

Estimation of Household-Based Multidimensional Poverty Index for Two Generations in Pakistan

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Abstract: Multidimensional Poverty Index (MPI) is a significant complement to income-based poverty measures. Using micro data from household surveys, MPI categorizes multiple deprivations in three dimensions including health, education and standard of living. For more than half century, social scientists have been widely discussing the concept of intergenerational mobility to discover the means for the transmission of socio-economic status across generations. These intergenerational transmissions have impacts on the level of human development and ultimately the level of poverty in the society. In the context of Pakistan, this is the first study to calculate the extent of multidimensional poverty across generations. The results confirm the common notion that the prevalence of poverty is diversified in different regions of Pakistan. The results also show that the rural multidimensional poverty indices are significantly high as compared to urban poverty indices in all regions of the country.

Keywords: Poverty, Multidimensional, Pakistan, Intergenerational Mobility, Human Capital, Education, Health

JEL Classification: I21, I24, I3, I31, I32, D63, P46

1. Introduction:

One of the main objectives of economics is to comprehend and to help alleviate poverty. There is a close and obvious relation between investments in human capital and the mitigation of poverty. In the new “endogenous growth” theories, productivity improvement is the result of progress in technology and human capital in the shape of education (Romer 1986). In the classical model, the concept of capital can be extended from physical capital to human capital in the shapes of education, health and experience (Lucas, 1988). A robust connection is witnessed between the household income and

their children's schooling and educational attainment. In the developing countries, parents with high earnings consider their children's education as a normal commodity and they enhance its demand as their incomes increase (Schultz 1993). Despite the fact that returns on investment in education are fairly good, poor parents are forced to under-invest on their children's education due to risk aversion or the credit constraint (Parish and Willis 1993).

Investment in human capital is very vital for economic development and poverty mitigation (Schultz 1999 & Sen 1999). A number of empirical researches have shown positive relationship between human capital and income. Human capital, in the form of good health and nutrition conditions and the improved education attainments, narrows the income divide and ultimately eliminates poverty (Eastwood & Lipton 1999 and Girma & Kedir 2005). Strong relations will prevail between economic growth and poverty alleviation if growth is directed through investment in education and health. Trickle-down effect will remove inequality. The lower inequality means higher intergenerational mobility. A number of quantitative studies establish significant role of the growth of human capital in economic growth in the Western world (Todaro 10th edition). Gundlach (1997), Abbas (2000), Khan (2005), Oluwatoyin (2011) and Qadri & Waheed.(2011) explore that strong relationship exists between human capital formation and poverty mitigation through development process.

The Poverty Reduction Strategy Paper (PRSP) and Millennium Development Goals (MDGs) believe human capital as a weapon to curb poverty (Mughal 2007). A negative relationship exists between education and poverty. Economic literature endorses the notion that education helps to reduce poverty in any economy by stimulating growth, empowering the people and enhancing private earnings. Human poverty is cut down through improved education of the people. Contrary to this, low level of education results in poverty of income (Awan et al., 2008). Human capital (education and health) is the productivity enhancing device for female labour force because health and education raise female earnings (Chaudhry et al. 2010). Investment in education for the development of human capital has resulted in the economic development of East Asian countries. (Awan et al. 2011). Estimation results of data from Sargodha city show that the poverty status of individuals is negatively linked with education and experience. These results are not gender biased (Awan et al. 2011). Education, along with other socio-economic determinants, plays vital role to mitigate poverty. Education increases earnings and resultantly alleviates poverty through labour market. Better educated individuals are more competent to earn more income because they have greater employment opportunities and economically more productive (Hati 2012). Ali & Ahmad (2013) recommend that the vicious circle of poverty can be broken if the poor segment of society is provided with improved education and health facilities. Using Johansen cointegration technique, Ud-Din et al. (2016) confirm the existence of strong link among education, health, economic growth and poverty reduction in the long-run. Sugiharti, & Primanthi (2017) conclude that education, along with, geographic characteristics, working conditions and status, household size and access to credit facilities and technology are important determinants of poverty in Indonesia. Urean et al. (2017) explore a direct link between education attainment and relative poverty rate.

Poverty, inequality and misallocation of skills are the results of persistence of socio-economic status across generations. The economic position of fathers generally determines the socioeconomic status of their kids. It is not easy to get rid of the inheritance burden. The fate of children of rich families is usually good enough to keep them rich when they grow up and similarly, the poor remain poor because they are born poor. The understandable reason is that the rich parents make sizable investments in education, nutrition and health of their children and send them to quality private sector educational

institutions, which develop them into good human capital. On the other hand, poor parents make low investments in education, nutrition and health of their children and send them to the public sector educational institutes, which fail to develop them into good human capital. Moreover, the rich parents are more influential to help their children to get good jobs, while the poor parents have little influence and usually their children succeed in getting low ranked jobs.

It is evident from the literature that the level of intergenerational mobility is low in Pakistan as compared to a number of developing countries. The rich and the poor don't have equal opportunities. The sons of poor fathers have limited chances to improve their socio-economic status and both generations usually keep experiencing poverty, inequality and backwardness. Corak (2012) study 22 countries and conclude that intergenerational economic mobility is highest in Denmark (0.15) and lowest in Peru (0.67). For Pakistan, he calculates intergenerational income mobility at 0.46, which means that if the difference between the incomes of a poor father and a rich father is 100 percent, this difference gets reduced to 46 percent between their next generations' incomes. But even with this level of intergenerational mobility, human capital (education and health) has improved across generations. Javed & Irfan (2014) use regression analysis and transition matrix to conclude that the educational, occupational and income status of the father frequently shape the socio-economic status of his son. The results of multinomial logit and transition matrices, on the basis of data set of Pakistan Social and Living Standards Measurements (2012-13), show a strong persistence in occupational status. In rural areas, persistence is strong in low status occupations and in urban areas; the persistence is strong in high status occupations. It is very difficult for the sons, whose fathers work in low status occupations, to move to high status occupations in comparison with those sons whose fathers already work in high status occupations (Muhammad & Jamil 2017).

The above discussion concludes that poverty decreases as the indicators of education and health improve. Intergenerational mobility affects human capital formation, which ultimately reduces poverty. The objective of this study is to calculate Multidimensional Poverty Index (MPI) for the two generations to investigate the incidence of multidimensional poverty through estimation of deprivation in three areas of education, health and housing facilities across generations in different regions of Pakistan. Section 2 deals with the concept, methodology and construction of MPI. In section 3, the results of MPI have been discussed in detail. The study has been concluded in section 4.

2. Multidimensional Poverty Index:

In 2010, UNDP released its annual HDR, in which a measure of poverty, Multidimensional Poverty Index was introduced. There has been a wide-spread criticism on traditional uni-dimensional approach, income-based poverty measures. More than just incomes, a number of determinants impact the lives of the poor people. The socio-economic status of an individual gets affected directly by a number of elements. So, the notion of poverty has gone beyond the monetary aspects. It is debated that a multidimensional approach is vital to evaluate household or individual wellbeing and to realize the complex phenomenon of poverty. Usually, income-based measures consider current income and ignore the role of wealth, debt, or access to credit. However, a household's conditions are not solely explained by current income (Mayer & Jencks, 1993). Therefore, there was a need for a new poverty measure. Keeping in view this need, HDR (2010) introduced new measure for poverty. Amartya Sen's capability theory is the main source of the multidimensional approach to measure poverty. The MPI identifies the number of people who are facing deprivations and multidimensional poverty at the household level across the same three dimensions as the Human Development Index. The MPI indicates the average number of poor persons and deprivations with which poor families cope. The MPI is constructed on

the basis of micro data, collected through household surveys. The MPI categorizes deprivations in three dimensions including health, education and living standards. Ten component indicators, (d), are used for these three dimensions; two each for health and education and six for living standards. The component indicators are shown in the table given below.

Table: 1.

| Dimension | Indicators |
|------------------|--|
| Health | <ul style="list-style-type: none"> ● Child Mortality ● Malnutrition |
| Education | <ul style="list-style-type: none"> ● Years of School ● School Attendance |
| Living Standards | <ul style="list-style-type: none"> ● Cooking Fuel ● Sanitation ● Drinking Water ● Electricity ● Floor ● Assets |

2.1. Construction of MPI:

The MPI for two generations is constructed on the basis of micro data, which is collected through a field survey of 2000 households, 1000 each from two generations from eight districts/cities of Pakistan. The methodology for the construction is the same as is used by UNDP 2010 HDR. Every individual in a given household is categorized as multidimensionally poor or non-poor subject to the number of deprivations his/her household faces. According to the methodology of MPI, the maximum score of three dimensions of MPI is 10. The dimensions of health, education and living standards are given equal weights; with each dimension is having $3\frac{1}{3}$ score. As health and education dimensions have two components each, so each component indicator of these dimensions has the worth of $5/3=1.67$ while each indicator in the standard of living dimension has the worth of $5/9=0.56$. In each of the 10 indicators, every individual is given a score as per his/her household's deprivations.

The thresholds for health include having had one or more children die and having at least one malnourished household member. The thresholds for education relate to having at least one school-age child not attending school and having no household member completed five years of schooling. The threshold for standard of living are having no access to adequate sanitation, no access to clean drinking water, no electricity, use of dirty cooking fuel (dirty fuel include dung, wood or charcoal), having a

house with a dirt floor and owning no car, truck or similar motorized vehicle, and owning maximum one of these assets including radio, bike, motorbike, television, telephone or refrigerator.

The deprivation scores for each household are added to obtain the household deprivation, *c*, for the identification of multidimensionally poor. To differentiate poor from non-poor, a cut-off of 3 is used. 3 is the equivalent of one third of the indicators. A household with its all members are declared multidimensionally poor, if 'c' is 3 or greater. However, households are considered at risk of or vulnerable to fall in the domain of multidimensionally poverty, if the deprivation scores are between 2 and 3.

MPI shows the share of the population that is multidimensionally poor, adjusted by the intensity of the deprivations suffered. It is obtained by multiplying the multidimensional headcount ratio, *H*, with the intensity of poverty, *A*. 'H' shows the proportion of multidimensionally poor population and it is calculated through this formula.

$$H = \frac{q}{n}$$

In this equation, 'q' is the number of people who are multidimensionally poor and 'n' is the total population. 'A' indicates the proportion of the weighted component indicators, *d*, in which, on average, poor people are deprived. For the calculation of 'A', the deprivation scores of only poor households are added and divided by the product of total number of indicators and total number of poor persons. The following formula is used for calculation of 'A'

$$A = \frac{\sum_1^q c}{qd}$$

In this equation, 'c' is the total number of weighted deprivations of the poor people and 'd' is the total number of component indicators, 10.

2.2. Limitations of MPI:

Due to data constraints, MPI has some shortcomings. These limitations are listed below.

- The indicators of MPI are both inputs (such as cooking fuel) and outputs (such as years of schooling). As flow data are not available for all dimensions, stock indicator (child mortality) is also included for measurement of multiple deprivations. Child mortality could reflect a death that was recent or long ago.
- The health and nutrition data are relatively weak.
- Intra-household inequalities are not reflected in MPI. MPI does not measure inequality among the poor. These inequalities may be severe.

3. Empirical Findings:

In this section we discuss our results. MPI scores for two generations have been calculated separately. 1st generation terminology stands for fathers/mothers and the 2nd generation stands for sons/daughters. The results are presented and compared in the following tables.

Table: 2.

| MPI | | | |
|---------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.342 | 0.210 | 38.6 |

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| | | | |
|-----------|-------|-------|-------|
| Islamabad | 0.149 | 0.047 | 68.5 |
| Lahore | 0.277 | 0.074 | 73.3 |
| Vehari | 0.387 | 0.261 | 32.6 |
| Rajapur | 0.576 | 0.387 | 32.8 |
| Karachi | 0.206 | 0.07 | 66.02 |
| Sukhar | 0.469 | 0.307 | 34.54 |
| Peshawar | 0.359 | 0.207 | 42.34 |
| Quetta | 0.382 | 0.227 | 40.58 |

Source: Author's own calculation using MS Excel

Table 2 presents the estimates of multidimensional poverty index for 1000 households each from 1st and 2nd generation across eight different cities/districts of Pakistan. Overall MPI score is 0.342 for 1st generation and 0.210 for 2nd generation, which shows 38.6 percent improvement. The best MPI score for 1st generation is estimated for Islamabad, 0.149 and the worst MPI score for 1st generation is for Rajapur, 0.576. The best MPI score for 2nd generation is estimated for Islamabad, 0.047 and the worst MPI score for 2nd generation is for Rajapur, 0.307. Highest improvement in MPI score is for Lahore i.e. 73.3 percent and lowest improvement in MPI score is for Vehari i.e. 32.6 percent.

Table: 3.

| MPI (Rural Areas) | | | |
|-------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.52 | 0.317 | 39.04 |
| Islamabad | 0.204 | 0.078 | 61.76 |
| Lahore | 0.418 | 0.174 | 58.37 |
| Vehari | 0.583 | 0.370 | 36.54 |
| Rajapur | 0.661 | 0.467 | 29.35 |
| Karachi | 0.446 | 0.202 | 54.71 |
| Sukhar | 0.591 | 0.418 | 29.27 |
| Peshawar | 0.502 | 0.306 | 39.04 |
| Quetta | 0.522 | 0.332 | 36.4 |

Source: Author's own calculation using MS Excel

Table 3 presents the overall estimates of multidimensional poverty index for rural areas. Overall MPI score is 0.52 for 1st generation and 0.317 for 2nd generation, which shows 39 percent improvement. The results show that MPI score of rural areas is significantly high. 0.204 is the best MPI score for 1st generation, which is calculated for Islamabad, and 0.661 is the worst MPI score for 1st generation, which has been calculated for Rajapur. 0.078 is the best MPI score for 2nd generation, which has been calculated for Islamabad, 0.047 and 0.467 is the worst MPI score for 2nd generation, which is calculated for Rajapur. The rural areas of Islamabad have shown the highest level of improvement in MPI score, i.e. 61.76 percent and the rural areas of Sukhar have shown the lowest improvement in MPI score, i.e. 29.27 percent.

Table: 4.

| MPI (Urban Areas) | | | |
|-------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |

| | | | |
|-----------|-------|-------|-------|
| Overall | 0.176 | 0.117 | 33.52 |
| Islamabad | 0.093 | 0.039 | 58.06 |
| Lahore | 0.152 | 0.05 | 67.11 |
| Vehari | 0.241 | 0.139 | 42.32 |
| Rajanpur | 0.522 | 0.292 | 44.06 |
| Karachi | 0.146 | 0.045 | 69.18 |
| Sukhar | 0.360 | 0.181 | 49.72 |
| Peshawar | 0.166 | 0.115 | 30.72 |
| Quetta | 0.188 | 0.121 | 35.64 |

Source: Author's own calculation using MS Excel

The results of MPI estimation for urban areas have been provided in table 4. The results show that urban areas' MPI level is significantly better in comparison with the rural areas. 33.52 percent improvement has occurred in MPI scores overall, from 0.176 for the first generation to 0.117 for the second generation. Karachi witnesses highest level of improvement (69.18 percent) in MPI urban areas' score, while lowest level of improvement (30.72 percent) is observed for Peshawar. Islamabad has the best MPI urban areas' scores for both 1st and 2nd generation, i.e. 0.093 and 0.039 respectively, while Rajanpur has the worst MPI urban areas' scores for the both generations, i.e. 0.522 and 0.292 respectively.

Table: 5.

| HCR/Incidence of Poverty | | | |
|--------------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.594 | 0.481 | 23.5 |
| Islamabad | 0.295 | 0.124 | 137.9 |
| Lahore | 0.498 | 0.19 | 162.1 |
| Vehari | 0.636 | 0.513 | 23.98 |
| Rajanpur | 0.881 | 0.658 | 33.89 |
| Karachi | 0.358 | 0.175 | 104.57 |
| Sukhar | 0.758 | 0.576 | 31.6 |
| Peshawar | 0.618 | 0.469 | 31.8 |
| Quetta | 0.633 | 0.495 | 27.9 |

Source: Author's own calculation using MS Excel.

Table 5 presents the overall estimates of multidimensional deprivations, Head-Count Ratio (HCR) for 1000 households each from the two generations across eight different cities/districts of Pakistan. About 59 percent people of 1st generation are estimated in the state of multiple deprivations. About 48 percent people of 2nd generation, estimated to be multidimensionally poor. Overall, 23.5 percent improvement has been observed across generations. For the first generation, the lowest HCR, 29.5 percent and the highest HCR, 88 percent, have been observed for Islamabad and Rajanpur respectively. The same trend exists for the two cities for the second generation also, as 12.4 percent population is multidimensionally poor in Islamabad and 65.8 percent in Rajanpur.

Table: 6.

| HCR (Rural Areas) | | | |
|-------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.787 | 0.579 | 26.4 |
| Islamabad | 0.377 | 0.189 | 49.9 |
| Lahore | 0.658 | 0.342 | 48.02 |
| Vehari | 0.818 | 0.615 | 24.8 |
| Rajanpur | 0.897 | 0.738 | 17.7 |
| Karachi | 0.684 | 0.395 | 42.3 |
| Sukhar | 0.824 | 0.692 | 16.01 |
| Peshawar | 0.774 | 0.576 | 25.6 |
| Quetta | 0.802 | 0.618 | 22.9 |

Source: Author's own calculation using MS Excel

In table 6, incidence of multidimensional poverty data are given for rural areas. From the first generation, overall 78.7 percent people are facing the incidence of multidimensional poverty, which have decreased to around 58 percent for the second generation, showing 26.4 percent improvement. Rajanpur faces the highest level of incidence of poverty for both generations as around 90 percent rural population is multidimensionally poor for the 1st generation and 73.8 percent for the 2nd generation. Islamabad has shown the highest level of improvement as incidence of poverty has decreased by around 50 percent. The city has the lowest scores for both generations as 37.7 percent and 18.9 percent people for the first and the second generation respectively.

Table: 7.

| HCR (Urban Areas) | | | |
|-------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.339 | 0.291 | 14.16 |
| Islamabad | 0.203 | 0.118 | 41.87 |
| Lahore | 0.308 | 0.139 | 54.87 |
| Vehari | 0.439 | 0.328 | 25.29 |
| Rajanpur | 0.844 | 0.564 | 33.18 |
| Karachi | 0.298 | 0.123 | 58.73 |
| Sukhar | 0.585 | 0.358 | 38.80 |
| Peshawar | 0.329 | 0.282 | 14.29 |
| Quetta | 0.351 | 0.295 | 15.95 |

Source: Author's own calculation using MS Excel

Head-Count Ratio results for urban areas are given in table 7. HCR for urban areas is significantly low as compared to rural areas. Overall, around 34 percent people from the first generation and about 29 percent from the second generation are in the state of multidimensional deprivation. Incidence of poverty has improved by 14.16 percent overall while Karachi has shown around 59 percent improvement across generations. Islamabad has the lowest incidence of poverty for the both generations i.e. 20.3 percent and 11.8 percent respectively while Rajanpur has the highest incidence of poverty, 84.4 percent and 56.4 percent for 1st and 2nd generation respectively.

Table: 8.

| Intensity/Average/Breadth of Poverty | | | |
|--------------------------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.575 | 0.437 | 31.58 |
| Islamabad | 0.506 | 0.381 | 32.81 |
| Lahore | 0.557 | 0.392 | 42.09 |
| Vehari | 0.609 | 0.508 | 19.88 |
| Rajanpur | 0.654 | 0.588 | 11.22 |
| Karachi | 0.576 | 0.398 | 44.72 |
| Sukhar | 0.619 | 0.533 | 16.14 |
| Peshawar | 0.581 | 0.442 | 31.45 |
| Quetta | 0.604 | 0.459 | 31.59 |

Source: Author's own calculation using MS Excel

Table 8 shows the results of intensity of poverty, which is average/breadth of poverty. On the whole, the average poor person from the first generation is deprived in 57.5 percent of the weighted indicators, which has decreased to 43.7 percent, showing 31.58 percent improvement across generations. The highest intensity of poverty is witnessed in Rajanpur. It is 65.4 percent for 1st generation and around 59 percent for 2nd generation. The lowest intensity of poverty i.e. 50.6 percent for the 1st generation and around 38 percent for the 2nd generation is calculated for Islamabad. The estimates show that highest improvement in the intensity of poverty has occurred in Karachi i.e. 44.72 percent.

Table: 9.

| Intensity of Poverty (Rural Areas) | | | |
|------------------------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.659 | 0.548 | 16.84 |
| Islamabad | 0.542 | 0.413 | 23.8 |
| Lahore | 0.635 | 0.509 | 19.84 |
| Vehari | 0.713 | 0.602 | 15.57 |
| Rajanpur | 0.737 | 0.634 | 13.98 |
| Karachi | 0.652 | 0.511 | 21.63 |
| Sukhar | 0.717 | 0.604 | 15.76 |
| Peshawar | 0.649 | 0.532 | 18.03 |
| Quetta | 0.651 | 0.538 | 17.36 |

Source: Author's own calculation using MS Excel

In table 9, intensity of poverty data are given for rural areas. The overall results show that for the 1st generation, intensity of poverty is around 66 percent, which have decreased to around 55 percent for the second generation, showing around 17 percent improvement. 23.8 percent improvement has been estimated for Islamabad, which has the lowest level of poverty intensity for both generations. The intensity of poverty is 54.2 percent for the first generation and 41.3 percent for the second generation. Rajanpur faces the highest level of intensity e of poverty for both generations as the 1st generation's average poor person is deprived in about 74 percent of the weighted indicators, which has decreased to 63.4 percent for the second generation.

Table: 10.

| Intensity of Poverty (Urban Areas) | | | |
|------------------------------------|----------------------------|----------------------------|----------|
| | 1 st Generation | 2 nd Generation | % Change |
| Overall | 0.52 | 0.401 | 22.89 |
| Islamabad | 0.459 | 0.334 | 27.23 |
| Lahore | 0.493 | 0.358 | 27.38 |
| Vehari | 0.548 | 0.425 | 22.45 |
| Rajanpur | 0.619 | 0.517 | 16.48 |
| Karachi | 0.489 | 0.365 | 25.36 |
| Sukhar | 0.616 | 0.506 | 17.86 |
| Peshawar | 0.506 | 0.407 | 19.57 |
| Quetta | 0.535 | 0.41 | 23.36 |

Source: Author's own calculation using MS Excel

Intensity of poverty estimates for urban areas are presented in Table 10. Intensity of poverty is comparatively low in urban areas. On the whole, intensity of poverty is 52 percent for first generation, which has decreased to around 40 percent, showing about 23 percent improvement across generations. The intensity of poverty is the lowest in Islamabad and it is calculated about 46 percent for the 1st generation and 33.4 percent for the 2nd generation, showing 27.23 percent improvement. However, intensity of poverty has decreased by 23.38 percent in Lahore. The highest intensity of poverty is estimated to be in Rajanpur. It is around 62 percent for the first generation and around 52 percent for the second generation.

4. Conclusion and Policy Recommendations:

The estimated results given in the tables above validate the fact that the multidimensionally deprivation level has decreased across two generations in selected cities/districts from all four provinces of Pakistan. Head-count ratios and values of Multidimensional Poverty Indices show considerable improvement. Intensity of poverty percentages also show better scenario. Improvements in MPI are due to better incomes, better education, improved health status and better living standards of people due to improved housing indicators. The role of human capital (education and health) is well established in the poverty alleviation and the literatures, both empirical and theoretical, prove this viewpoint. Ali & Ahmad (2013) also confirmed that better education and health facilities enhance productivity and earnings of the workers, which increase their income levels and help to mitigate poverty.

Though, intergenerational mobility is a bit low because Pakistani society is rigid in nature. However, improved education and health have caused human capital formation, which has ultimately resulted in decreasing multidimensional deprivations from society. A number of factors have contributed to the enhancement of education level. Not only families have become more conscious about education of their children, the governments have also improved the educational facilities and infrastructure. Similarly, health status has also the improvement in health status has also played positive role in enhancing the income levels across generations. Enhanced income levels have improved the living standard of the second generation. Living standards of people have also been upgraded across generations due to increased electricity and gas connections and better sanitation and drinking water facilities. Upgraded living standards have also contributed in alleviating multidimensional deprivations. Therefore, scores of MPI and its dimension indices, i.e. 'H' and 'A' have also improved significantly across generations. Human capital formation leads to reduction of poverty levels. As human

development and human capital formation has occurred across generations, poverty level has also decreased from the 1st generation to the 2nd generation. The scores of Multidimensional Poverty Index have declined significantly across generations.

The degrees of deprivation of socio-economic attributes have been different in different regions of the country; therefore, there is variation in the level of multidimensional poverty across the regions. MPI and its dimensions' scores of Rajanpur and Vehari districts from Southern Punjab, Sukhar from rural Sindh, Peshawar from KPK and Quetta from Baluchistan province are worse in comparison with Islamabad, Lahore and Karachi. Moreover, MPI scores are low in urban areas as compared to rural areas, while incidence and intensity of poverty are high in urban areas in comparison with rural areas. Khan et al. (2014) also explore that the extent of multidimensional poverty is lower in urban areas than the rural areas in all regions.

On the basis of the above mentioned conclusions, economic policymakers from Pakistan need to focus on human capital development. Human capital development takes 10 to 15 years (Lindsay 1971). Enhanced human capital results in reduction of multidimensional poverty. The provision of basic education and health services is the constitutional right of every born soul. The government should significantly increase expenditures for provision of improved education and health services. Proper and fruitful campaign should be launched to boost enrollment and check the drop outs in educational institutions. The focus should be on producing technical hands, rather traditional degree holders.

As the region is vital determinant of the income levels of people, the government needs to focus the rural areas for human capital formation. Education and health services should be improved in rural areas. Productive and mechanised agriculture sector is imperative to alleviate poverty.

The government may focus on the uplift of backward areas. On the pattern of National Finance Commission Award (NFC Award), Provincial Finance Commission Awards (PFC Award) may be announced to bring backward districts at par with the developed districts.

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