reduce its incidence of multidimensional poverty. The three selected states depict entirely different level of incidence (H), intensity (A) and MPI by the respective values stated. This in turn explains the persistence of regional disparity in deprivation in basic dimensions of human life across the country warranting heterogeneous and multipronged state specific development approaches and policies thereon to be formulated.

Incidence and intensity of Deprivation among Sample Households by Social Groups in the Selected States: In the better performing state, Kerala, highest MPI is registered for ST households, whereas, the lowest MPI is estimated for the households belonging to general castes (GC). Multidimensional poverty among ST households (0.355) in Kerala is 12 fold greater than that of the households belonging to general castes (0.030) and two fold greater than that of all group average (0.154). It is also found that both 'incidence' (0.521) and 'intensity' (0.682) of deprivation that ST households have experienced in Kerala seem to be the highest among other social groups and all group average. The estimated incidence and intensity of deprivation for ST households reveal that, 52 percent of STs in Kerala are multidimensional poor and they are deprived in 68 percent indicators of multidimensional poverty in respect of basic dimensions of human life viz. education, health and standard of living. In contrast to other social groups, SC households in Kerala have registered the highest values in all of the deprivation indices viz. incidence (0.382) and intensity (0.318) in Kerala.

Deprivation Gaps among Sample Households by Social Groups in the Selected States: Deprivation gaps of social groups help to understand the deviation of deprivation of each social group from its all group average within the respective state. It would help to make comparison among the social groups by inter and intra group analysis. It is quite clear that, deprivation gaps of all households belonging to general castes (GC) and OBC of Kerala have registered a deprivation gap less than the value zero. That means, incidence of deprivation among households belonging to general castes (GC) in all the selected states are less deprived

than that of all other social groups whereas, OBC in Kerala are also lesser deprived within the state when compared with corresponding value of the two selected states (see Figure 1).

Figure 1

Magnitudes of Deprivation Gaps among the Households by Social Groups in the Selected States
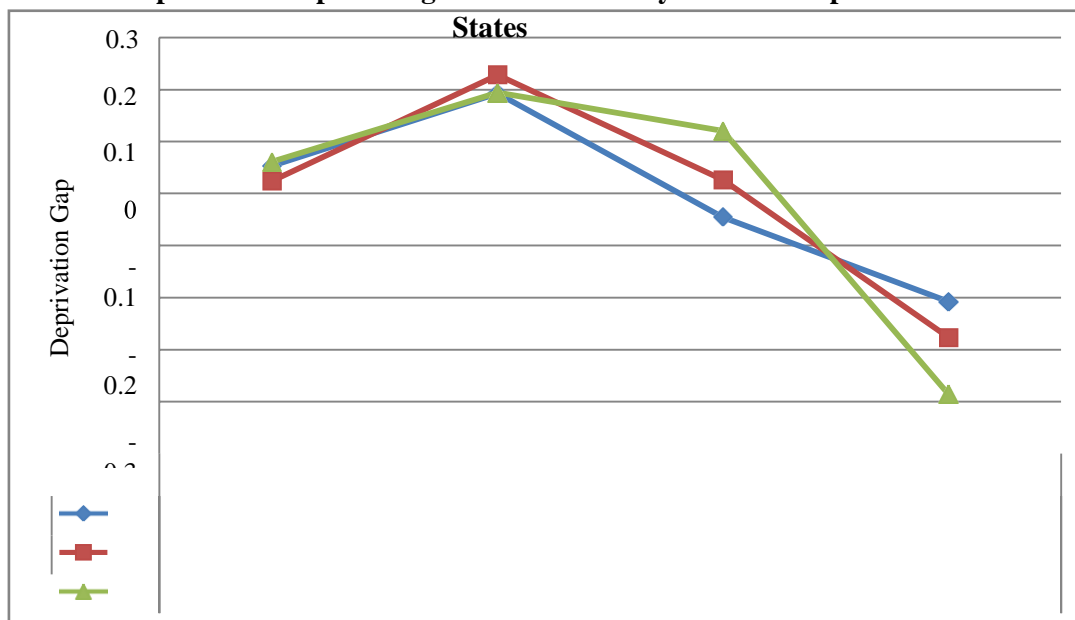
	SC	ST	OBC	GC
KL	0.053	0.192	-0.046	-0.208
WB	0.024	0.228	0.026	-0.277
BH	0.061	0.194	0.12	-0.386

SC-Scheduled Castes; ST-Scheduled Tribes; OBC-Other Backward Castes; GC-General Castes; KL-Kerala; WB-West Bengal; BH-Bihar

The remarkable fact is that, even with inter-state variations in the incidence of deprivation among the SC/ST households of the selected states, their relative 'incidence of deprivation' within the all selected states seem to be the same whereas, incidence of deprivation among all ST and SC households in all the selected states are seen higher than that of other social groups and they have registered a deprivation gap greater than the value 'zero'. In the backdrop of inter-state and inter-group comparison of incidence and intensity of deprivation, one could infer that, the human development index of the selected states are not often reflecting the real achievements of all sections of people in the basic dimensions of human life viz. education, health and decent standard of living as there exist inter and intra disparity of deprivation among the social groups within the state. The deprivation of disadvantaged sections of people, generally SC/ST, seem to be hidden or unexplained as their size of population is relatively less than that of other social groups and other related reasons. It invites immediate state/ social group specific interventions especially ST and SC households of all states through better provision in education, health services and other basic amenities enabling them

to lead a meaningful life.

Inter-State /Social Group wise Decomposition Analysis: In this section, the discussion mainly focuses upon the 'determinants' of multidimensional poverty in the study area with the help of dimension-wise decomposition and logistic regression analysis. In this process, dimensions of Multidimensional Poverty Index (MPI) viz. education, health and standard of living are decomposed into ten indicators and the incidence of deprivation corresponding to each indicator is estimated. The indicators that show higher incidence of deprivation are chosen as the prominent determinants of multidimensional poverty in the study area. Further a logistic regression analysis has been conducted to measure and observe the likelihood of households falling into deprivation in each selected state viz. Kerala, West Bengal and Bihar.

The probability of the household being multidimensional poor by the deprivation of dimension specific indicators is calculated and analyzed using odds ratio [Ex (β)]. In the process, a dummy variable called deprived is used as dependent variables which assumes the value 'one' if household is deprived and the value 'zero' is assigned if the household is non- poor. Ten indicators corresponding to three dimensions of MPI viz. education, health, and standard of living are taken as 'independent variables'.

Reference:

- Meenakshi, J. V., & Visvanathan, B. (2003). Calorie Deprivation in Rural India1983-99, *Economic and Political Weekly*.38 (4), 369-75

- Minhas, B. S. (1970). Rural Poverty, Land Distribution and Development Strategy*, Indian Economic Review*. No. 5, April, 97-128

- Nussbaum, Martha. C. (1988). Nature, Functioning and Capability: Aristotle on Political Distribution, *Oxford Studies in Ancient Philosophy.* SupplementaryVolume, 145-184

- Ravallion, M. (2000). Measuring Poverty using Qualitative Perceptionsof Consumption Adequacy, *The Review of Economics and Statistics*. (83(3), 462

- Rao, K. H. (1998). *Indicators of Poverty.* In S. Balakrishna and K. H. Rao (eds.), Database on Rural Poverty Indicators. National Institute of RuralDevelopment. Hyderabad.110- 15.

- Rath. (2003*).* Poverty by Price Indices*, Economic and Political Weekly*. 38 (40), 4260-76.

- Gustafsson, B. (1995). Assessing Poverty: Some Reflections on the Literature, *Journal of Population Economics*. 8(4), 361 – 381.

- Kannan, K. P. & Ravendra, G. (2009*).* Growth Sans Employment: A Quarter Century of Jobless Growth in India's Organized Manufacturing, *Economic andPolitical Weekly*. March 7-16.