# MEASUREMENT OF LIVING STANDARDS DEPRIVATION IN LAHORE DISTRICT, PAKISTAN (A Periodical Comparison Approach)

Muhammad AFZAL\* and Ahsan NAZIR\*\*

#### Abstract

The study assesses living standards deprivation by determining each indicator of MPI's absolute and relative contribution in overall poverty for the periods 2011 and 2014 using MICS data and the Alkire-Foster method for four districts, namely Lahore, Kasur, Sheikhupura and Nankana of Lahore Division Punjab-Pakistan. The value of MPI shows a decline in the overall poverty level in Lahore Division in 2014 compared to 2011. The living standards of the people residing in rural areas are relatively low as compare to urban areas. Different standings of the poverty level are found in all districts, while district Kasur is found to have more value of MPI than that of other districts of the Lahore Division. Resource allocation in each district is suggested according to the bands of poverty. This study also recommends improving education by raising the adult literacy rate to tackle multidimensional poverty in the Lahore Division.

*Keywords:* Deprivations, MPI, Alkire-Foster Method, MICS, Lahore. *JEL Classification*: I32, P46, H53, H75, I38.

#### I. Introduction

Poverty, whether absolute or relative, has remained a burning issue for each area, region and nation. Policymakers always take serious consideration while making policies to alleviate poverty and set up goals for society's development. Poor people maintain low standards of living and unable to fulfill the basic needs to sustain in society [World Bank (1990)]. In developing countries, poverty is an alarming situation for the whole population. Unfair and skewed income distribution in favour of rich has made the situation worse in developing countries like Pakistan. Globally, it is found that around 1.8 billion in 1990, 1.4 billion in 2005, about 9.20 million in 2009 and over 1

<sup>\*</sup> Professor of Economics, Department of Economics, Lahore College for Women University, \*\*Research Scholar, School of Education, Lahore University of Management Sciences, Lahore, Pakistan.

billion in 2011 mortals were sustaining under the poverty line as per decided \$1.25 per day income, which can alter across territories [UNDP (2013)].

Millennium Development Goals (MDGs) 2015 were initiated in the year 2000. One of its goals was to eradicate poverty around the globe. Unfortunately, 836 million people are still suffering from the hazard of poverty [UNDP (2016)]. Human Development Report 2014 points out that 46.5 per cent of the people of Pakistan are still under the poverty line and 14.5 per cent of the population is near the trap of multidimensional poverty. Along with developing countries' development measures, poverty is growing at a high rate due to high population explosion and uncertain natural disasters. However, during the last decade, reduction in poverty is observed. Still, due to the 2008 financial crisis, poverty again surged and millions of people got trapped in the net of poverty [World Bank (2010)].

Poverty was initially perceived as a unidimensional phenomenon which emphasize income or consumption [Ataguba, et al. (2011)]. The unidimensional approach postulates that an individual is said to be a strong personality among others on the basis of income [Wagle (2005)]. Sen (1999) indicates that income poverty is not a good measure of poverty because it does not show the actual picture of an individual's deprivation and ignores other crucial factors such as health, human security, and education, which play an important role in human capabilities. Most of the unidimensional approaches to measure poverty utilize sole identification processes such as income or consumption. Some individuals can be declared as deprived in a particular indicator such as income or consumption. Still, that individual may or may not be declared as deprived in certain other indicators such as good health, better education, high standard of living reputation, higher satisfaction in having the sagacity, social acceptability, etc. The unidimensional poverty phenomenon was revisited with the passage of time, and poverty is taken as a multidimensional phenomenon.

Pakistan is the 6<sup>th</sup> largest country in terms of population and 9<sup>th</sup> largest in terms of the labour force of the world, having a population of 195.4 million in 2015-16. Punjab is the most populated province of Pakistan, with 110 million people in 2017. Punjab has a literacy rate of 64.7 per cent in 2017-2018. Lahore is the provincial capital and largest division of Punjab and also the second-largest division of Pakistan in terms of population with around 15 million populations. People having different casts, backgrounds, and religious beliefs are residing in Lahore. People from all over Pakistan come to Lahore to improve their qualifications and skills and reap the fruits of Lahore's labour and education markets. The Lahore division includes a diversity of markets and a broad spectrum of educational institutions. The poverty reduction of the Lahore Division bounces back its trickle-down effect on other parts of Punjab. Lahore division has its significance to influence the political and economic performance of the Province Punjab and hence Pakistan.

Though, many studies have measured multidimensional poverty in Punjab province of Pakistan, such as Khan, et al. (2016), Jali and Ayub (2015), Saboor (2015),

Afzal, et al. (2014), Khan et al. (2014), Awan, et al. (2011), and Salaudin and Zaman (2010) measured, there is hardly any previous study exist pertaining to Lahore division with the aim to measure multidimensional poverty by using AF method and MICS data, especially for time periods 2011 and 2014. Even a study conducted in the context of Lahore considering the absolute contribution of each indicator in overall poverty is not found. This study is not utilized in any previous research work conducted in the Lahore context by considering their absolute contribution of each indicator in overall poverty. The present study is designed to assess the living standards deprivation in the Lahore division using MICS data and the Alkire Foster method. The study also determines the absolute contribution of each indicator in overall poverty in the case of Lahore division of Punjab province.

The study has its significance, in that it helps the policymakers understand the relative and absolute contribution of each MPI indicator in overall poverty. It also helps the governments and policymakers to make strategies for alleviating acute, absolute and relative poverty at the grass-roots level of people of the Lahore division. This study helps in estimating and determining the multidimensional poverty in different areas of the Lahore division, but this study is also unique; it assesses the living standards deprivation of Lahore division people by determining each indicator of MPI's absolute contribution in overall poverty for the periods 2011 and 2014 by using MICS data and the Alkire-Foster method. This study may provide intuitions to policymakers to detect the root causes of the absolute and relative facet of poverty of the population of the Lahore division. In addition, this study also gives a clear understanding of the changing trends of multidimensional poverty in the division by comparing the years 2011 and 2014. This study's findings would enhance the understanding level of the individual to multidimensional poverty phenomenon and their causes falling in the Lahore division of Punjab.

This paper's remaining part is as under; Section II presents the literature review, including unidimensional poverty and multidimensional poverty concepts. Section III provides details on data sources and research methodology, while Section IV discusses the study's findings and interpretation. In the final section V, the conclusion and recommendations are drawn.

### II. Review of Literature

Poverty existed with the existence of humankind. It is more chronic for developing as compared to the developed world. Pakistan being a developing country, has been facing the problem of poverty since its inception. The concept of multidimensional poverty was developed after the capability approach given by Sen (1990). The Millennium Declaration, Millennium Development Goals (2015) and Sustainable Development Goals (2016) have further highlighted and enhanced the importance of multiple poverty dimensions. A multidimensional framework of poverty emerged from the uni-

dimensional approach. Literature has supported this phenomenon that multidimensional poverty is caused by deprivations of living standards, health and education facilities.

Enhancing as well-being of the people has been a fundamental goal of every nation. In poverty, it is quite difficult to maintain good living standards. Alkire and Santos (2010) state that there are three dimensions to be considered as strong pillars of core human functioning, i.e., health, education and living standards. These three dimensions should be questioned, observed, analyzed, and tackled to reduce poverty and enhance the well-being of deprived population.

Alkire and Sarwar (2009) conclude that the approaches to detect poverty should be shifted from the unidimensional to the multidimensional phenomenon. Hussain (2004) concludes that poverty is a multidimensional phenomenon, and to eradicate poverty, proper facilities of health, education and living standards should be given to the people of Pakistan. Yasmeen, et al. (2011) finds that the lack of education, skills and improper health facilities are the main factors in multidimensional poverty in 34 districts of Punjab, Pakistan. The study suggests that serious attention towards education and health can lessen the poverty level in the targeted areas of Punjab. According to Niazi and Khan (2012), improvement in education can alleviate the multidimensional poverty in Punjab, Pakistan. Examining the role of education and health in eradicating poverty, Ali and Ahmad (2013) also find education and health playing their significant role in eradicating multidimensional poverty in 34 districts of Punjab. The investment in human capital would be a good strategy to counter the poverty in the city of Sargodha of Punjab Province [Awan and Iqbal (2010)]. Khan, et al. (2014) conclude that education, living standards and health have their part in creating multidimensional poverty among the people of Rawalpindi division of Punjab.

Using the Multiple Indicator Cluster Survey (MICS) for the year 2007 and 2011 and the Alkire-Foster (AF) method, Afzal, et al (2014) conclude that low level of living standard deprivations has been found in Rajanpur, Muzaffargarh and Rahim Yar Khan districts of Punjab. The authors also found rural areas of Punjab facing severe poverty than urban areas of Punjab. Multi Dimensional poverty level has decreased in the year 2011 when compared to 2007. Jali and Ayub (2015) found higher multidimensional poverty in rural areas than in the urban areas of Southern Punjab. To counter multidimensional poverty in Southern Punjab, special concentration policies are needed to the rural areas [Chaudary (2009)].

The available contemporary poverty and welfare measuring methods like Head-count Index provide statistics for the percentage of the population for poor people. The headcount index is a measure of absolute poverty; however, these methods fail to provide a statistic that measures relative poverty. Alkire and Foster (2007, 2011) developed an index known as MPI that could be used for quantitative and qualitative data. MPI identifies who is poor by considering the range of deprivation they suffer and aggregating that information to reflect societal poverty in a way that is worst and decomposable [Afzal, et al. (2015)].

Various strategies at government and non-government levels have been adopted to combat poverty in Pakistan. Microfinance programs, e.g., Akhuwat Foundation, are working in this regard. Under these programs, microfinance is given to the people living in the net of poverty. Empirical studies have shown that microfinance programs helped people to escape from the menace of poverty [Galib, et al. (2015)]. Benazir Income Support Program (BISP) is another monetary strategy by which a fixed amount is transferred to an underprivileged family on a monthly basis; it has shown positive impacts on the lives of people [Malik, et al. (2013)]. The above strategies dealing with the people are limited to the monetary support. The absence of a multidimensional facet of poverty is not being countered at the front end.

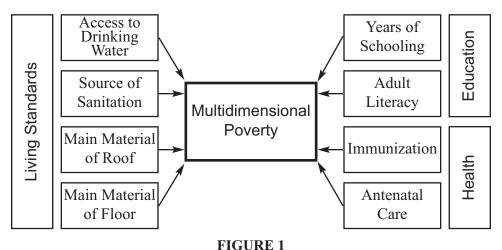
The above mentioned studies reveal that multidimensional poverty has been considered an area of interest for social scientists. It has always been a desire of the government and policymakers to understand the circumstances of its people in order to shape up better social and economic policies as poverty is a multidimensional phenomenon and changing over time. The present study provides a new horizon to understand the living conditions of the people of the Lahore division in a better way. Also, it helps to counter the problem of multidimensional poverty with proper planning and forecasting by identifying both absolute and relative facet of poverty. The study estimates the number of poor with their intensity. The present study provides the absolute contribution of each indicator and dimension of poverty in overall poverty. The study also fills the gaps which were identified in previous studies. The study determines the absolute contribution of the variables in collective multidimensional poverty level which provides a better understanding to the policymakers to make short and long term policies to eradicate poverty in the Lahore division.

## III. Data Sources and Methodology

The study was conducted to measure the living standard deprivations in the Lahore division of Punjab-Pakistan. The data were taken from the Multiple Indicator Cluster Survey (MICS) Punjab, 2011 and 2014, that offers household survey estimates of more than 90 indicators. It is the largest survey conducted in Pakistan's history with a sample size of 102,545 households for MICS 2011 and 41,413 for MICS 2014 of Punjab-Pakistan. Sample of Lahore division comprised of 31,079 household members in MICS 2014 and 77,866 in MICS 2011. Punjab Bureau of Statistics planned the survey in collaboration with UNICEF. This study is cross-sectional where variables of different dimensions, i.e., health, education and living standards, were considered.

Eight variables/indicators from three dimensions, i.e., Living Standards, Health and Education, were taken in this study. After the thorough consultation of experts in the relevant field and following the principles, these indicators were selected, i.e., data availability, policy relevance, and practicality. These indicators are being used to measure multidimensional poverty in more than 100 countries [Santos and Alkaire (2011)].

This study utilizes eight indicators of multidimensional poverty which are given in Figure 1. Among these eight indicators, four are related to the living standards dimension; two represent health dimension, and the last two are linked with education dimension.



Indicators of Multidimensional Poverty

## 1. Multidimensional Poverty Index (MPI)

MPI was utilized to determine the people who are living in the net of poverty. It gave a clear demonstration of the indicators and dimensions of the poverty which the people experience. AF method breeds the Headcount Ratio with Adjusted Head Count Ratio ( $H_0$ ), a distinctive measure class. The method dissected the population into two dimensions, first who are poor and second, their level of poverty, by determining the specific dimension. H indicates the people who are multidimensionally poor. Moreover, the intensity of deprivation (A) identifies the poor, who, on average are facing deprivations.  $M_0$  (an adjusted Headcount) is calculated by multiplying the portion of people by the dimension they lack:

$$(M_0 = H \times A)$$

To measure multidimensional poverty, Alkire and Foster (2007) suggested a Counting Approach. This approach focuses on poverty and explain deprivations which a person is having and its weightage. Two steps are included in this methodology; the first is the Identification Method (pk) that detects the poor person and the deprivation range in which that person is falling. Another method, called Aggregation Method (M $\alpha$ ) breaks up the poorest and their dimensions to inform in which dimension a person is utmost poor and depriving. A notation which is defined in this methodology Y= [Y<sub>ii</sub>] indicates the n × d matrix of achievements, where a number of

households are being represented by n and d indicates the dimensions and achievement of households is  $Y_{ij} \ge 0$  where i = 1, 2, ..., n and j = 1, 2, 3, ... d. Two cut-offs are also discussed in the methodology: the first is deprivation cut-off (z) and the second is poverty cut-off (k). Identification method is explained as pk  $(Y_i; z) = 1$  when  $c_i > k$ , and pk  $(Y_i; z) = 0$  when  $c_i < k$ . If k = 1, then the person falls into one dimension of poverty, and it is also called Union Approach. If k = d, the approach is an intersection.

To measure MPI, eight indicators were taken. These indicators are considered representative of multidimensional poverty in the real sense. MICS 2011 and MICS 2014 were considered with collective weight distributed evenly among them.

To get Achievement Matrix (X) which indicates the achievement of households in each of the eight indicators in MICS 2011 and MICS 2014, modules recoded according to the briefing provided by the UNDP and UNICEF with regard to improved and unimproved indicators. Definition concerning improved and unimproved with relative weights and cut-off are also shown in Table 1.

TABLE 1
Weights and Deprivation cut-off for each Indicator

Dimension	Indicator	Relative Weight	Deprivation Cut-Off
	Access to Drinking Water	1/8	A household is consider deprived if it has the unimproved source for "access to drinking water" (unprotected well, unprotected spring, pond, tanker-truck, cart, surface, other)
Living Standards	Source of Sanitation	1/8	A household is consider deprived if it has the unimproved source of "sanitation (toilet facility)" (flush somewhere else, flush to an unknown place, pit latrine without a slab, composite toilet, bucket, no facility/bush/field, other).
Living	Main Material of Floor	1/8	A household is considered deprived if it has unimproved "floor material" (earth/sand, dung plastered)
	Main Material of Roof	1/8	A household is considered deprived if it has unimproved "roof material" (no roof, thatch/palm leaf, wood planks, metal, wood)
	Antenatal Care	1/8	Women who did not get antenatal care to get it in less than four visits is considered deprived
Health	Immuniza- tion	1/8	The indicator is defined as the process by which a household/child is immune to infectious diseases. The child is deprived and counted in the multidimensional poverty if not received vaccination for infectious disease
ation	Years of Schooling	1/8	Any school-aged child who not attending school up to class 8.
Education	Adult Literacy	1/8	No of household members who completed five years of schooling.

Source: Alkaire and Santos (2010).

# IV. Results and Interpretation

## 1. Lahore Division

The comparison of MPI 2011 vs MPI 2014 at poverty cut-off (K) = 33 per cent for the Lahore division is presented in Table 2. The value of K, i.e., 33, is considered a standard cut-off value for AF methodology to measure multidimensional poverty [Alkaire and Foster (2007)]. The results given in Table 2 show that significant variations can be observed in the deprivation levels of the people of Lahore division. This is quite consistent with the findings of Afzal, et al. (2014). In 2011, 75.6 per cent population of the Lahore division was multidimensional poor as a whole and 48.3 per cent deprivation with the indicators considered in the study.  $M_0$ =0.365 shows that 36.5 per cent of people are multidimensionally poor and deprived at the same time. Contrarily, in 2014, 66.1 per cent of the Lahore division population is multidimensional poor on the whole and 47.7 per cent deprivation with the indicators considered in the study.  $M_0$ =0.316 shows that 31.6 per cent of people are multidimensional poor and deprived at the same time in the Lahore division. The continuous decline in poverty is observed in Lahore division as Afzal, et al. (2014) also found that Lahore division fell from medium to low poverty band during 2011 compared to 2007.

TABLE 2
Comparison of MPI 2011 vs MPI 2014
at K = 33 per cent for Lahore Division

AF Measure	MICS (2014)	MICS (2011)	Increase/Decrease
Н	0.661	0.756	-0.095
A	0.477	0.483	-0.006
$\mathbf{M}_{_0}$	0.316	0.365	-0.049

Source: Authors' estimation.

## 2. District wise Comparison

The district-wise comparison of the Lahore division is given in Table 3. The overall poverty level in all districts except Kasur district has declined from 2011 to 2014. In 2011, the percentage of overall poverty levels in districts Lahore, Kasur, Sheikhupura and Nanakana was 28.3, 43.3, 39.4 and 40.9 respectively. In 2014, the overall poverty level declined in all districts of the Lahore division except district Kasur, where a rise of 1.9 per cent was estimated.

TABLE 3
District wise comparison of MPI 2011 vs MPI 2014
at K = 33 per cent for Lahore Division

Districts	2011(%)	2014(%)	<ul> <li>Increase/Decrease</li> </ul>
Districts	Overall	Overall	— increase/Decrease
Lahore	28.3	20.9	-7.6
Kasur	43.3	45.2	1.9
Sheikhupura	39.4	31.0	-8.4
Nankana	40.9	34.3	-6.6

Source: Authors' estimation.

## 3. Rural and Urban Bifurcation

The urban and rural wise comparison of the Lahore division is presented in Table 4.  $M_0$  for the urban areas of Lahore division for the years 2014 and 2011 is 0.222 and 0.282, respectively. This shows a 6 per cent decline in multidimensional poverty in urban areas of the Lahore division in the year 2014 as compared to the year 2011. On the contrary,  $M_0$  for rural areas of Lahore division between 2014 and 2011 is 0.378 and 0.452, respectively. This reveals a 7.4 per cent fall in multidimensional poverty in rural areas of Lahore division in 2014 compared to 2011. A fall of 4.9 per cent in overall poverty is observed in Lahore division. Thus, more poverty is observed in rural areas of Lahore division than that in urban areas. Thus more concentration should be given to rural areas of Lahore division for the eradication of overall poverty.

Rural and urban wise comparison of all districts of Lahore is shown in Table 5. The living standards of the people residing in rural areas of Lahore division are quite low than those residing in urban areas. The level of poverty in rural areas of all dis-

**TABLE 4**Rural and Urban bifurcation for Lahore Division

		2014			2011				
	Н	A	$M_{0}$	Н	A	$M_{0}$	Decrease		
Urban	0.528	0.42	0.222	0.656	0.43	0.282	-0.06		
Rural	0.750	0.504	0.378	0.860	0.526	0.452	-0.074		
Lahore Division	0.661	0.477	0.316	0.755	0.482	0.365	-0.049		

Source: Authors' estimation.

Kui	Rufai and Ofban Diffication of Wiff 2011 vs Wiff 2014										
Districts -	2011	1(%)	2014(%)								
Districts -	Urban	Rural	Urban	Rural							
Lahore	25.1	38.3	17.6	25.8							
Kasur	35.9	48.4	33.3	49.8							
Nankana	33.0	45.8	31.2	35.0							
Sheikhupura	27.0	46.1	21.7	36.8							

**TABLE 5**Rural and Urban Bifurcation of MPI 2011 vs MPI 2014

Source: Authors' estimation.

tricts of the Lahore division is found more than that of urban entities of all districts. This is consistent with Afzal, et al. (2014) studies that found that rural areas of Punjab face severe poverty than urban areas. The rural area of district Kasur is found to have maximum poverty (49.8 per cent) among all rural areas of the Lahore division.

# 4. Absolute Contributions and Deprivations Level in 2011

The Absolute contribution of the variables in overall poverty of all the districts of Lahore division for 2011 is shown in Table 6. In the overall poverty of Lahore district, the dimension of living standards is contributing 1.9 per cent, health 8.7 per cent and education 17.4 per cent. In Kasur district, factors of the living standard contribute

TABLE 6
Absolute Contribution of Poverty Indicators MPI 2011

		Living	Standa	rds (%)		Health (%)			Education (%)			ation
Districts	Access to Drinking Water	Source of Sanitation	Main Material of Floor	Main Material of Roof	Overall	Antenatal Care	Immunization	Overall	Year of Schooling	Adult Literacy	Overall	Overall Deprivation (%)
Lahore	0.2	0.2	0.4	1.1	1.9	5.3	3.4	8.7	6.4	11.0	17.4	28.3
Kasur	0.3	1.6	2.6	3.4	7.9	10.0	3.4	13.4	7.3	13.0	20.3	43.3
Nankana	0.7	1.2	2.8	4.4	9.1	7.5	5.1	12.6	5.6	13.0	18.6	39.4
Sheikhu pura	0.1	1.5	2.0	3.9	7.5	7.7	3.8	11.5	6.8	13.0	19.8	40.9

Source: Authors' estimation.

7.9 per cent, health 13.4 per cent and education 20.3 per cent in overall poverty. In the Nankana district, indicators of living standards contribute 9.1 per cent, health 12.6 per cent and education 18.6 per cent. In Sheikhupura district, 3.9 per cent of poverty is due to living standard, 11.5 per cent due to health, and 19.8 per cent is due to the education dimension.

The dimension of MPI, that is, education is found to contribute more towards poverty in all the districts of Lahore division than the other two dimensions. The adult literacy indicator among all indicators of MPI is found to contribute more toward poverty in all the districts of Lahore division. The dimension of 'living standards' is found to least contribute to poverty in all the districts of Lahore division.

# 5. Absolute Contributions and Deprivations Level in 2014

The Absolute contribution of the variables in overall poverty of all the districts of Lahore division for 2014 is shown in Table 7. In the overall poverty of Lahore district, the dimension of 'living standards' is contributing 3 per cent, health 4.4 per cent and education 13.1 per cent. In district Kasur, the living standard contributes 11.6 per cent, health 11.6 per cent and education 21.4 per cent in overall poverty. In the Nankana district, indicators of living standards are contributing 9.5 per cent, health 6.7 per cent and education 17.7 per cent. In Sheikhupura district, 6.1 per cent of poverty is due to living standard indicators, 7 per cent due to health indicators, and 17.2 per cent due to education indicators. The MPI dimension' education' in 2014, like in the year 2011, is found to contribute more towards poverty in all the districts of Lahore division than the other two dimensions. The adult literacy indicator among

TABLE 7
Absolute Contribution of Poverty Indicators MPI 2014

		Living	Standa	rds (%)		Health (%)			Education (%)			ation
Districts	Access to Drinking Water	Source of Sanitation	Main Material of Floor	Main Material of Roof	Overall	Antenatal Care	Immunization	Overall	Year of Schooling	Adult Literacy	Overall	Overall Deprivation (%)
Lahore	0.1	0.7	0.4	1.8	3.0	4.1	0.3	4.4	4.9	8.2	13.1	20.9
Kasur	0.1	2.8	2.6	6.1	11.6	10.0	1.6	11.6	7.4	14.0	21.4	45.2
Nankana	0.7	0.9	2.4	5.5	9.5	6.3	0.4	6.7	5.7	12.0	17.7	31.0
Sheikhu pura	0.1	0.7	1.2	4.1	6.1	6.1	0.9	7.0	6.2	11.0	17.2	34.3

Source: Authors' estimation.

all MPI indicators is also found to contribute more toward poverty in all the districts of the Lahore division.

To eradicate poverty from Lahore division, education should be given priority. More and more effective adult literacy programs should be introduced in all districts of the Lahore division. Eradication of poverty from district Kasur should be the top priority of the government of Punjab as MPI rose in 2014 (45.2 per cent) compared to 2011 (43.3 per cent).

#### V. Conclusion and Recommendations

## 1. Conclusion

Poverty has been broadly considered as a matter of multi-deprivations rather than lies on money income or consumption measures. The living standards deprivation now got much importance with the broad horizon of knowledge. The results advanced beyond the conventional approaches to measure the living standards deprivation (multidimensional poverty). The study highlighted the items that emerged in the Lahore division as a contributor to living standards deprivations. The study covered rural and urban areas of the Lahore division and estimated the intensity and depth of Multidimensional Poverty (MP) across time periods.

This study was designed to measure the living standards deprivation of the people of Lahore division of Punjab Province of Pakistan for the periods 2011 and 2014, using data from MICS and method given by Alkire-Foster (AF). The results indicate the overall poverty in the Lahore division and segregated the deprivations at each rural and urban level. The rural areas of Lahore division is contributing more than that of urban areas towards MP. Among the three dimensions of MPI, the education dimension is found to contribute more in MP of Lahore division. Among eight indicators of MPI, the adult literacy indicator is found to contribute maximum in MP of Lahore division. After the education, the health dimension plays its role in creating MP and finally, the living standard is doing so. Furthermore, district Kasur has more multidimensional poverty than other districts of the Lahore division.

### 2. Recommendations

Based on the findings, this study recommends:

It is clear from the results that all four districts of the Lahore division have different standings of the poverty level, therefore the allocation of resources should be initiated accordingly, the bands of poverty of each district. For instance, Kasur district needs more concentration than that of Lahore, Nankana Sahib and Sheikhupura districts.

- Decomposition of results into three dimensions and eight indicators provides directions to the policymakers to tackle the different dimensions and indicators of poverty both at micro and macro levels. The absolute contribution of each indicator in overall poverty guides for policymakers to understand the contribution of each indicator and also would lead them to prioritize the areas to tackle multidimensional poverty. For instance, in all districts of Lahore division, the dimension of education and indicator, adult literacy must be improved to tackle poverty. This study recommends improvement in education through raising the adult literacy rate to tackle multidimensional poverty in all districts of Lahore division.
- Rural poverty is contributing more than urban poverty in the overall poverty level
  of Lahore division. Thus, policymakers should consider priorities more in rural
  areas with respect to facilities of health, education and living standards to eradicate poverty of Lahore division.

## 3. Future Avenues

Following are the future avenues:

- As the current study is specified to Lahore division only, including its four districts. The research can be extended to other division and districts of the Punjab Province and other provinces of Pakistan.
- The current study is considering eight variables to develop MPI. In future, the number of variables can be increased to broaden the scope and horizon of MPI.
- Scientific method (s) may be used to assign different weights to different indicators of PMI.

# **Bibliography**

Afzal, M., S. Rafique, and F. Hameed, 2014, Living standards deprivation in the Punjab using AF method (Periodical comparison approach), The Pakistan Development Review, 54(4):739-763.

Ali, S., and N. Ahmad, 2013, Human capital and poverty in Pakistan: Evidence from the Punjab Province, European Journal of Science and Public Policy, 11: 36-41.

Alkire, S., and J. Foster, 2007, Counting and multidimensional poverty measures, Oxford Poverty & Human Development Initiative, University of Oxford, Working Paper Series, 7.

Alkire, S., and M.E. Santos, 2010, Acute multidimensional poverty: A new index for developing countries, Oxford Poverty & Human Development Initiative, University of Oxford, Working Paper Series, 38.

Alkire, S., and J. Foster, 2011, Counting and multidimensional poverty measurement, Journal of Public Economics, 95(7): 476–487.

Alkire, S., and M. Sarwar, 2009, Multidimensional measures of poverty & wellbeing, Oxford Poverty & Human Development Initiative, University of Oxford, 6a.

Ataguba, J., W. Fonta, and E. H. Ichoku, 2011, The determinants of multidimensional poverty in Nsukka, Nigeria, Working Paper, 13, https://www.researchgate.net/publication/228155725.

Awan, M. S., and N. Iqbal, 2010, Determinants of urban poverty: The case of medium sized city in Pakistan, Working Paper, 60, Islamabad: Pakistan Institute of Development Economics.

Chaudhry, I. S., 2009, Poverty alleviation in Southern Punjab (Pakistan): An empirical evidence from the project area of Asian Development Bank, International Research Journal of Finance and Economics, 23: 23-32.

Ghalib, A. K., I. Malki, and K.S. Imai, 2015, Microfinance and household poverty reduction: Empirical evidence from rural Pakistan, Oxford Development Studies, 43(1): 84-104.

Human Development Report, 2013, The rise of the south: Human progress in a diverse World, Canada: United Nations Development Programme.

Human Development Report, 2016, Human development for everyone, Canada: United Nations Development Programme.

Hussain, Akmal, 2004, Pakistan national human development report - 2003: Poverty, growth and governance, Karachi: Oxford University Press.

Jali, H. M. R., and K. Ayub, 2015, Poverty alleviation in Pakistan: Evidence from project area of Asian Development Bank in Southern Punjab, Journal of Poverty, Investment and Development, 8: 166-171.

Khan, A. U., A. Saboor, I. Ali, W.S. Malik, and K. Mahmood, K., 2016, Urbanization of multidimensional poverty: Empirical evidences from Pakistan, Quality & Quantity: International Journal of Methodology, 50(1): 439-469.

Khan, A. U., A. Saboor, A. Hussain, S. Sadiq, and A.Q. Mohsin, 2014, Poverty assessment as a multidimensional socio-economic concept: The case of the Rawalpindi Division in Pakistan, Asia Pacific Journal of Social Work and Development, 24(4): 238-250.

Malik, Z. A., S. Kiran, and M. Alam, 2013, The role of Benazir income support program in poverty reduction: A case study of the selected villages in District Peshawar, City University Research Journal, 3(1): 35-45.

Naveed, A., and T. Islam, 2010, Estimating multidimensional poverty and identifying the poor in Pakistan: An alternative approach, RECOUP Working Paper Series, 28, University of Cambridge.

Niazi, M. I., and A. Khan, 2012, The impact of education on multidimensional poverty across the regions in Punjab, Journal of Elementary Education, 21(1): 77-89.

Salahuddin, T., and A. Zaman, 2012. Multidimensional poverty measurement in Pakistan: Time series trends and breakdown, The Pakistan Development Review, 493-504.

Sen, A. K., 1990, Development as capability expansion, Harvard University.

Sen, A. K., 1999, Multidimensional poverty: Conceptual and measurement issues, Oxford Studies Quarterly, 2(3): 1-12.

UNDP, 2013, Pakistan Annual Report, Retrieved January 4, 2017, from: http://www.pk.undp.org/content/pakistan/en/home/library/annual-reports/undp-pakistan-annual-report-2013.html.

UNDP, 2016, Pakistan Annual Report, Retrieved March 11, 2018, from: http://www.pk.undp.org/content/pakistan/en/home/library/annual-reports/undp-pakistan-annual-report-2016.html.

Wagle, U., 2005, Multidimensional poverty measurement with economic well being, capability, and social inclusion: A case from Kathmandu, Nepal, Journal of Human Development, 6(3): 301-328.

World Development Report, 1990: Poverty, New York: Oxford University Press, World Bank, https://openknowledge.worldbank.org/handle/10986/5973.

World Development Report, 2001: Attacking Poverty, New York: Oxford University Press, World Bank, https://openknowledge.worldbank.org/handle/10986/11856.

World Development Report, 2010: Year in Review, Annual Report, World Bank, https://openknowledge.worldbank.org/handle/10986/5906.

Yasmeen, G., R. Begum, and B.G. Mujtaba, 2011, Human development challenges and opportunities in Pakistan: Defying income inequality and poverty, Journal of Business Studies Quarterly, 2(3): 1-12.