MEASURING SOCIO-ECONOMIC DEPRIVATION OF PEOPLE LIVING IN THE SLUMS OF JARANWALA, PAKISTAN

Dr. Riaz Ahmed[1*], Dr. Israr Ahmad Shah Hashmi[2], Muhammad Haroon[3]
[1]Assistant Professor Economics affiliation with UOP Lahore
[2]Assistant Professor Economics affiliation with UOP Lahore
[3] Associate Professor, Economics affiliation with UOP Lahore
[*]Corresponding author: riazahmedrai@yahoo.com

KEYWORDS	ABTSTRACT
Multidimensional Poverty, Pakistan, Jaranwala, Multidimensional poverty Index and Severe Poverty	*The world is rapidly urbanizing due to rural urban migration, lack of urban planning and fast growth in population. The rapid urbanization has given birth to growth of slums worldwide, especially in developing countries like Pakistan. The aim of the current study is to quantify the socio-economic problems and measure multidimensional poverty being faced by slum dwellers of Jaranwala, Pakistan. The study is based on primary data. There are eleven slums in jaranwala. All the households of 11 Katchi Abadis of Jaranwala was used as a target population. A list of 11Katchi Abadis of Jaranwala was available from the TMA Jaranwala. This list was used as a Sampling frame. In order to take the representative sample, stratified random sampling technique was used. A sample of 100 household was selected. Multidimensional poverty index has been used to measure the socio-economic deprivation slum dwellers. The multidimensional deprivation score has been calculated equal to 0.41 in the slum of Jaranwala. The score of current study is 41% which shows that almost severe poverty is prevailing in the slums targeted in the current study. Also the cut-off values have been taken from the depth of poverty which indicates that both 'Severe Poverty'and 'Depth of Poverty.' Authorities concerned might pay special attention to these deprived communities. Community participation based development programs might be launched to improve the physical conditions of these poor areas.*

INTRODUTION

Deprivation has traditionally been measured in one dimension i.e. income or consumption. In this analysis, a basket of goods and services considered the minimum requirement to live a non-impoverished life is valued at the current prices. People who do not have an income sufficient to cover that basket are deemed poor (Ahmed & Mustafa, 2016).

Income deprivation certainly provides very useful information. Yet poor people themselves define their poverty much more broadly to include lack of education, health, housing, empowerment, employment, personal security and more. No one indicator, such as income, is uniquely able to capture the multiple aspects that contribute to poverty. For this reason, since 1997,*Human Development Reports (HDRs)*

have measured poverty in ways different than traditional income-based measures (Ahmed et al, 2015).

The Human Poverty Index (HPI) was the first such measure, which was replaced by the Multidimensional Poverty Index (MPI) in 2010. The MPI is an index designed to measure acute poverty. Acute poverty refers to two main characteristics. First, it includes people living under conditions where they do not reach the minimum internationally agreed standards. Second, it refers to people living under conditions where they do not reach the minimum standards in several aspects at the same time (Alkire et.al, 2014)**.**

The MPI combines two key pieces of information to measure acute poverty: the incidence of poverty, or the proportion of people

(within a given population) who experience multiple deprivations, and the intensity of their deprivation - the average proportion of (weighted) deprivations they experience. Both the incidence and the intensity of these deprivations are highly relevant pieces of information for poverty measurement (Wang et.al, 2022).

The concept of multidimensional deprivation has widely been used to measure the deprivation in different countries of the world but it has rarely been used to measure the deprivation where the poor live. Also most of the studies use secondary data which usually do not meet the requirement of the real working of MPI. Current studies is an effort to measure multifaceted socio-economic deprivation of people in the slum of Jaranwala, a Tehsil of Faisalabad.

The world is rapidly urbanizing due to rural urban migration, lack of urban planning and fast growth in population. The urbanization is linked with many problems like poor sanitation, environmental pollution, traffic congestion, bad health and unhygienic conditions. Although there are a large number of problems associated with urbanization yet the issue of finding shelter to live in is sever of all. The rise in urban population is threatening. In 1950, 32 percent of total population was living in urban areas. This figure rapidly moved upward. In 1980, it rose up to 39 percent and in 2000 it was 48 percent (Ahmed & Mustafa, 2016).

In 1980, there were only 80 cities with population more than one million while in 2015, this number jumped to 550 cities (UN Population Division, 2002). Pakistan like other developing countries is also victim of this severe problem. In 1951, the share of urban population was about 18 percent. It jumped to about 29 percent and 33 percent in the year 1981 and 1998 respectively (Ahmed & Mustafa, 2016).

People are rapidly migrating to big cities in search of employment and better standard of living. They face many problems, when they move to big cities. The major problem is to find the appropriate shelter to live in but the people with low income are unable to have it. There are usually open spaces in the cities. They settle in open spaces of the cities. These open space settlements are called slums, squatter settlements or Katchi Abadis (Sundari, 2003).

There are different definitions of slums in different countries. According to Basu and Basu (2016)"The areas where buildings are in any respect unfit for human habitation are called slums". They also narrate that slum is an area of land not less than 700 square meters occupied by, or for the purposes of, any collection of huts or other structures used or intended to be used for human habitation. Encyclopedia of Britannica (2010) explains the term slum as "a residential area that is physically and socially deteriorated and in which satisfactory family life is not possible. Bad housing is major index of slum conditions." In Pakistan, the word Katchi Abadi and in international literature the term slum carries similar meanings (Ahmed et al, 2015).

Sheuya (2007) found from his research that a large number of people are living in slum like conditions. The poor environment of the slums leads to spread many diseases. Kumar (2007) conducted research in most parts of India. He found that slums are creating demographic, environmental and physical imbalance. There is demand of urban planning programs. Osumanu (2007) made analysis of living conditions of the slums of Ghana. He found that there is lack of drinking water supply, sanitation and electricity.

Chang (2009) analyzed the socio-economic conditions prevailing at Ahmed Abad, India. She focused on public private partnership to upgrade the living conditions in the slums. Sharma

(2009) found from his analysis on the slums of Jammu that slum dwellers through their garbage and other solid wastes in open spaces which pollute the environment badly. Most of the people live in Katcha houses in this area

There are heaps of rubbish which make the physical conditions of slum adverse to live in. There is lack of proper cleaning system. There is no proper water supply system. (Bandyopadhyay & Agrwal, 2013). Health is an important issue and unhygienic conditions in the slums are health risk factors for the people residing there (Malaviya & Bhagat, 2013). The common toilets and baths are very rare. Due to dirty conditions of toilets and bath females face great problems (Ahmed and Khan, 2020). The slums are pictures of poverty. The adverse physical conditions in the slums do not allow them to live safe life (Samuel & Nisar, 2021).

Ahmed et al., (2015) analyzed the living conditions in transferred and non-transferred slums. They found that indicators of health, education and standard of living are far better in transferred slums than those in non-transferred. Basu and Basu (2016) found from their study that socio economic conditions in slums are very poor. There is need to take steps to improve them so that slum dwellers might enjoy better standard of living.

The living conditions are not reasonable in the slums. Availability of clean drinking water is very rare. There is low literacy rate and high infant mortality. The households have usually a dirt, sand, or dung floor. The current study is aimed at finding the determinants of poor socio-economic conditions and multifaceted deprivation in the unsettled residential areas of Jaranwala, a Tehsil of Faisalabad.

2. METHODOLOGY

2.1 Sampling

All the households of 11 KatchiAbadis of Jaranwala was used as a target population. A list of 11KatchiAbadis of Jaranwala was available from the TMA Jaranwala. This list was used as a Sampling frame. In order to take the representative sample, stratified random sampling technique was used. From the list of Katchi Abadis it was found that number of dwelling units varied from 48 to 2280. The whole population was divided into four strata where it was assumed that the Abadis in the same group were homogenous in characteristics but heterogeneous externally.

Table 2.1:Category of Dwelling Units

Stratum	No of dwelling Units	No of K/A
1	Below 70	04
2	71-200	03
3	201-400	02
4	401-above	02

Source: Researcher's own calculations

2.2   Sample Size

The sample slums have been selected on the basis of variation in the per capita income

Table 2.2 selection of sample size on the basis of variation per capita income

Stratum	Mean	S.D	$^*S_h^2$	N_h	$N_h \times S_h^2$
1	2725	517.2	0.036	10900	392.46
2	3362.5	1014.4	0.091	13450	1224.00
3	3737.5	776.07	0.0431	14950	644.59
4	4800	725.72	0.0229	19200	438.89
Total					**2700**

Source: Researcher's own calculations

$$S_{n=}^* \qquad \text{SD/Mean}$$

Following proportional allocation method was used.

$$n = \frac{N. \sum N_h S_h^2}{\frac{N^2 d^2}{Z^2} + \sum N_h S_h^2}$$

(Ahmed et al, 2015)

Here

N= Total number of Katchi Abadis

$N_{h=}$ Total numbers of Katchi Abadis in "h" Stratum.

d= (Sampling error acceptable for study). Due to resource and time constraint 0.1 error was accepted at Abadis level.

$S_{h=}^*$ SD/Mean

Z= Confidence level = 95%

$$n = \frac{(58500)(2700)}{\frac{(58500)^2 (0.0414)^2}{(1.96)^2} + 2700}$$

$$n \cong 100$$

Proportional allocation method was used to obtain Sample from each stratum:

$$n_i = \frac{N_h}{N} \times n$$

Again the same formula was used to obtain sample for each slum.

Table 2.3: Selection of Sample Respondents

Sr.No.	Name of Selected KatchiAbadi	Distribution of Sample
1	Railway Khal	7
2	Circular Road	9
3	Behind EidGah	10
4	More 240 G.B	10
5	Islampura East	7
6	BastiEssaian	9
7	Essa Nagar	11
8	Islampura West	8
9	BagooBasti	11
10	LakkarMandi	8
11	Islampura West Opposite Railway Station.	10

Source: Researcher's own calculations

2.3 Data Collection

For data collection, a list of Katchi Abadis of Jaranwala was obtained from the office of TMA Jaranwala. Then the Katchi Abadis were divided into four strata. Sample Katchi Abadis and sample respondents were obtained by proper sampling technique. A questionnaire was used as a source of data collection.

2.4 Steps Involved in Measuring Multidimensional Deprivation

There are twelve steps Involved in measuring multidimensional deprivation (Alkire et.al (2014).

2.5 Dimensions of Deprivation, their cut-off and Relative weight

Dimensions of Deprivation, their cut-off and Relative weight are adapted Alkire Foster Methodology (Alkire et.al (2014).

4. RESULTS AND DISCUSSION

Multidimensional poverty index has been used to measure the socio-economic deprivation slum dwellers. By using MPI, thedeprivation has first been calculatedslum wiseand then overall from the sampled population in the slum of Jaranwala

Table 4.1: Construction of MPI to Measure Multidimensional Deprivation

Dimensions of poverty	Indicators	Deprived If……..	Weight
D_1	Years of Schooling (a)	No household member has completed at least one year of schooling.	1/6=0.17
	Child School Attendance (b)	No children are attending school up to the age at which they should finish class 6.	1/6=0.17
D_2	Child Mortality (c)	2 or more children have died in the household.	1/6=0.17
	Nutrition (d)	Severe undernourishment of any adult (BMI<17kg/m2) or any child (-3 standard deviations from the median).	1/6=0.17
D_3	Electricity (e)	The household has no electricity	1/18=0.06
	Sanitation (f)	There is no sanitation facility (open defecation).	1/18=0.06
	Drinking water (g)	The household does not have access to safe drinking water or safe water is more than a 45-minute walk (round trip).	1/18=0.06
	Flooring (h)	The household has a dirt, sand, or dung floor.	1/18=0.06
	Cooking Fuel (i)	The household cooks with dung or wood (coal/lignite/charcoal are now non-deprived).	1/18=0.06
	Assets (j)	The household and no assets (radio, mobile phone, refrigerator, etc. and no car).	1/18=0.06

On the basis of weights given above, multidimensional deprivation has been calculated for each slum (For detail see appendixes $A_1$to A_{11}) which is given in the table no. 4.2

Table 4.2: Measured Deprivation in Selected Katchi Abadis

Sr. No.	Name of Selected Katchi Abadi	Measured Deprivation
1	Railway Khal	0.45
2	Circular Road	0.46
3	Behind EidGah	0.39
4	More 240 G.B	0.36
5	Islampura East	0.43
6	BastiEssaian	0.58
7	Essa Nagar	0.59
8	Islampura West	0.41
9	BagooBasti	0.47
10	LakkarMandi	0.22
11	Islampura West Opposite Railway Station.	0.40

As poverty cut-off is 33% Alkire et.al (2014), so all the slums are found multidimensional poor except Lakkar Mandi.

The headcount ratio (H) = $10/11 = 0.91$

The intensity of poverty among the poor (A) = (0.45+0.46+0.39+0.36+0.43+0.58+0.59+0.41+0.47 +0.40)/10= 0.45

The adjust headcount ratio M_0 (or the MPI) = H x A = 0.91 x 0.45 = 0.41

Thus multidimensional deprivation score has been calculated equal to 0.41 in the slum of Jaranwala.

4. CONCLUSION

Deprivation has traditionally been measured in one dimension i.e. income or consumption. Income

Those identified as 'Vulnerable to Poverty' are deprived in 20% – 33.33% of weighted indicators and those identified as in 'Severe Poverty' are deprived in 50% or more of the dimensions(Alkire et.al ,2014). The score of current study is 41% which shows that almost severe poverty is prevailing in the slums targeted in the current study. Also the cut-off values have been taken from the depth of poverty which indicate that both 'Severe Poverty'

and 'Depth of Poverty' have been calculated in these poor , ignored and deprived places.

deprivation certainly provides very useful information. Yet poor people themselves define theirpoverty much more broadly to include lack of

education, health, housing, empowerment, employment, personal security and more. For this reason, to capture the multiple aspects the Human Poverty Index (HPI) was the first such measure, which was replaced by the Multidimensional Poverty Index (MPI) in 2010. Multidimensional poverty index has been used to measure the socio-economic deprivation slum dwellers. By using MPI, the deprivation has first been calculated slum wise and then overall from the sampled population in the slum of Jaranwala . The calculated MPI scores were 0.45, 0.46, 0.39, 0.36, 0.43, 0.58, 0.59, 0.41, 0.47, 0.22 and 0.40 for all the eleven slums respectively. The slum dwellers of Essa Nagar were found most deprived with score 0.59 while those of Lakar Mindi were found least deprived with score 0.22.The reason behind it might be the Lakar Mindi is situated in the heart of city and it is politically more stable while Essa Nagar is found away from the city centre and politically less stable. The overall score of multidimensional deprivation has been calculated equal to 0.41 in the slums of Jaranwala. Those identified as 'Vulnerable to Poverty' are deprived in 20% – 33.33% of weighted indicators and those identified as in 'Severe Poverty' are deprived in 50% or more of the dimensions The score of current study is 41% which shows that almost severe poverty is prevailing in the slums targeted in the current study. Also the cut-off values have been taken from the depth of poverty which indicate that both 'Severe Poverty' and 'Depth of Poverty' have been calculated in these poor, ignored and deprived places. Health, sanitation, and drinking water were found most deprived variables. Authorities concerned might pay special attention to improve these variables. High level deprivation from even basic needs demands some solid steps to be taken by the government and NGOs. Community participation based development programs might be launched to improve the physical conditions of these poor areas.

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APPENDIX

A-1 Multidimensional Deprivation of Slum Dwellers of   **Railway Khal**

Households	Weight	Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
		0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
1		1	0	1	0	0	1	0	1	1	0	0.69
2		1	1	0	0	0	1	0	0	1	0	0.46
3		1	1	0	0	0	1	0	1	0	0	0.46
4		0	0	1	0	0	1	0	1	1	0	0.52
5		1	1	0	0	0	1	0	1	1	0	0.52
6		1	1	0	0	0	1	0	0	0	1	0.46
7		0	0	0	0	0	1	0	1	1	0	0.18

The headcount ratio (H) =   6/7 i.e. 0.86

The intensity of poverty among the poor (A) =   (0.69+0.46+0.46+0.52+0.52+0.46)/6 = 0.52

The adjust headcount ratio M_0(or the MPI) = H x A = 0.86 x 0.52 = 0.45

A-2 Multidimensional Deprivation of Slum Dwellers of   **Circular Road**

Households	Weight	Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
		0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
1		1	0	1	0	0	1	0	0	0	0	0.57
2		0	1	0	0	0	1	0	1	1	0	0.35
3		0	0	1	0	0	1	0	0	1	0	0.46
4		1	0	0	0	0	1	0	0	1	1	0.35
5		1	1	0	0	0	1	0	1	1	1	0.58
6		0	1	0	0	0	1	0	1	1	1	0.41
7		0	0	1	0	1	1	0	1	0	0	0.52
8		1	1	0	0	0	1	0	0	1	1	0.52
9		0	1	0	0	0	1	1	1	0	0	0.35

The   headcount   ratio   (H)   is   9/9   i.e.   1.00
The intensity of poverty among the poor (A) is (0.57+0.35+0.46+0.35+0.58+0.41+0.52+0.52+0.35)/9= 0.46
The adjust headcount ratio M0 (or the MPI) is H x A = 1.00 x 0.46 = 0.46

A-3 Multidimensional Deprivation of Slum Dwellers of   **Behind EidGah**

		Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		0	0	1	0	0	1	0	1	0	1	0.52
2		0	0	1	0	0	0	0	1	1	0	0.46
3		1	1	0	0	0	1	0	1	0	0	0.46
4		0	0	0	0	0	1	0	1	0	0	0.12
5		1	1	0	0	0	1	0	0	0	0	0.40
6		0	1	0	0	0	1	0	1	1	0	0.35
7		1	0	0	0	0	0	0	1	1	1	0.35
8		0	0	1	0	1	1	0	1	1	0	0.58
9		1	1	1	0	0	0	0	1	1	0	0.63
10		0	1	0	0	0	1	0	0	1	1	0.35

The headcount ratio (H) is 9/10 i.e. 0.90

The intensity of poverty among the poor (A) is (0.52+0.46+0.46+0.12+0.40+0.35+0.58+0.63+0.35)/9 = 0.43

The adjust headcount ratio M0 (or the MPI) is H x A = 0.90 x 0.43 = 0.39

A-4 Multidimensional Deprivation of Slum Dwellers of   **More 240 G.B.**

		Indicators										Deprivation
		A	B	C	D	E	F	g	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		1	1	0	0	0	1	1	1	1	1	0.64
2		1	1	0	0	0	1	1	1	1	0	0.58
3		0	0	0	0	0	1	1	1	1	0	0.24
4		1	0	0	0	0	1	1	1	0	0	0.35
5		0	1	0	0	0	1	1	1	1	1	0.47
6		0	0	0	0	0	1	1	1	1	0	0.24
7		0	0	0	0	0	0	1	0	0	1	0.12
8		0	0	1	0	0	1	1	1	1	0	0.58
9		1	1	0	0	1	0	1	0	0	0	0.46
10		0	0	1	0	0	1	1	1	1	1	0.58

The headcount ratio (H) is 7/10 i.e. 0.70

The intensity of poverty among the poor (A) is (0.64+0.58+0.35+0.47+0.58+0.46+0.58)/7= 0.52

The adjust headcount ratio M0 (or the MPI) is H x A = 0.70 x 0.52 = 0.364

A-5 Multidimensional Deprivation of Slum Dwellers of   **Islampura East**

Households	weight	Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
		0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
1		1	1	0	0	0	1	1	0	1	0	0.52
2		1	0	0	0	0	1	1	0	1	0	0.35
3		0	0	1	0	1	1	1	1	0	0	0.58
4		1	0	0	0	0	1	1	0	1	0	0.35
5		1	0	0	0	0	1	1	1	0	0	0.35
6		0	1	0	0	1	1	1	1	1	1	0.53
7		0	1	0	0	0	1	1	1	0	0	0.35

The headcount ratio (H) is 7/7 i.e. 1.00

The intensity of poverty among the poor (A) is (0.52+0.35+0.58+0.35+0.35+0.53+0.35)/7= 0.43

The adjust headcount ratio $M0$ (or the MPI) is H x A = 1.00 x 0.43= 0.43

A-6 Multidimensional Deprivation of Slum Dwellers of   **BastiEssaian**

Households	weight	Indicators										Deprivation
		A	B	C	D	E	F	g	H	I	J	
		0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
1		1	1	1	0	0	1	1	1	1	0	0.92
2		1	1	0	0	0	1	0	1	1	0	0.52
3		1	1	0	0	1	1	0	1	1	0	0.58
4		1	1	1	0	0	1	0	1	1	0	0.69
5		1	1	0	0	0	1	0	0	1	0	0.44
6		0	0	1	0	1	1	0	0	1	1	0.41
7		1	1	0	0	1	1	0	1	0	0	0.52
8		1	1	0	0	0	1	0	1	1	1	0.58
9		0	0	1	0	1	1	0	1	0	0	0.52

The headcount ratio (H) is 9/9i.e. 1.00

The intensity of poverty among the poor (A) is(0.92+0.52+0.58+0.69+0.44+0.41+0.52+0.58+0.52)/9=0.557

The adjust headcount ratio $M0$ (or the MPI) is H x A = 1.00 x 0.58= 0.58

A-7 Multidimensional Deprivation of Slum Dwellers of Essa Nagar

		Indicators										Deprivation
		A	B	C	D	E	F	g	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		0	0	1	0	1	1	1	1	1	0	0.64
2		1	1	0	0	1	1	1	1	1	0	0.64
3		0	1	1	0	0	1	1	1	1	0	0.75
4		1	1	0	0	0	1	1	1	1	1	0.64
5		1	1	1	0	0	1	1	1	1	0	0.75
6		1	0	0	0	0	1	1	0	1	1	0.41
7		1	1	0	0	1	1	1	0	1	1	0.64
8		1	0	1	0	0	1	1	1	1	0	0.75
9		1	1	0	0	0	1	1	0	0	0	0.46
10		0	0	1	0	0	1	1	1	1	0	0.41
11		0	1	0	0	0	1	1	1	0	1	0.41

The headcount ratio (H) is 11/11i.e. 1.00
The intensity of poverty among the poor (A) is
(0.64+0.64+0.75+0.64+0.75+0.41+0.64+0.75+0.46+0.41+0.41)/11=0.59
The adjust headcount ratio M0 (or the MPI) is H x A = 1.00 x 0.59= 0.59

A-8 Multidimensional Deprivation of Slum Dwellers of Islampura West

		Indicators										Deprivation
		A	B	C	D	E	F	g	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		0	1	0	0	1	1	1	0	1	1	0.47
2		0	0	1	0	0	1	1	0	0	0	0.46
3		1	0	0	0	0	1	1	1	1	0	0.41
4		0	1	0	0	0	1	1	0	0	1	0.35
5		0	0	1	0	0	1	1	1	1	0	0.58
6		1	1	0	0	0	1	1	0	0	0	0.46
7		1	0	1	0	0	0	1	1	1	0	0.52
8		0	0	0	0	1	0	1	1	1	0	0.24

The headcount ratio (H) is 7/8i.e. 0.88
The intensity of poverty among the poor (A) is(0.47+0.41+0.46+0.52+0.58+0.35+0.46)/7=0.464
The adjust headcount ratio M0 (or the MPI) is H x A = 0.88 x 0.464= 0.408

A-9 Multidimensional Deprivation of Slum Dwellers of Bagoo Basti

		Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		1	1	1	0	0	1	1	0	1	1	0.92
2		1	1	0	0	0	1	1	0	1	1	0.58
3		0	1	0	0	0	1	1	0	1	1	0.41
4		1	1	0	0	0	1	1	1	1	0	0.58
5		0	0	1	0	0	1	1	1	1	1	0.64
6		1	0	0	0	0	1	1	1	0	0	0.35
7		0	0	1	0	0	0	1	0	1	0	0.46
8		0	0	0	0	0	0	1	1	1	0	0.18
9		0	0	0	0	1	0	1	1	0	0	0.18
10		1	1	1	0	1	1	1	1	1	0	0.81
11		0	0	1	0	1	0	0	1	0	0	0.44

The headcount ratio (H) is 9/11i.e. 0.82

The intensity of poverty among the poor (A) is(0.92+0.58+0.41+0.58+0.64+0.35+0.46+0.81+0.44)/9=0.576

The adjust headcount ratio M0 (or the MPI) is H x A = 0.82 x 0.576= 0.47

A-10 Multidimensional Deprivation of Slum Dwellers of LakkarMandi

		Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
	weight	0.17	0.17	0.34	Missing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		0	0	0	0	0	0	0	1	0	0	0.06
2		0	0	1	0	0	0	0	0	0	0	0.34
3		0	0	0	0	0	0	0	1	0	0	0.06
4		0	1	1	0	0	0	0	0	0	1	0.57
5		0	0	0	0	0	0	0	0	1	0	0.06
6		0	0	0	0	0	0	0	0	0	0	0
7		0	0	1	0	0	0	0	0	1	0	0.40
8		1	0	1	0	0	0	0	1	0	1	0.46

The headcount ratio (H) is 4/8 i.e. 0.50

The intensity of poverty among the poor (A) is (0.40+0.46+34+57)/4=0.43

The adjust headcount ratio M0 (or the MPI) is H x A = 0.50 x 0.442= 0.2212

A-11 Multidimensional Deprivation of Slum Dwellers of Islampura West Opposite Railway Station

		Indicators										Deprivation
		A	B	C	D	E	F	G	H	I	J	
	weight	0.17	0.17	0.34	Misssing	0.06	0.06	0.06	0.06	0.06	0.06	
Households												
1		1	1	0	0	0	1	1	1	0	0	0.52
2		0	0	1	0	0	1	1	1	0	0	0.52
3		0	0	0	0	0	1	1	1	0	0	0.18
4		0	0	1	0	0	1	1	0	0	0	0.46
5		0	0	0	0	0	1	1	0	0	0	0.12
6		1	1	0*	0	0	1	1	1	1	0	0.58
7		0	1	1	0	1	1	1	1	1	1	0.70
8		0	0	1	0	1	1	1	0	0	0	0.35
9		1	0	0	0	0	1	1	0	1	0	0.35
10		1	1	0	0	0	1	1	1	0	0	0.52

The headcount ratio (H) is 8/10 i.e. 0.80

The intensity of poverty among the poor (A) is (0.52+0.52 +0.46+0.58+0.70+0.35+0.35+0.52)/8=0.50

The adjust headcount ratio M0 (or the MPI) is H x A = 0.80 x 0.50= 0.400