

MULTIDIMENSIONAL POVERTY IN HARYANA: A CASE STUDY OF ROHTAK DISTRICT

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ABSTRACT

The study analysed the multidimensional poverty in Rohtak district of Haryana based on primary data. The study constructed multidimensional poverty index for the all five blocks of the district. It was found that there were more people under multidimensional poverty than unidimensional poverty. The study found that Meham block has highest value whereas Kalanaur and Rohtak block has lowest value in multidimensional poverty index. Moreover, the study suggested that the government should focus more on initiatives for poverty reduction in areas with high multidimensional poverty.

Keywords: Deprivation, Poverty, Poverty measurement, Multidimensional poverty.

Introduction

Poverty has been a serious issue in the development process across the world for quite a long period of time and alleviation of poverty has been one of the major challenges faced by India too. In India, since the independence monetary approach is used to measure poverty. The planning commission of India with the help of different advisory groups and committees decide the monetary base to count the poor population. According to the estimates made by the Planning Commission of India, half of the population was below the poverty line in 1973-74. Over the two decades from 1973-73 to 1993-94, there was a remarkable decline in incidence of poverty from 54.9 per cent to 35.6 per cent; in 1993-94 36.7 per cent of rural population was below poverty line whereas only 30.5 per cent of urban population was below poverty line. In 1999-2000, the Planning Commission used NSSO data to estimate poverty on the basis of consumption expenditure and found that around 26.1 per cent people were under poverty line. According to 61st round of NSSO (2004-05) poverty is estimated on two methods: URP and MRP and found that 27.5 per cent poor on the basis of URP and 21.8per cent on the basis of MRP. But in 2009-10, NSSO survey resulted showing 29.8 per cent poor people on the basis of consumer expenditure basis. In 2012, it was found by planning commission on using data from NSSO survey that only 21.9 per cent population was below poverty line. In absolute terms, 363 million people were below poverty line. Considering the improvement in 2015-2016, the poverty level of

the country has come down from 21 per cent. This clearly shows that 21 per cent of total population is still not able to fulfil their basic needs.

Over the years Government is making efforts to identify poor people and to eliminate poverty by providing facilities to them. But still almost one fourth part of population in India is falling below poverty line. Identification of these poor people is necessary condition for more effectively targeting the beneficiaries under various poverty eliminating programmes implemented by the Government. The general purpose of this study is to review the intensity of multidimensional poverty in Rohtak district of Haryana state.

Literature Review

Mohanty (2010) found that one-fifth of Indian households are impoverished, with half of them having extremely low incomes and barely access to child care. While infant mortality rates are higher in the impoverished than in the non-poor population, there is no discernible national variation in child survival between educational, economic, and health factors. Bihar has the highest level of object poverty and the lowest level of overall poverty. Kerala has the lowest level of poverty.

Singh (2012) in his study entitled "Rural Development and Socio-Economic status of Rural Households in Haryana", as response to government policy, the socio-economic status of rural families of Haryana was examined. The study was basically descriptive in nature with focusing on socio-economic status of villagers with special reference to occupation, literacy rate, caste, standard of living indicated by their earning and consumption pattern, savings debt position. It was found that both the districts are similarly backward on various socio-economic indicators.

Vijaya & Lahoti (2013) found that the domestic level measures are quite random because the resources ignore internal domestic differences in allocation, which are shown differently with the gender lines. Researchers found that the majority of poor men and women are from non-poor families. It was also found in this study that a large mistake for misclassification of poor individuals as non-poor when poverty is not assessed at the individual level.

Dehury & Mohanty (2015) observed that 43 per cent of India is multidimensionality poor with large regional variations. The average intensity of poverty was 45.5 percent with a MPI value of 19.3. It was found that Bihar is most multidimensional poor state, Jharkhand has less MPI than Chhattisgarh, Odisha, and Madhya Pradesh has less than Uttar Pradesh and West Bengal that is about 45 per cent of India's population have a concentration of more than 50 percent of the multidimensional poor.

Tanwar& Hooda (2017) explained that poverty has undertaken the aspects of drinking water, sanitation and housing facilities. It includes different types of deprivation, which are experienced by different individuals at the same time. Using MPI, Mewat, Rohtak, Palwal, Jhajjar and Fatehabad had high value and high level of poverty is indicated, whereas districts Rewari, Kaithal, Bhiwani, Mahendragarh, Kurukshetra, Faridabad and Ambala were found in better condition with a lower value.

Alkire& Fang (2018) used panel data from several China Health and Nutrition Survey years to create the Multidimensional Poverty Index for China and compared it with income poverty. To evaluate the consistency of multidimensional poverty measurements and investigate the frequently incorrect match between multidimensional measures and income measures, researchers applied regression analysis using the first order stochastic dominance approach. The researchers came to the conclusion that while poverty and multidimensional poverty decline with time, rural multidimensional poverty is more severe than urban multidimensional poverty, particularly when it comes to cooking fuel, drinking water quality, and cleanliness. This is primarily due to China's rural lifestyle, low infrastructural development, and high transaction costs.

A brief review of available literature indicates that the problem of poverty is attracting the attention of researchers, policy makers, economists etc. different approaches have been examined and tested for addressing the multidimensional nature of poverty in past decades, because the problems are continuously being run at all levels at global, national and regional levels. Evidence available in the research review not only indicates to cover the content areas but also helps in identifying and solving the various root causes of various technologies which help in solving the root parameters of multidimensional poverty in Haryana, with special reference to Rohtak district.

Research Methodology

The present study is based on primary and secondary data. Primary data has been collected through questionnaire method from selected five villages of the Rohtak district each one from separate five blocks of the district. In this study, simple statistical tools such as tabulation, column diagram, and per centage methods are used to present the data. To calculate MPI Alkire-Foster methodology has been used. Total number of 175 households from 5 villages namely Bainsi, Ajaib, Nigana, Chuliana and Bhagwatipur taking 35 each from Rohtak district were selected to conduct the study.

To study health status BMI, Z score and percentage method has been used. The nutritional status is measured by anthropometric measurement in terms of Weight for age, Height for age, Weight for Height, and Body Mass Index (WHO standardized methods) for analysis.

Estimation of Poverty

In the study unidimensional and multidimensional both type of poverty are measured by the researcher.

To study unidimensional poverty head count ratio is used. It is defined as the ratio of proportion of population whose consumption falls below poverty line. Poor households are those whose per capita consumption is below Rs. 32 per day.

To study the multidimensional poverty Alkire and Foster methodology has been used. Therefore, three dimensions health, education and standard of living have been considered under these dimensions ten 10 indicators are used that are nutrition, child mortality, years of schooling, school attendance, flooring, electricity, clean drinking water, sanitation, cooking fuel and assets holding. The three dimensions and their weightage are given here:

Health

The MPI uses two health indicators that are nutrition status and child mortality rate. On nutrition basis, in the MPI all household members are considered to be deprived if at least one member is found undernourished and under child mortality if any household found at least one child death than the household would be considered deprived. Total weightage to this dimension is given $\frac{1}{3}$ that is 33.3 per cent divided in two indicators as $\frac{1}{6}$ or 16.7 per cent. If the household is deprived in any indicator value 1 is assigned otherwise 0.

Education

The MPI uses two education indicators that are years of schooling and school attendance. On years of schooling basis, in the MPI all household members are considered to be deprived if no adult member has completed eight years of schooling and under school attendance if any school age child is not attending class up to eight the household would be considered deprived. Total weightage to this dimension is given $\frac{1}{3}$ that is 33.3 per cent divided in two indicators as $\frac{1}{6}$ or 16.7 per cent. If the household is deprived in any indicator value 1 is assigned otherwise 0.

Standard of Living

There are six indicators are used to study the standard of living of the households that are sanitation, electricity, clean drinking water, cooking fuel, flooring, floor of the house and assets

hold by the household. A family is considered to have access to better sanitation if it has some types of flush toilet or toilets, or ventilated modified pit or manure is not shared by other members other than the toilets family. If the household does not meet these conditions, then considered deprived in the sanitation facility. If there is no access to electricity in the house then the household is considered deprived. Flooring material of dirt, sand or dung is found in the household is considered deprived in the floor as well as if the house does not have separate kitchen or bathroom facilities and only one room is available. In the use of cooking fuel, a house is considered deprived if it cooks with dung, wood etc. If there is no more than two assets such as radio, TV, telephone, bike, motorbike or refrigerator in a house, and does not have a car or a tractor, then it is considered deprived. Total weightage to this dimension is given 1/3 that is 33.3 per cent divided in six indicators as 1/18 or 5.6 per cent. If the household is deprived in any indicator value 1 is assigned otherwise 0.

MPI calculating

The multi-dimensional poverty consists of two parts, the head count ratio (H) and the intensity (A) of poverty.

Head Count Ratio = Headcount ratio (H) is the proportion of the population, which are multi-dimensionally poor.

$$H = q/N$$

Here, q= is the number of persons who are multi dimensionally poor

N= is the total number of population

The Average Intensity of Poverty

The intensity of poverty is the average number of deprivation people are facing at the same time. "The intensity of poverty", A, reflects the proportion of the weighted component indicators in which, on average multidimensionally poor people are deprived.

Multidimensional Poverty Index

The MPI value combines the information on multiple deprivations into a single number. It is calculated by multiplying the incidence of poverty (H) by the average intensity of poverty (A).

$$MPI = H * A$$

H= Percentage of people who are poor

A= Average Intensity of deprivation in percentage

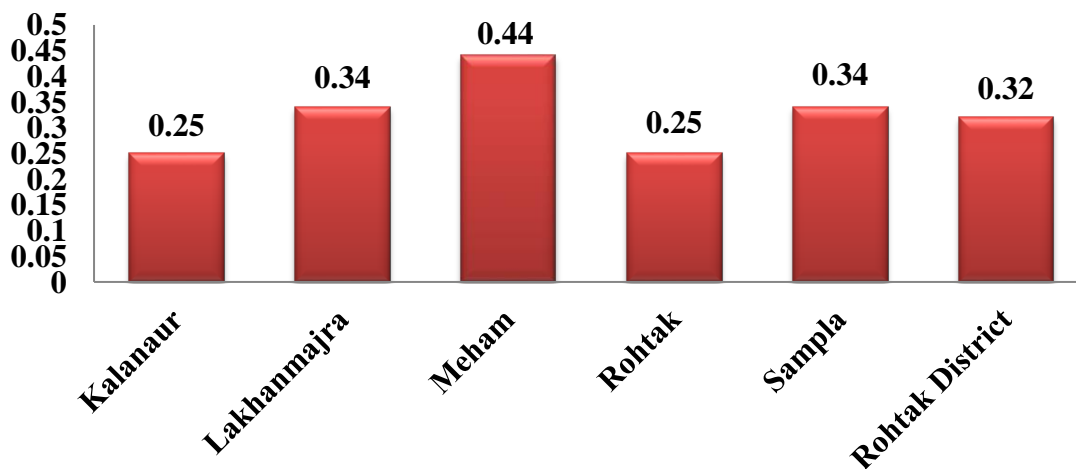
So by the above formula MPI value of the district has been calculated in this study taking 33.3per cent as cut-off.

Data Analysis and Major Findings

Multidimensional Poverty Index of blocks is shown here in table and diagram below. **H** shows the head count of households that are multidimensionally poor and **A** shows the intensity of poverty.

The Figure 1 present the head count ratio of poor households in the district. On different block level there are 25 per cent in Kalanaur, 34 per cent in Lakhanmajra, 44 per cent in Meham, 25 per cent in Rohtak and 34 per cent in Sampla are poor. Overall head count ratio of district is 32 per cent that shows 32 per cent households are multidimensionally poor. Maximum number of multidimensionally poor households is in Meham block (44 per cent) and Kalanaur and Rohtak have 25 per cent households that are multidimensionalpoor.

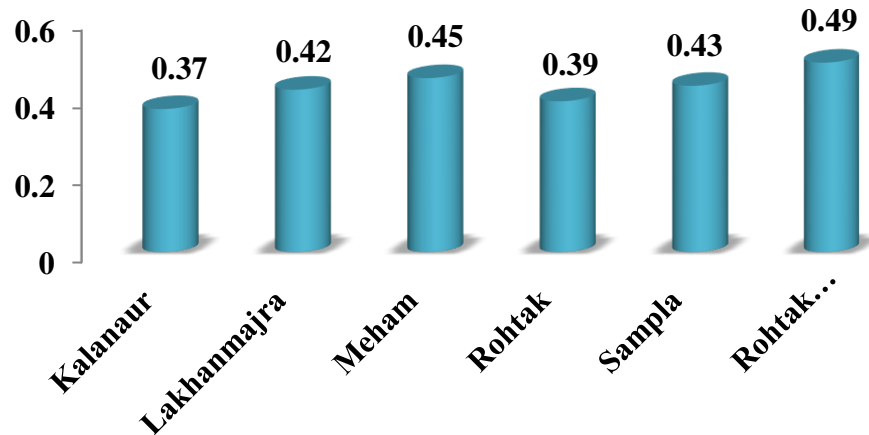
Figure 1: Head Count Ratio under MPI



Source: Primary Survey

Figure 2 presents the intensity of poverty of poor households in the district. On different block level there are 37 per cent in Kalanaur, 42 per cent in Lakhanmajra, 45 per cent in Meham, 39 per cent in Rohtak and 43 per cent in Sampla households are poor. Overall intensity of poverty in the district is 49 per cent that shows multidimensionally poor household are 49 per cent deprived on various indicators.

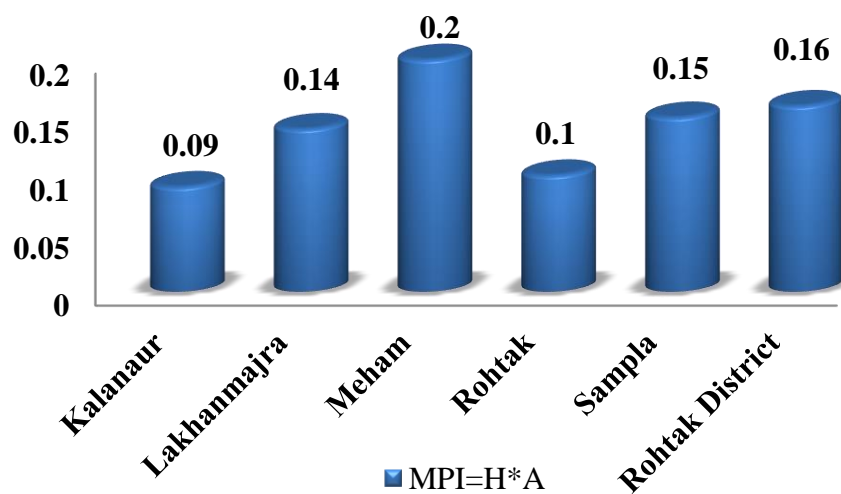
Figure 2: Intensity of Poverty under MPI



Source: Primary Survey

The Figure 3 showed MPI values of different blocks. The table is showing that in the district Head Count Index of poor is 32 per cent and intensity of poverty is 49 per cent which both gives MPI value of 0.16 by $H \times A$. MPI value is highest in Meham block (0.2) and minimum in Kalanaur block (0.09). In Lakhanmajra it is 0.14, in Rohtak it is 0.1, in Sampla it is 0.15. Overall value of MPI of the district is 0.16.

Figure 3: Block Wise Multidimensional Poverty



Source: Primary Survey

Contribution of Different Dimensions in Calculating MPI

All the three dimensions that helps in constructing MPI and their respected proportions observed are given in below in table.

Table 1: Proportional Contributions of each Dimension in MPI

BLOCKS	EDUCATION	HEALTH	STANDARD OF LIVING
Kalanaur	10	24	66
Lakhanmajra	9	17	74
Meham	13	25	62
Rohtak	8	11	81
Sampla	7	22	71
Rohtak District	9	24	71

Source: Primary Survey

The above Table 1 show the proportional contribution of different dimensions in calculating MPI. There are three dimensions of MPI that are education, health and standard of living. It is found that education dimension contribute only 9 per cent, health contribute 26 per cent and standard of living has major part that is 71 per cent. On block wise also the standard of living has larger contribution.

Contribution of Different Indicators

The above dimensions are further divided in ten indicators that are shown below with the help of table and figure.

Table 2: Proportional Contribution of each Indicator in MPI

INDICATORS	Block					Rohtak district
	Kalanaur	Lakhanmajra	Meham	Rohtak	Sampla	
Years of Schooling	10	9	13	8	7	10
School Attendance	0	0	0	0	0	0
Child Mortality Rate	0	0	3	2	0	1
Nutrition	24	17	22	11	21	18
Flooring	27	15	17	29	20	21
Sanitation	5	7	5	2	2	4
Drinking Water	10	23	7	28	28	20

Electricity	0	3	1	0	0	1
Cooking Fuel	19	18	21	19	20	19
Assets	5	8	11	1	2	6

Source: Primary Survey

The proportion contribution of different indicators is shown in the Table 2. It is observed that the type of floor (housing condition) indicator contribute 21 per cent whereas school attendance has no value which shows that all school aged children are enrolled in schools. The second topmost indicator is drinking water that has 20 per cent contribution followed by 19 per cent of cooking fuel, 18 per cent of nutrition, 10 per cent of years of schooling, 6 per cent assets, 4 per cent sanitation and 1 per cent of child mortality and electricity. On block level, in Kalanaur flooring (27 per cent), in Lakhanmajra drinking water, in Meham nutrition (22 per cent), in Rohtak flooring (29 per cent) and in Sampla (28 per cent) contribute the most. In Kalanaur sanitation and assets (5 per cent), in Lakhanmajra and Meham electricity (3 per cent), in Rohtak assets (2 per cent) and in Sampla sanitation and assets (2 per cent) contribute least.

Coverage under Unidimensional and Multidimensional Poverty

Coverage rate has been defined as the per centage of sample households that are identified as non-poor as per the unidimensional approach (using expenditure method) but are actually poor under multidimensional approach (under MPI). The table 3 showed the coverage rate under both type of poverty.

Table 3: Coverage under Both Types of Poverty

BLOCK	H (Government Criteria)	H (under MPI)
Kalanaur	0.10	0.25
Lakhanmajra	0.14	0.34
Meham	0.16	0.44
Rohtak	0.08	0.25
Sampla	0.13	0.34
Rohtak District	0.12	0.32

Source: Primary Survey

Table 3 show the coverage rate under both types of poverty. Under the unidimensional approach the value of H is 0.12 that mean 12 per cent households come under poverty line in the district which means these 12 per cent households spend less than Rs. 32 per capita per day. But under the multidimensional approach its value is 0.32 which shows that 32 per cent households are

found deprived and considered as poor on the basis of various indicators. Here two methods are showing completely different figures for the same thing (head count ratio). Around 20 per cent more households are found multidimensional poor that were before on unidimensional basis were not poor.

If comparative study of blocks is done than it is found that in Kalanaur 10 per cent are unidimensional poor but on multidimensional approach 25 per cent households are poor. That means 15 per cent more households come under multidimensional poverty. In Lakhanmajra 14 per cent are unidimensional poor but on multidimensional approach 34 per cent households are poor. That means 20 per cent more households come under multidimensional poverty. In Meham 16 per cent are unidimensional poor but on multidimensional approach 44 per cent households are poor. That means 28 per cent more households come under multidimensional poverty as compared to unidimensional approach. In Rohtak 8 per cent are unidimensional poor but on multidimensional approach 25 per cent households are poor. That means 17 per cent more households come under multidimensional poverty. In Sampla 13 per cent are unidimensional poor but on multidimensional approach 34 per cent households are poor. That means 21 per cent more households come under multidimensional poverty as compared to unidimensional approach.

So by above description it is seen that in there is very much variation of poor household under both poverty line. Most variation is seen in Meham block where 28 per cent households are more found multidimensionally poor. In Kalanaur, there is 15 percent difference in both type of coverage rate followed by 17 per cent in Rohtak, 20 per cent in Lakhanmajra and 21 per cent in Sampla block.

Conclusion

For a better standard of living, people do not need only increase in per capita income but also improvement in their socio-economic conditions. Reducing inequalities, eliminating poverty, eliminating malnutrition and creating job opportunities can improve the socio-economic conditions of the people. Every nation's Government launches various schemes and tries to improve the socio-economic conditions of its citizens. Some indicators show better standards of living standards, access to equal income distribution, access to gender equality, clean drinking water and sanitation facilities, availability of better health facilities. As people's standard of living will improve they will be able to contribute for country's growth. MPI is an international measure for measuring multidimensional poverty that includes various dimensions but there has been improvement over it by changing its dimensions to study the standard of living of households or individuals.

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