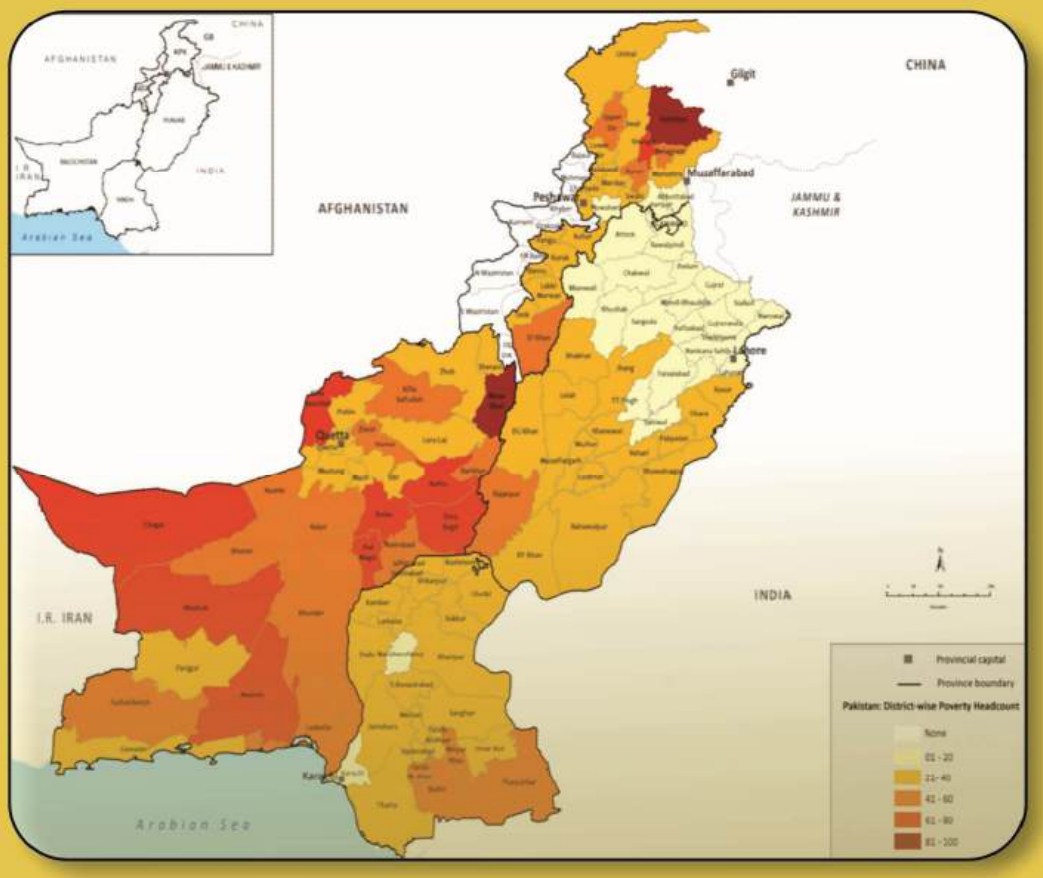
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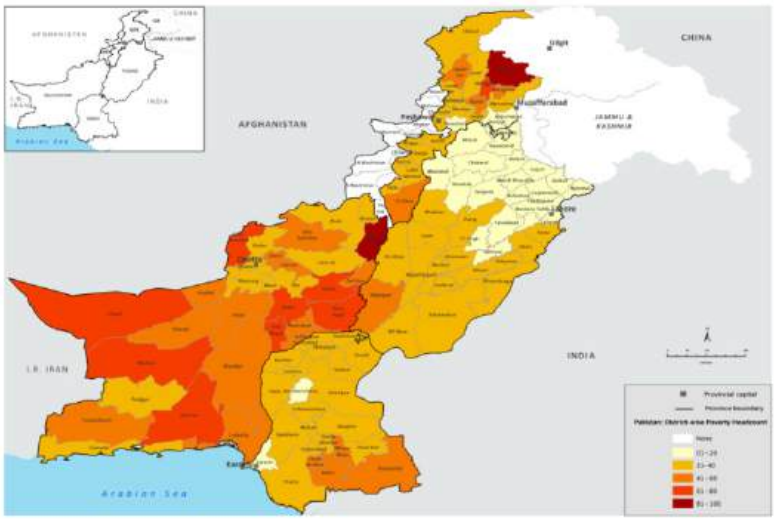
Clustered Deprivation:
District Profile of Poverty in Pakistan

Arif Naveed
Nazim Ali



Clustered Deprivation:

District Profile of Poverty in Pakistan



Author:

Arif Naveed and Nazim Ali

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Foreword

Pakistan is passing through difficult times. Both the people as well as the government of Pakistan are facing the brunt of cumulative effect of “fuel, fiscal, food, functional democracy, frontiers, and fragility of climate” (I term them 6F) crises. I have been advocating for last many years that one would have to tackle all these crises simultaneously as leaving out any single one would adversely affect any success in tackling the rest of the five. This approach reflects the multidimensionality of crisis facing contemporary Pakistan. The natural inference that one may draw is that the effects of these multidimensional issues would also be multidimensional in nature.

This is where I am convinced that question of poverty can neither be understood, nor be answered using a mono-focal approach. I am glad to note that Arif Naveed and Nazim Ali have taken a lead not only in explaining the multidimensionality of poverty in Pakistan but also in preparing district level f multidimensional poverty ranking.

The contested notion of poverty, lack of appropriate methodological tools, and the absence of disaggregated data have historically constrained the analysis of poverty to a reductionist version of monetary based measures with estimates not available beyond the provincial levels. This book is a departure from traditional approaches to understand the phenomenon of poverty. By building upon the literature on human development and capability approach, the authors suggest that poverty in Pakistan needs to be seen as a state of multiple deprivations, of fundamental human capabilities, that poor often face simultaneously. Income or consumption being merely one of these deprivations does not sufficiently reflect the level of poverty experienced by the poor. The authors thus make a strong case for adopting a new methodological approach to measure poverty in Pakistan that appropriately takes the incidence of multiple deprivations into account. This proposal provides a solution to the current controversy surrounding the official estimation of poverty in Pakistan for the last several years.

The book provides the estimates of multidimensional poverty over four dimensions; education, health, living conditions and asset ownership. The estimates suggest that as much as one-third of the households in Pakistan fall below the multidimensional poverty line and 21 per cent are severely poor. This implies that almost 58.7 million Pakistanis are deprived of prerequisites fundamental to human welfare. Given this high incidence of multidimensional poverty, the country needs to dedicate a significant amount of its resources towards social sector development particularly for improving education, health

and living conditions. Without building the appropriate levels of human capital Pakistan cannot expect to achieve and sustain high economic growth.

Perhaps the most important contribution of this book is the uncovering of inequalities in the incidence of poverty. While the inter-provincial disparities in the incidence of poverty are well known as the official estimates of poverty are available at the provincial level, there is dearth of evidence on intra-provincial disparities within each province. Provinces are very large administrative units and the 18th Constitutional Amendment leaves the public resources at the disposal of provincial governments. At this critical conjuncture, when Planning and Development Departments in the four provinces are undertaking their new roles, it is important that they are cognizant of the already accumulated regional inequalities. By providing the most disaggregated district level estimates of poverty, this book greatly informs the provincial policy makers about the stark inequalities existing within each province. This book also uncovers the phenomenon of 'clustering' of poverty within each province; districts with very high incidence of poverty are clustered together. By highlighting several factors possibly responsible for the clustering of poverty, the book sets the agenda of future research. It also provides a timely warning on the consequences of 'ethnic/linguistic' face of this geographic clustering of poverty within each province. The book thus makes the case for further decentralization of resources from provinces to the districts to ensure social justice within each province.

Given the strength of methodological approach adopted in this book, the authors provide concrete recommendations to address the mounting challenge of multidimensional poverty and inequality in Pakistan. The solution is simple and straightforward – massive investment in health and education of the citizens, the provision of water and sanitation facilities and the creation of employment opportunities, for all, and across all regions within each province. The ranking of districts on various measures of poverty provides a clear guideline to the provincial authorities to prioritize the poorest districts while allocating development spending to reduce the regional inequalities.

Sustainable Development Policy Institute would definitely like to conduct further research on this issue as part of its broader agenda to sensitize our decision makers that individual security is as important as national, regional, and global securities.

Dr. Abid Qaiyum Suleri

Executive Director SDPI

Introduction

There has been a recent increase in the methodological and empirical literature on measurement of multidimensional poverty. The philosophical work by Amartya Sen has long established that poverty is a state of deprivation of several capabilities that the poor face simultaneously. Taking multiple deprivations into account through appropriate methodology nonetheless remains a serious challenge. The seminal work by Sabina Alkire and James Foster at the Oxford Poverty and Human Development Initiative (OPHI) succeeded in extending the traditional measures of uni-dimensional poverty to take into account the multiple deprivations faced by the poor. The Alkire and Foster measure (2007) was largely adopted by researchers across the world because of its technical robustness and usefulness for policy.. Mexico adopted this approach for official estimation of poverty in 2009.The Human Development Report (HDR) 2010 adopted a version of Alkire and Foster measure in the form of Multidimensional Poverty Index (MPI) developed by Alkire and Santos. The MPI provided estimates of multidimensional poverty for 104 countries including Pakistan over indicators pertaining to three dimensions, i.e., education, health and living conditions.. The subsequent HDR 2011 also provided the ranking of countries on MPI over the same dimensions.

In the MPI for HDR, the decisions on the selection of dimensions, indicators, selection of weights, cut-off points and poverty line were made from the perspective of global comparison and availability of comparable data for all the countries. Adopting this methodology at the national level requires revision of these decisions keeping in view the local context and the availability of the updated data. The current study adopts the Multidimensional Poverty Index approach and provides estimates of poverty in Pakistan using PSLM 2008-09 data over four key dimensions, i.e., education, health, living conditions and asset ownership. This report makes five important contributions to the literature.

1. It provides a methodological framework for estimating multidimensional poverty in Pakistan as an alternative to the traditional income/consumption based poverty measures to take into account the multifaceted deprivations faced by the poor.

2. It extends the analysis of poverty from national and provincial levels to the district level, hence broadens the information base for designing poverty reduction strategies in the context of post 18th Amendment scenario.

3. It adds to the empirical literature on multidimensional poverty by employing MPI at the disaggregated district level data. So far, MPI approach has been employed for cross-country analysis.

4. It identifies the poorest and the least poor districts within each province of Pakistan. All districts are ranked on the key measures of multidimensional poverty.

5. Lastly, the report identifies the geographic clustering of poverty in Pakistan. Within each province, districts with extreme poverty are concentrated in certain geographic regions and those with very low poverty in the others.

This book is structured into eight sections. The first section elaborates the methodology and discusses data used. The subsequent sections present results. The second section provides the distribution of *headcount ratio* or the incidence of poverty. The third section presents the results on the extent of deprivations or *intensity of poverty* faced by the poor. The fourth section provides the cumulative measure of the incidence and intensity of poverty in the form of *Multidimensional Poverty Index*. The fourth section presents the estimates of *severe poverty*. The fifth section presents the estimates of *vulnerability.* The sixth section briefly explains the geography of poverty. The seventh section provides the decomposition of MPI by indicators to identify the major drivers of poverty. The eighth section summarizes the key findings and presents the policy recommendations.

Methodology to Measure Multidimensional Poverty

It is generally agreed upon by the economists and poverty theorists that poverty is a multidimensional phenomenon; those falling below the poverty line experience multiple deprivations. Poor households are often uneducated, have poor health outcomes, experience inferior living conditions, and lack productive economic assets. Despite this general agreement on multidimensionality of poverty, its measurement has largely remained a serious challenge. The units and scales of measurement vary across dimensions making it difficult to construct a single index of multiple deprivations. This shortcoming has inevitably provided support for the continued reliance upon the income or consumption based monetary approach to measure poverty. The reliance on income or consumption for measuring poverty has also been strengthened by the assumption that those deprived in income or consumption would necessarily be deprived of all other important dimensions. However, several studies have challenged the conventional belief that the relationship between multiple deprivations is linear (see Naveed and Islam 2009, 2012, for example). Those deprived of income are not necessarily deprived of other dimensions. Similarly, those having income above the threshold level might be lacking minimum levels of education, health and living standards. It is this non-linearity of the relationship between various deprivations that makes the case for extending the measurement of poverty from merely consumption or income based to the one which simultaneously captures the multiple deprivations faced by those who live under the conditions of poverty.

Secondly, as the literature on Sen's capability approach shows, income (or consumption for that matter) is a resource, which merely means to achieve the valuable ends of human welfare. In his seminal work under the title, *"Inequality of What?",* Sen argues that human well-being should not be assessed in terms of resources; it should rather be evaluated in the space of capabilities since individuals vary in their abilities to convert resources into valuable capabilities. The 'capabilities' in Sen's context are individuals' abilities to achieve the state of *beings* or *doings* which individuals have reason to value, such as the ability to acquire good education, be well-nourished and maintain good health, enjoy better living standards, participate in social, economic and political spheres of life and so on. The understanding that human well-being can be judged only by assessing individuals' capabilities essentially makes the case that poverty is a state of deprivation of several valuable capabilities. Such a broad conceptualization of poverty cannot be captured through the income or consumption based uni-dimensional measures alone. A meaningful analysis of

poverty thus necessitates looking for a measurement that can take the multidimensionality of poverty into account.

In the given context, the advent of Alkire & Foster measurement of multidimensional poverty (2007) has been a great milestone. By emphasizing upon the deprivations faced by poor instead of their achievements, this measurement has made it possible to construct a single index of multiple deprivations. As an extension of the standard measurement of poverty, the Foster-Greer-Thorbecke (FGT) measure, Alkire & Foster measure fulfills all the basic axioms of poverty measurement. It is not only intuitively appealing but also technically robust, suitable for continuous, ordinal and categorical data.

Our study is based upon the Multidimensional Poverty Index (MPI) approach developed by Alkire and Santos (2010). The MPI is methodologically based upon Alkire & Foster measure (2007). Building upon Sen's classical work on poverty measurement (1976), this approach is based upon the major steps;

1) Identification: identifying the poor among the total population

2) Aggregation: constructing a numerical measure of poverty giving ratio of poor in the population

In the following section, we elaborate these two steps of identification and aggregation.

Consider n = number of persons in a population with d dimensions of well-being such that;

$$d \geq 2$$

Now $y = [y_{ij}]$ is an $n \times d$ matrix of achievements in which the achievement of individuals, $i = 1, 2, 3, 4, \ldots n$, is shown over the well-being dimensions j = 1, 2, 3, ….d.

A row vector y_i has all achievements of individual i. A column vector $y_j$is a vector of distribution of dimensions j across all individuals. All individuals have different levels of achievement over a dimension ranging from minimum value to the maximum. We need to define a cut-off point to declare a person deprived ofa particular dimension. When an individual's achievement is below this cut of point, that individual is declared 'deprived' on that dimension.

Let $z$be a row vector of dimension specific cut-off points below which a person is considered deprived in the dimension j.

Identification function;

$\rho(y_i z) = 1$, if the person is deprived, and $\rho(y_i z) = 0$, if the person is not deprived on that dimension.

A matrix of deprivation *g*is constructed using this identification function:

$g^0 = [g_{ij}^0]$.

$g_{ij}^0 = 0$, if $y_{ij} > z$ and $g_{ij}^0 = 1$, if $y_{ij} \leq z$. $g^0$is an $n \times d$ matrix

Out of g^0, an *n* dimensional column vector C is constructed such that the n^{th} element of this vector, $c_n = |g^0|$ represents the number of deprivations faced by n^{th} individual. The MPI approach is flexible in assigning different weights to different dimensions. Let W*i*be the vector of weights for the dimensions. The vector C is then simply multiplied with vector of weights associated to each dimension such that;

$C_i = W_1 I_1 + W_2 I_2 + W_3 I_3 \ldots\ldots$

Whereas, $I_j = 1$, if a person is deprived in dimension j and $I_j = 0$ if the person is not deprived on dimension j. It is important to note that $\sum_{i=1}^{d} = 1$

Identification: Who is poor?

A critically important step in the estimation of poverty is to identify who is poor. Most of the measurements of multidimensional approach adopt either union approach or intersection approach. The union approach would declare any household deprived even on one dimension as poor. On the other hand, intersection approach would declare a household poor if it is deprived of all dimensions. None of the two approaches serve our purpose. Alkire and Foster (2007) instead proposed a cut-off point (*k*), a level of aggregate deprivation and individuals having more deprivation than this cut-off point are considered multidimensional poor. An identification function ρ_k is applied such that $\rho_k (y_i z) = 0$ if $c_i < k$ and $\rho_k(y_i z) = 1$ if $c_i \geq k$; where c_i is the aggregate deprivation faced by i^{th} individual. Thus out of g^0 matrix, a censored matrix $g^0(k)$ consisting of zeros (non poor individuals) and ones (poor individuals) is constructed. This methodology to identify the poor is thus based upon *dual cut-off* points since it uses both; a) dimension specific cut-off pointsz_j to identify who is deprived of each of the selected dimensions, and b) across the dimension cut-off point *k* that determines who is to be considered as multidimensional poor. Given that this method counts the number of dimension to decide who is poor, it is thus known as *counting approach*.

Aggregation

Once we have identified poor, the next step is the aggregation. The first measure of MPI approach is the *headcount ratio* which is the proportion of population that falls below the multidimensional poverty line. *H = H (y, z)* such that H = q/n, where q (*y, z*) is the number of all poor individuals in the population or set z_k. This *headcount ratio* is similar to the headcount ratio in the traditional poverty measures. However, this measure is criticized for its insensitivity towards the depth of poverty experienced by the poor. It is thus considered to violate the *monotonicity* and the *transfer* axiom. It violates the *monotonicity* axiom of the multidimensional poverty; if a poor individual gets deprived of one more dimension, *headcount ratio* will not change.

In order to tackle this problem, the MPI approach supplement the *headcount ratio* with a separate measure called *adjusted* headcount or *intensity of poverty,* which takes into account the extent of deprivation faced by the poor. *Adjusted headcount* or *intensity of poverty* is measured as the average weighted deprivations faced by those who fall below the poverty line.

$A = |c(k)|/qd$

In other words, *A* is the fraction of possible dimensions *d* in which multidimensional poor individual is deprived of.

While the *intensity of poverty* provides the extent of deprivations faced by those below the poverty line, as an aggregate measure of poverty, it does not provide information about the number of poor. Two countries can have same ratio of *intensity of poverty* while having different *headcount ratios.* In order to construct a single measure of the ratio of those falling below the poverty line and the extent of deprivations faced by those below the poverty line, the MPI approach provides a third measure the *Multidimensional Poverty Index.* The *Multidimensional Poverty Index* as the product of *headcount ratioH* and the *intensity of povertyA* provides the *incidence* of poverty as well as *extent* of poverty*;*

$MPI = H \times A$

The flexibility to adjust the poverty line, *k*,provides two additional measures; a) *severity of poverty*; and b) *vulnerability*. An aggregate cut-off point higher than the poverty line *k* provides the headcount ratio of those who face *severe* poverty. Similarly, an aggregate cut-off point, slightly lower than the poverty line *k,* provides the headcount ratio of those who are *vulnerable* to poverty. *Vulnerable* are thosewho are non-poor but their deprivation level is close to the poverty line and a small increase in their deprivation can push them below the poverty line.

All aggregate measures can be decomposed by population subgroups. Given two distributions *x* and *y*, corresponding to two population subgroups of size *n*(*x*) and *n*(*y*) correspondingly, the weighted sum of the subgroups poverty levels (weights being the population shares) equals the overall poverty level obtained when the two subgroups are merged:

$$\mathbf{MPI}\ (x,y,z) = \frac{n(x)}{n(x,y)}\ MPI(x,z) + \frac{n(y)}{n(x,y)} MPI(y;z)$$

Highly important from the policy perspective, the contribution of each indicator to the *MPI* can also be estimated. A *censored headcount ratio* (*CH*) in each indicator is constructed. This *CH* is the sum of *poor* people also deprived of that particular indicator, divided by the total population. In the second step, MPI is broken down into the weighted sum of all the censored headcount ratios; CH. The weights are the ones assigned to each indicator in the earlier step.

$MPI = w_1CH_1 + w_2CH_2 + \ldots\ldots\ldots + w_nCH_n$

Where, n = is the number of indicators

The weights w_i are the same as assigned to each of the dimensions/indicators. The percentage contribution of each indicator to the overall MPI is as follows;

Percentage contribution of i^{th} *indicator*= $(w_iCH_i/MPI)\times 100$

Data source

The study uses Pakistan Social and Living Standards Measurement Survey (PSLM) 2008-09 that is specifically designed for the analysis of poverty. The survey covers all four provinces and Islamabad taking the rural and urban domains into account. With a sample size of 76,520 households from 110 districts (with every major city treated as one district) in the four provinces and Islamabad, the survey claims to be reliable at the district level. It collects data on indicators pertaining to following five dimensions; 1) education, 2) health, 3) water supply & sanitation, 4) household assets/amenities, and 5) satisfaction to service delivery.

During poverty estimation of multidimensional poverty, some cases were found with missing values. Thesecases values were dropped to avoid errors in estimation. The real sample size for this study became 75,205 households from 110 districts. It is important to highlight here that this study does not take into account the geographical restructuring of districts (including the creation of new

ones) after the PSLM Survey 2008-09. Further information about the survey design, sampling framework and methodology is provided in the appendices 1[1].

Selection of dimensions, indicators and cut-off points

Perhaps the most critical step in employing multidimensional approach to measure poverty is the selection of dimensions and respective indicators. The Human Development Report 2010 of UNDP had first time introduced the MPI and reported the estimates for 104 countries. For the MPI 2010, the selection of dimensions was based on the following criteria; 1) literature from participatory studies about value judgment on important capabilities that affect individual well-being; 2) global consensus on certain capabilities as reflected in the discourse on human rights and the Millennium Development Goals (MDGs); 3) theory based, as evident from the theories on basic needs, universal values, human rights, and so on, and 4) availability of data. For Pakistan, the MPI was estimated using the data of Pakistan Demographic and Health Survey (2006-07) which had better indicators particularly for health than our data. Our choice of dimensions and indicators is constrained by a relatively limited survey, Pakistan Social and Living Standards Measurement Survey (PSLM), 2008-09. The proposed list of indicators in our study is neither exhaustive nor sufficient and there is great need for public debate on value judgments required for the selection of dimensions and respective indicators, cut-off points and weights for each dimension. Data collection efforts, particularly the nation-wide representative surveys, also need to be based upon such deliberations so that the multidimensional poverty measurement may be reflective of broadly agreed upon value judgments.

Our estimates of poverty are based on four dimensions.

1) Education
2) Health
3) Living standards
4) Wealth

The justification of inclusion of these dimensions, respective indicators for each of the selected indicators as well as the cut-off points for each indicator are presented below.

[1]Detailed information given in the appendix 1 is directly adopted from PSLM 2008-09 report published by the Bureau of Statistics, Government of Pakistan

1. Education

Education is central to human well-being due to its intrinsic as well as instrumental role in enabling individuals to participate in social, economic and political spheres of their lives. It is, therefore, included in our analysis of multidimensional poverty. The two indicators selected under this dimension are described below;

Household members' attainment of primary education

Access to universal primary education is Goal 2 of the MDGs. While years of schooling do not necessarily reflect the quality of education and the skills acquired, it can still be used as proxy of the valuable *functionings* which education is to provide such as literacy, numeracy and understanding information (Alkire and Santos 2010). As household is the unit of analysis in our study, educational attainment of household members is selected that there are positive intra-household externalities of the educated household members (Basu and Foster 1998). A household is declared deprived if no member of the household has attained primary or further education. On the other hand, a household with even a single member with five or more years of schooling is not considered deprived on this indicator.

Child enrolment status

The well-being level of a household is reflected in its ability to provide schooling to its children. Out of school children are likely to be engaged in the child labor that compromises their long-term prospects for better quality of life. Pakistan has very high incidence of child labor coupled with low school enrolments and high drop-out rates. Therefore, we consider it important to take into account whether households have any child not enrolled in the school. This indicator indirectly captures households' possible lack of resources (in terms of finances and availability of schools) to provide education to their children. This indicator also corresponds to the MDG's Goal 2 on achieving universal primary education.

A household is considered deprived if at least one child aging between 6-14[2] not enrolled in the school currently. Households where children in this age group are currently attending school or where there is no child in this age group are considered not deprived on this indicator.

2. Health

The crucial importance of health as an integral constituent of human well-being is clearly reflected from the fact that three out ofeight MDGs pertain to various aspects of health (Goal 4, 5 and 6). Malnutrition, which is also related to health, is yet another part of the MDGs (Goal 1). As argued by Ariana and Naveed (2009), achievement of several

valuable capabilities critically depends upon the health status of individuals. Ideally, we would have selected health indicators that effectively capture the health status of households effectively (as in Naveed and Islam (2009, and 2012). However, PSLM survey does not contain any information on malnutrition or child mortality. Our choice of indicators is thus restricted to access to healthcare with following two indicators;

a. Access to healthcare facility

Access to health services is central in improving the health status of individuals. Most of the standard health related indicators are closely linked to the healthcare services that individuals have an easy access to. We have tried to capture household access to health services through average time to reach a hospital or clinic using transportation means available to them. This proxy indicator of household health status is only related to the curative aspect of health without any information about preventive health services provided through arrangements other than hospital/clinic. Moreover, this indicator does not provide any information about the health outcomes (health or nutritional status of household). Given that much of the healthcare in Pakistan is provided through private sector, we have not distinguished between public or private health facilities.

Given the transportation means available to it, a household is declared deprived if it takes more than 30 minutes to reach the nearest hospital/clinic.

b. Access to post-natal healthcare

The second indicator also pertains to access to healthcare; however, it is specifically related to the maternal health. Given the high ratio of maternal mortality in Pakistan, this indicator provides information whether mothers in the household have access to reproductive healthcare, particularly the post-natal healthcare.

A household is declared deprived on this indicator if a mother in the household was not medically examined during six weeks of childbirth. Households having no mothers are declared non-deprived on this indicator.

3. Living conditions

The conditions under which people spend their lives reflect the levels of well-being they enjoy. Existing data shows that 48 per cent of the urban population in Pakistan resides in settlements similar to slums, with poor living conditions (UN HABITAT 2009). With three indicators (access to safe drinking water, sanitation and quality of cooking fuel) related to MDGs, a total of five indicators are selected under this dimension.

a. Access to safe drinking water

This indicator is critical to human health and hence potable water is an important constituent of well-being. Several infectious diseases are caused by unsafe drinking water. Evidences suggest that diarrhea, usually caused due to unsafe drinking water, is amongst the leading causes of child mortality in Pakistan (Neilson, *et al.* 2001). This indicator is also directly related to Goal 7 of MDGs.

A household is declared deprived on this indicator if it has no access to covered sources of water for drinking purpose.

b. Sanitation

Closely related to environment and several aspects of public health, access to improved sanitation is an important aspect of living conditions. It is also related to the Goal 7 of MDGs. Access to improved sanitation facilities (flush toilet facilities) to the households is, therefore, important for the analysis of its well-being and hence included in our list of indicators.

A household is deprived on this indicator if it is not using flush toilet facility.

c. Fuel used for cooking

The type of fuel used for cooking could be consequential for the health of a household. If solid fuel such as cow dung, wood or coal is used for cooking, the health of household members who breathe in such an environment for long can be adversely affected (Dufflo, *et al*. cited in Alkire and Seth 2008). Choice of cooking fuels also has bearings for the environment. This indicator indirectly corresponds to MDG's Goal 7. Hence it is also included in the analysis.

Households using solid fuel for cooking are considered deprived on this indicator.

d. Quality of housing

The quality of housing,which is considered as the fourth indicator of living conditions, is assessed through the type of walls of a building which could be either made of mud or of bricks/concrete blocks. A wall made up of bricks/blocks indicates better quality of housing.

Households havinghouses with mud walls are considered.

e. Electrification

Electrification is taken as one of the important indicators of living conditions (Alkire and Seth 2008) as it allows access to several amenities.

Households having no access to electricity are considered deprived on this indicator.

4.Wealth: asset ownership and landholding

Unlike the MPI construction for the HDRs 2010 and 2011, we consider asset ownership a dimension different from living conditions. As a proxy of the long term accumulation of material wealth, asset ownership is also related to the Goal 1 of MDGs, which is related to material deprivation of poverty. We have included following two indicators under this dimension.

a. Household assets

As assets owned by a household reflect the stock of household wealth, they provide valuable information about its material well-being. Following nine assets are included in our list, i.e.,VCR/VCD/VCP, refrigerator, air-conditioner, air-cooler, computer, motorcycle, car/truck, tractor and livestock. This list also includes those assets which are pertinent to both rural and urban households.

Households owning none of these assets are considered deprived on this indicator. A household owning one or more of these assets is not considered deprived on asset ownership.

b. Landholding

Ownership of land is an important and productive asset since urban land carries commercial value and agricultural land adds to household income. Landholding is thus included as one of the important indicator of asset ownership.

A household that owns none of agricultural, residential or commercial land, regardless of the size, is considered deprived on this indicator.

Determining weights

As we discussed earlier, it is feasible to assign different weights to various dimensions and indicators depending upon their relative importance. However, assigning weights involves value judgment on behalf of the society and the proponents of underlying capability approach recommend wider public participation in making such decisions. We, therefore, recommend that assigning weights for further prudent analysis should be representative of the choices made by the poor and based upon participatory methods. For the purpose of this research, we follow the MPI 2010 approach that uses nested weights and assigns equal weights to all the selected dimensions. These dimension-wise equal weights are then further distributed equally among various indicators within each dimension. As the number of indicators is different for different dimensions, all indicators are not necessarily given the same weight unless they relate to the same dimension. The table below presents the weights assigned to each dimension and respective indicators.

Table 2.1: Dimensions, indicators, weights and cut-off points

Dimension	Weight	Indicators	Cut-off point
Education (0.25)	0.125	Household primary educational attainment	None of the household members have 5 or more years of schooling
	0.125	Child enrolment	At least one child in age 6-14 out of school
Health (0.25)	0.125	Post-natal care	A mother in the household was not medically examined in 6 weeks of child birth
	0.125	Average time to reach a health facility	More than 30 minutes to reach the nearest hospital/clinic
Living Conditions (0.25)	0.05	Housing quality – walls	Walls of the building not made by bricks or blocks – house is not *pakka*
	0.05	Safe drinking water	No access to covered sources of water
	0.05	Toilet facility	No access to improved toilet facility
	0.05	Cooking fuel	Using solid fuel for cooking
	0.05	Electricity	Not electrified
Assets and landholding (0.25)	0.125	Ownership of assets	Don't own any of the following assets: VCR/VCD/VCP, Refrigerator, Air-conditioner, Air-cooler, Computer, Motorcycle, Car/truck, Tractor, Livestock (cow/buffalo)
	0.125	Landholding	No urban or rural landholding of any size

Poverty line

The MPI 2010 and 2011 have adopted a poverty line of one-third of the weighted sum of deprivations. This implies that households facing deprivation of 33 per cent of weighted sum of dimensions are consideredthe poor. We have adopted a

conservative poverty line of 40 per cent of deprivations for this study. This implies that households facing deprivations of 40 per cent or more of weighted sum of dimensions are considered poor.

We use separate lines for *severe poverty* and *vulnerability*. Households deprived in 50 per cent or more of the weighted sums of dimensions are considered *severely poor*. On the other hand, households facing deprivation in the weighted sum of dimensions ranging from 30-39 per cent are considered *vulnerable*.

Clarification of some misconceptions about the methodology

The MPI approach has also attracted a lot of criticism particularly from the proponents of traditional approach. Alkire and Foster (2011) have categorized this criticism into a) misunderstandings about the methodology; and b) limitations of the approach. They have provided a detailed response to this criticism in their recent paper which covers the following five aspects.

a. The approach is criticized for aggregating various dimensions with different units of measurement into single index. The strength of this approach is that it takes into account the joint distribution of the deprivations which can be decomposed for the groups of population as well as for the dimensions. Taking deprivations instead of achievements resolves the issue of the unit of measurement.

b. The second criticism has been on the dependence of this methodology on single data source for all indicators. As the approach focuses on joint distribution, this demands for improved single source of data rather than combining various data sources on various dimensions.

c. What is generally misperceived about the methodology is that the choices of dimensions, indicators, cut-off points, weights are considered part of the methodology. These choices are made by individual researchers and methodology serves as a broad framework only.

d. The methodology is seen as detached from the conceptual framework. This methodology is not only in line with the axiomatic poverty literature but also based upon the recent developments in the literature on well-being such as Sen's capability approach.

e. Lastly, the decisions over the selection of dimensions, indicators, weights, cut-off points are often criticized of the arbitrariness. These are in fact the strengths of this methodology since this provides a great room for participatory and deliberation processes.

Moreover, Ravallion (2010, 2011) has objected the construction of a single index and argued for creating a dashboard of multiple measures – separate deprivation measure for separate dimension/indicator. Alkire *et al.* (2011) have responded that MPI provides the dashboard consisting of multiple deprivations. However, such a dashboard in itself doesnot guide about the joint distribution of deprivations. Hence it doesnot inform about the individuals/households facing multiple deprivations simultaneously, which is necessary to fully capture the concept of poverty.. This approachresolves this problem and proposes a range of measures that give detailed information about the depth of poverty, average deprivations faced by the poor and the contribution of each indicator in the overall poverty. Secondly, Ravallion (2010, 2011) has advocated that aggregation should be on achievements rather than on deprivations and market prices should be used as weights to different indicators. Alkire *et al.* (2011) respond that aggregation across achievements is often very problematic; the years of schooling, for example, cannot be aggregated with the indicators of income. Alkire *et al.* do not reject the market prices as weights rather they suggest that the alternative weights are used in the absence of availability of reliable price data for each indicator.

1- Incidence of Poverty: Headcount Ratio

The *headcount ratio (H)*is the first aggregate measure using multidimensional poverty approach. It is the proportion of population (households in our case) falling below the poverty line; *H = H (y, z)* such that H = q/n, where q (*y, z*) is the number of all poor individuals in the population set z_k. The terms '*headcount ratio'* and *'incidence of poverty'* are used interchangeably in this study.

Results

The subsequent sections present the estimates of *headcount ratio* at the national, provincial and district levels.

Headcount estimate at the national level

The Table 3.1 shows that as many as one-third of the households in Pakistan live below the poverty line. Based upon the current population estimates, we can infer that 58.7 million people are multidimensional poor.

Table 3.1: Headcount ratio at the national level

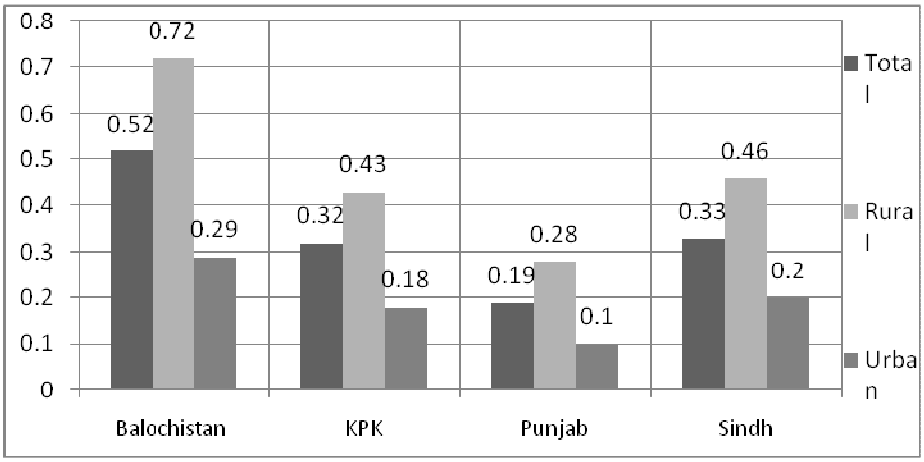
Population Group	Headcount ratio H (per cent)
Total	33
Urban	18
Rural	46

A huge rural-urban disparity is observed in the incidence of poverty. As much as 46 per cent rural households fall below the poverty line compared to only 18 per cent urban households. The rural-urban disparity of multidimensional poverty is far higher than generally reflected in the traditional estimates of poverty. Traditional measure thus provides conservative estimates of poverty; it also tends to obscure the differences in the incidence of poverty.

Headcount estimates at the provincial level

Alongside the rural-urban disparity at the national level, poverty is unequally distributed across the four provinces and across rural-urban population within each province. These intra-provincial and rural-urban disparities within each province are evident from the figure 3.1.

Figure3.1: Province wise incidence of poverty



The highest incidence of poverty prevails in Balochistan where more than half (52 per cent) of the households are living under the conditions of poverty. Poverty in both KPK and Sindh, being 32 and 33 per cent respectively, is equal to the national average of 33 per cent. Punjab, however, appears to be the least poor province with only 19 per cent households falling below the poverty line.

Given the overall higher incidence of poverty among rural population as reflected in the national estimates, the four provinces also show very high rural-urban divide. Rural Balochistan has the highest incidence of poverty where three-quarters of the total households (74 per cent) live below the poverty line. Urban poverty in Balochistan, despite being as high as 29 per cent, is significantly lower than the rural poverty in the province. The second highest rural-urban disparity is found to be in Sindh where 46 per cent rural households are poor compared to only 20 per cent urban households. KPK also exhibits a similar rural-urban gap; 43 per cent rural households are poor compared to 18 per cent of urban households. Although significant in magnitude, the rural-urban divide in Punjab is the lowest amongst all the provinces as 28 per cent rural households are poor in contrast to only 10 per cent urban households.

These statistics show the overall high incidence of poverty in Pakistanis differently distributed across provinces and rural/urban regions. The

magnitude of the rural-urban differences in the incidence of poverty varies across provinces. It is thus imperative to extend the analysis beyond provincial level to provide a meaningful analysis of the regional differences in the incidence of poverty. The subsequent sections, therefore, present sub-provincial level analysis of the incidence of poverty.

District level analysis of the incidence of poverty

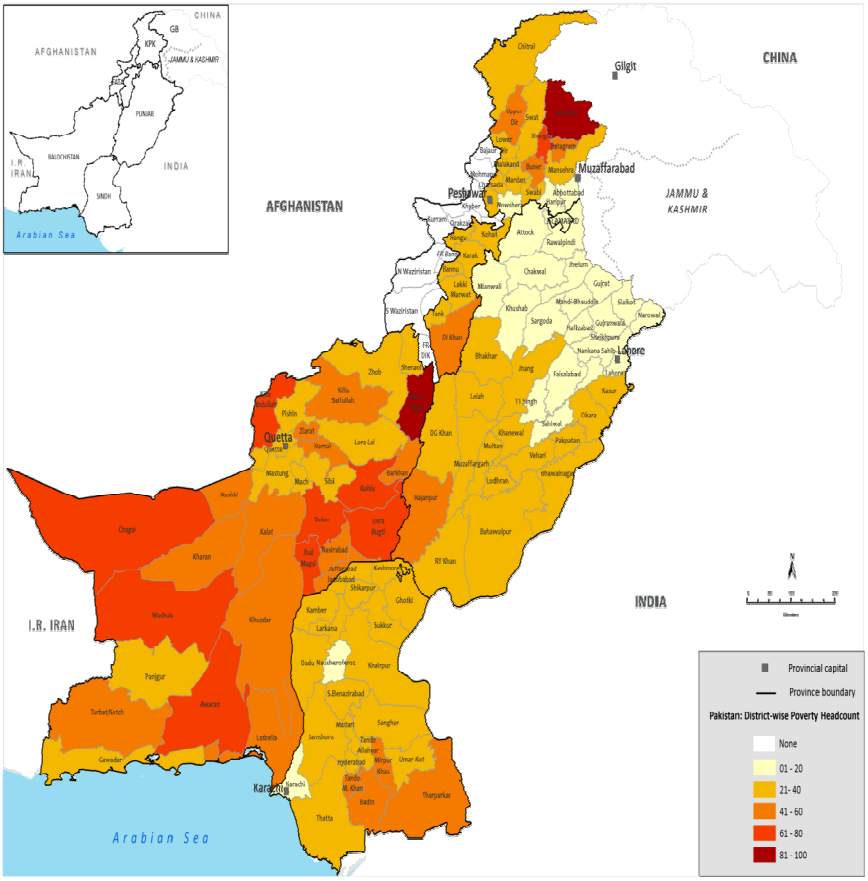
Given data limitations, the existing literature on poverty estimation fails to provide an assessment of the poverty and inequality existing within each province of Pakistan (Cheema *et al.* 2008 is an exception)[3]. As provinces are very large administrative units, the real challenge of poverty reduction perhaps lies at the sub-provincial, district level. This necessitatespoverty analysis to be extended to the district level to identify the regions of extreme poverty within each province. The importance of district level analysis of poverty has been increased many-folds in the post 18th Constitutional Amendment scenario, under which, provinces are responsible for the equitable distribution of resources among various regions and districts within their boundaries. The concerns for equity and outcomes of the programs aimed at redistribution are greatly dependent upon the availability of the most disaggregated level (district level or even below) estimates of poverty. This section, therefore, provides the analysis of poverty at the district level, highlighting differences within each province through poverty map, simultaneously uncovering inequalities within each province.

As the map 3.1 shows, extremely high incidence of poverty is found in several districts of Balochistan and some of the northern districts in KPK. District Kohistan in KPK and Musakhel in Balochistan are the two poorest districts of Pakistan. Majority of the districts in Balochistan have more than 60 per cent households below poverty line. Districts adjacent to Kohistan in KPK also show very high incidence of poverty. Similarly, southern regions of both KPK and Punjab and southeast Sindh also have high incidence of poverty.

The map also shows that certain regions have very low incidence of poverty. Northern Punjab appears to be the least poor region where several districts have very low incidence of poverty. KPK districts adjacent to Islamabad also reflect very low incidence of poverty. Similarly, few districts in Sindh also show low levels of poverty.

[3]This study is however confined to the districts of Punjab only

Map3.1[4]: District wise incidence of poverty (headcount ratio)



The map of headcount ratio shows the level of inequality over the incidence of poverty in Pakistan. Overall, the largest number of the extreme poor districtsis in Balochistan and that of least poor districts in Punjab. The map also shows that poverty is unevenly distributed within provinces. The ranking of all districts over the incidence of poverty is provided in the appendix 2. The subsequent section discusses the intra-

[4]Please interpret these maps carefully as the poverty data is based on the districts classification at the time of PSLM Survey 2008-09. Any new districts appearing in this map are given approximate values (color) to avoid missing values on the map. Moreover, the survey did not provide data on district Umar Kot and for the maps only (not the tables), it is assigned approximate value (average of its neighboring districts). The actual list of districts, that we have estimated poverty for, is provided in the appendices.

provincial distribution of poverty headcount ratio to provide details of the regional inequalities within each province.

a. Balochistan

Balochistan faces the highest incidence of poverty as compared to other provinces. There is also an apparent geographic concentration of poverty in certain regions that are poorer than the others. With an exception of Musakhel, majority of the districts in the north have relatively low incidence of poverty. Poverty seems highly concentrated in the central and southwest part of the province with the exception of Panjgur and Gwadar districts. Moreover, districts at the borders have higher incidence of poverty.

As the table 3.2 shows, the highest incidence of poverty is seen in Musakheldistrict. With 88 per cent households falling below the poverty line, Musakhel is also the second poorest district of Pakistan. Three subsequent poorest districts like Washuk, Awaran, and Dera Bugti have almost three quarters of the households living under the conditions of poverty. It is important to note that the poorest districts of Balochistan are also the poorest districts of Pakistan. The inequality of poverty is evident from the difference in the headcount ratios of the poorest and the least poor districts.

Table 3.2: Incidence of poverty amongst the districts in Balochistan

The extreme poor districts			The least poor districts		
Rank	**Districts**	**Headcount Ratio**	**Rank**	**Districts**	**Headcount Ratio**
1.	Musakhel	88	1	Panjgur	31
2.	Washuk	78	2	Quetta	34
3.	Awaran	75	3	Gwadar	38
4.	Dera Bugti	72	4	Loralai	38
5.	Chaghi	69	5	Zhob	39
6.	Qillah Abdullah	66	6	Sibbi	39
7.	Jhal Magsi	65	7	Mastung	40
8.	Kohlu	64	8	Pashin	40
9.	Bolan/Kachi	63	9	Ziarat	43
10.	Nasirabad	54	10	Khuzdar	43

The right columns of the Table 3.2 list the 10 least poor districts of Balochistan. Panjgur district, with 31 per cent households below the poverty line, has the lowest incidence of poverty in the province. With the exception of Gwadar and Khuzdar, remaining least poor districts of Balochistan make up the northeast region of the province.

There is a huge difference in headcount ratio of various districts. The poorest Musakhel district has almost three times higher headcount ratio than the least poor Panjgurdistrict. As the map 3.1 shows, the intra-provincial disparity in the incidence of poverty is evident from the concentration of poverty in the southern and central region.

b. Khyber Pakhtunkhwa (KPK)

Disparities in the incidence of poverty are also visible across various regions and districts in KPK. As the map 3.1 shows, the incidence of poverty is extremely high in the northern mountainous region of the province. It is also very high in the southern region. The headcount ratio is around the provincial average in the large central part of the province. Districts adjacent to Islamabad, on the other hand, show low levels of poverty.

Kohistan is the poorest district of Pakistan and the province. An overwhelmingly large proportion of households, 89 per cent,lives under the conditions of poverty. Percentage of poor households in Kohistan is 26 points higher than that in the second poorest district of KPK, Shangla, where 63 per cent households are poor. The neighboring districts Upper Dir, Batagram and Bonair are the subsequent ones in the list of the poorest districts in KPK with more than half of the households being poor. Map 3.1 shows the concentration of extreme poverty in the mountainous region in the north. Alongside, the southern district DI Khan also records high incidence of poverty with 41 per cent households falling below the poverty line.

Table 2.3: Incidence of poverty amongst the districts in KPK

Rank	Extreme poor districts		Rank	Least poor districts	
	Districts	Headcount Ratio		Districts	Headcount Ratio
1.	Kohistan	89	1	Haripur	11
2.	Shangla	63	2	Abbottaba d	18

3.	Upper Dir	55	3	Nowshera	18
4.	Batagram	50	4	Chitral	22
5.	Bonair	50	5	Swabi	22
6.	D.I. Khan	41	6	Peshawar	24
7.	Swat	39	7	Charsada	24
8.	Tank	36	8	Bannu	25
9.	Malakand	35	9	Kohat	26
10	Lower Dir	33	10	Mansehra	26

On the other hand, Haripur district is the least poor district of the province with only 11 per cent households falling below the poverty line. Haripur is followed by the adjacent districts Abbottabad and Nowshera where 18 per cent households live below the poverty line. All the three districts of Hazara Division (Haripur, Abbottabad and Mansehra) are amongst the least poor districts in KPK. Several districts in the central KPK such as Swabi, Peshawar and Charsadda are amongst the least poor districts of the province. Importantly, despite being adjacent to the poorest northern region of KPK, district Chitral is amongst the least poor districts in the province with only 22 per cent households falling below the poverty line.

The stark intra-provincial disparity in the incidence of poverty is visible from the difference in the incidence of poverty between the poorest and the least poor districts, and between the districts within each of the two categories. Poverty in the province has a geographic outlook. As the map 3.1 shows, higher incidence of poverty is concentrated in the northern mountainous and the southern region. The north-east region and the central KPK are have relatively lower incidence of poverty.

c. Punjab

With only 19 per cent households below the poverty line, Punjab is the least poor province of the country. Despite being significant in the magnitude, the rural-urban disparity in the incidence of poverty is also lower in Punjab in comparison with other provinces. Nonetheless, the map 3.1 shows strong intra-provincial differences in the incidence of poverty. More than half of the province in south faces high incidence of poverty. On the other hand, very low incidence of poverty is observed in the northern districts of the province.

As the table 3.4 shows, with 44 per cent households falling below the poverty line, Rajanpur experiences far higher incidence of poverty than the provincial average. Likewise, the neighboring Muzaffargarh district has 40 per cent households living under the conditions of poverty. The adjacent D.G. Khan district has almost two times higher incidence of poverty than the average poverty in Punjab.

Table 3.3: Incidence of poverty amongst the Punjab districts

Rank	Extreme poor districts		Rank	Least poor districts	
	Districts	Headcount Ratio		Districts	Headcount Ratio
1.	Rajanpur	44	1	Jhelum	3
2.	Muzaffargarh	40	2	Gujrat	4
3.	D.G. Khan	36	3	Chakwal	5
4.	Bahawalpur	33	4	Mandi Bahuddin	6
5.	Layyah	31	5	Gujranwala	7
6.	Lodhran	31	6	Sialkot	7
7.	Pakpattan	29	7	Rawalpindi	8
8.	Multan	28	8	Faisalabad	9
9.	Khanewal	28	9	T.T. Singh	10
10.	Bhakkar	28	10	Attock	11

Contrary to the cluster of districts with high incidence of poverty in south, lower incidence of poverty is concentrated in the districts in northern Punjab. All the least poor districts of Punjab,which are also the least poor districts of Pakistan, are in northern Punjab. Jhelum has only three per cent households living under the conditions of poverty. Jhelum is not exception as the neighboring districts Gujrat, Chakwal, Mandi Bahauddin and Gujranwala also have extremely low levels of poverty (four, five, six and seven per cent, respectively).

High difference between headcount ratio of the poorest and the least poor districts reflects the magnitude of regional disparities in the incidence of poverty in Punjab. Regional differences are the most clearly visible in Punjab in terms of north and south divide as compared to other provinces.

d. Sindh

The map 3.1 also reflects the differences in the incidence of poverty in Sindh. The southeast part of Sindh is the poorest region in the province. On the other hand, central Sindh is relatively less poor, whereas southwest of the province appears to be the least poor region.

District Tharparker has the highest incidence of poverty in Sindh with 47 per cent households falling below the poverty line. Mirpur Khas is the second poorest district with 44 per cent poor households. Like in other provinces, high incidence of poverty is concentrated in the districts adjacent to Tharparker and Mirpur Khas, such as Badin, Tando M Khan and Thatta. All these districts have more than 40 per cent of households falling below the poverty line.

Table 3.5: Incidence of poverty amongst the districts in Sindh

Extreme poor districts			Least poor districts		
Rank	Districts	HCR	Rank	Districts	HCR
1.	Tharparkar	47	1	Karachi	20
2.	Mirpur Khas	44	2	Noshero Feroz	20
3.	Badin	42	3	Hyderabad	25
4.	Tando M khan	41	4	Sukkur	25
5.	Thatta	40	5	Khairpur	27
6.	Nawabshah[5]	39	6	Shikarpur	28
7.	Jamshoro	39	7	Sanghar	28
8.	Larkana	38	8	Dadu	29
9.	Shahdadkot	38	9	Matiari	29
10	Jacobabad	36	10	Tando Allah Yar	32

Districts of Karachi[6]and Noshero Feroz, appear to be the least poor districts of the province with only 20 per cent households

[5]New name for Nawabshah is Benazirabad

falling below the poverty line. Similarly, Hyderabad and Sukkur are the next least poor districts in the province with 25 per cent of their households falling below the poverty line. Most of the 10 least poor districts are located in central region of the province.

The disparity between the poorest and the least poor districts in the province reflects that poverty in the province is unevenly distributed across the districts. Moreover, the clustering of poverty shows the regional nature of inequality in the incidence of poverty in Sindh.

Summary

This section elaborates the incidence of poverty in Pakistan that shows one-third of the households are poor. It also shows that poverty is unequally distributed between provinces and rural and urban population. With more than half of the population below the poverty line, Balochistan is the poorest province of Pakistan. On the other hand, Punjab, with 19 per cent households below the poverty line, is the least poor province of Pakistan. The incidence of poverty in KPK and Sindh is almost equal to the national average. The rural-urban divide is extremely high at the national and provincial levels.

The district level analysis of the headcount ratio has uncovered the strong regional disparities in the incidence of poverty within each province. The most striking feature of the intra-provincial distribution of poverty is the clustering of poverty in certain geographic regions within each province. The northern region of Balochistan is less poor than the southern region. Extreme poverty in KPK is largely concentrated in the northern mountainous region. The central part of KPK experiences average poverty and districts adjacent to Islamabad have very low levels of poverty. The regional clustering of poverty is most clearly visible in Punjab where entire southern half of the province experiences very high levels of poverty and the northern half is the least poor. Similarly poverty in Sindh is concentrated in southeast region, whereas southwest region has lower incidence of poverty. Thus, stark regional inequalities over the incidence of poverty are found within each province.

[6]PSLM treats all the districts of Karachi (and all other big cities) as single districts.

2- Intensity of poverty

In the previous section, we have discussed the incidence of poverty at the national, provincial and district levels. While the headcount ratio gives the number of poor out of respective population, it does not provide any information about the extent of deprivation faced by them. It does not inform how far below the poverty line are those who are poor. Nonetheless, information about the extent of deprivation is critically important from the policy perspective. At the given poverty line, if those falling below the poverty line are on average deprived in 41 per cent of dimensions (just below our poverty line), they face lesser poverty than the similar number of poor deprived of 60 per cent of the weighted dimensions. Those facing more deprivations, despite being equal in number, need more resources for poverty reduction than those who face lesser deprivation. A meaningful analysis of poverty, therefore, needs to take into account the extent of deprivation faced by those falling below the poverty line.

'Intensity of poverty' or 'average poverty' is thus the average of the weighted sum of dimensions in which multidimensional poor households are deprived. As discussed in the methodology section, it is calculated through the formula;

Average poverty $A = |c(k)|/qd$

Where, A is the fraction of possible dimensions *d* in which multidimensional poor households are deprived.

Results

In the following sections, the results are presented that show the intensity of poverty faced by the poor households at the national, provincial and district levels.

Intensity of poverty at the national level

The table below presents the intensity of poverty at the national level. Poor households are on average deprived in 52 per cent of the weighted dimensions.

Table 4.4: The intensity of deprivations faced by the poor

	Intensity
Total	0.52
Urban	0.50
Rural	0.54

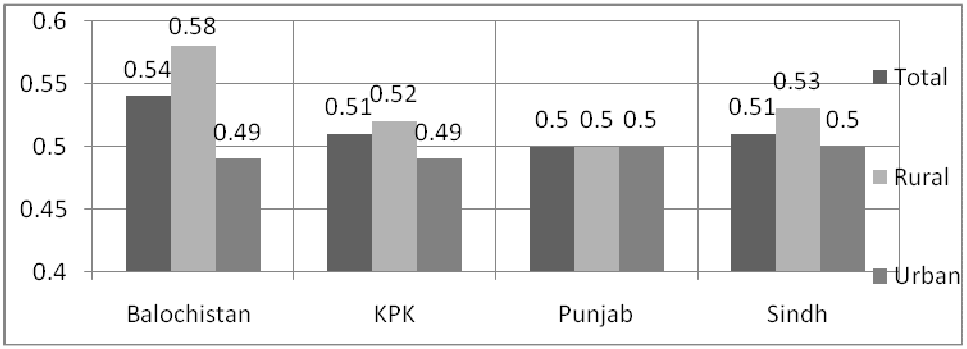
The extent of deprivation is higher among rural poor households than the urban ones. The rural poor, on average, experience deprivation of 54 per cent of weighted dimensions. On the other hand, urban poor face deprivation of 50 per cent of weighted dimensions. This implies that relatively more resources would be required for rural than urban population to eliminate the equal levels of poverty.

Inter-provincial disparities in the extent of poverty

Like the headcount ratio, the extent of deprivation also varies across provinces. The figure 4.1 shows the intensity of poverty amongst the four provinces highlighting rural-urban disparities within each province.

The intensity of poverty is highest in Balochistan. Poor households in Balochistan, on average, experience deprivation in 54 per cent of the weighted dimensions. KPK and Sindh have relatively lower levels of deprivation as poor in both provinces, on average, experience deprivation in 51 per cent of the weighted dimensions. On the other hand, Punjab has the lowest intensity of poverty as poor households are deprived in 50 per cent of the weighted dimensions.

Figure 4.1: Intensity of poverty at the provincial level



With the exception of Punjab, there are significant rural-urban disparities in the intensity of poverty. Rural poor in Balochistan, on average, experience nine per cent more deprivation of weighted dimensions than the urban poor. Similarly, rural poor in KPK and Sindh face four per cent higher deprivation of weighted dimensions than urban poor. Only Punjab records rural-urban equality in the extent of deprivations faced by poor households. High intensity of poverty in rural Balochistan suggests that larger amount of resources are required to bring poor out of poverty in rural Balochistan than to bring similar number of poor out of poverty elsewhere in the country. The poverty reduction strategies thus need to

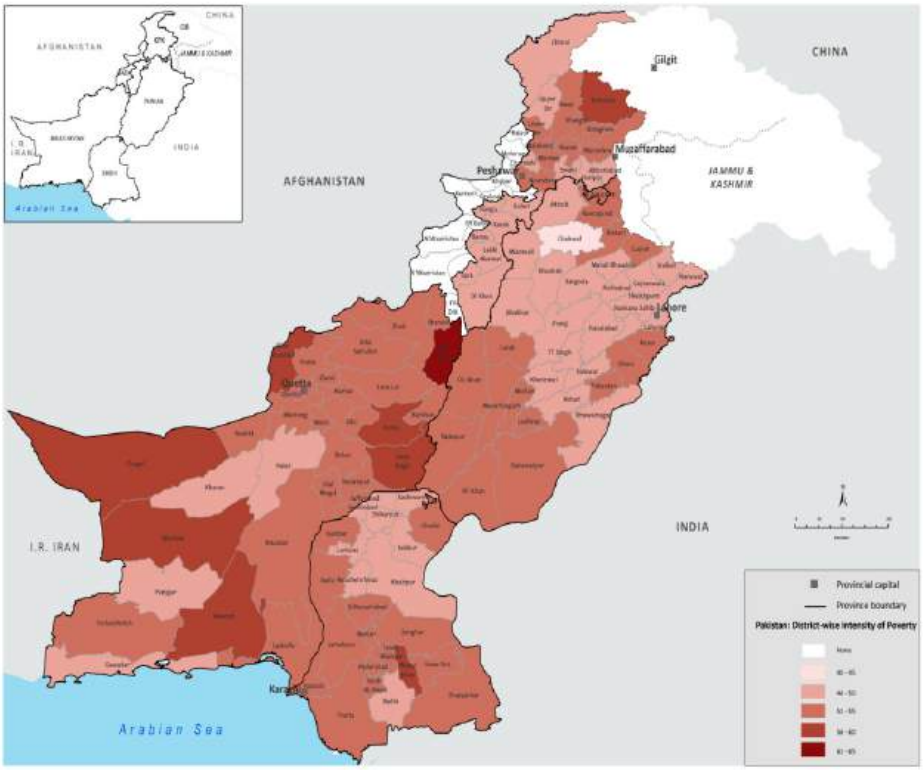
take into account the varied levels of intensity of poverty across the four provinces and the rural-urban differences within provinces.

Going beyond provinces: Intensity of poverty at district level

In the previous section we provided provincial level statistics.While providing useful information about inter-provincial disparities,these statistics do not reflect the disparities within each province. There are nonetheless strong regional differences in the incidence of poverty in all provinces. In order to capture these intra-provincial disparities in the extent of deprivations faced by the poor, the intensity of poverty estimated at the district level is presented in the map 4.1.

Both the inter-provincial and intra-provincial disparities are visible in the map 4.1 that portrays the distribution of intensity of poverty in Pakistan. Although intensity of poverty is a measure independent from the headcount ratio, the high intensity of poverty is concentrated in almost the same regions of Balochistan and KPK that have very high incidence of poverty. Out of 20 districts with the highest intensity of poverty, 14 are in Balochistan, and six inother three provinces. On the other hand, districts with low intensity of poverty are concentrated in upper Punjab, northern Sindh and central KPK.

Map4.1[7]: Intensity of poverty: A district level analysis



The complete ranking of all districts over the intensity of poverty is provided in appendix 3. We now turn to have a closer look at the intensity of poverty within each province and identify the intra-provincial disparities in the intensity of poverty.

a. Balochistan

Most of the districts in Balochistan experience high intensity of poverty, there are nonetheless significant differences between various districts in the province. The extent of deprivation faced by poor households is the highest in district Musakhel as poor households are on average deprived in 63 per cent of the weighted dimensions. The poor in Dera Bugti and Awaran facedeprivation in 60 per centof weighted dimensions and 57 per cent in Kohlu and Washuk. Similarly, poor households in Qilla Abdullah and Chaghi districts are on average deprived in 55 per cent of the weighted dimensions. Intensity of poverty is high amongst the districts at the border (provincial and international).

[7]See footnote 4.

Table 4.5: Intensity of poverty amongst the districts in Balochistan

Districts with high intensity			Districts with low intensity		
Rank	**Districts**	**Intensity**	**Rank**	**Districts**	**Intensity**
1	Musakhel	0.63	1	Kharan	0.50
2	Dera Bugti	0.60	2	Kalat	0.50
3	Awaran	0.60	3	Panjgur	0.50
4	Kohlu	0.57	4	Gwadar	0.50
5	Washuk	0.57	5	Khuzdar	0.51
6	Qillah Abdullah	0.56	6	Mastung	0.51
7	Chaghi	0.56	7	Ziarat	0.52
8	Bolan/Kachi	0.55	8	Kech/Turbat	0.52
9	Lasbela	0.55	9	Quetta	0.53
10	Jafarabad	0.55	10	Jhal Magsi	0.53

On the other hand Kharan, Kalat, Panjgur and Gwadar districts have the lowest intensity of poverty in the province. Poor households in these districts, on average, are deprived in 50 per cent of the weighted dimensions.

The ranking of districts over the intensity of poverty is slightly different from the ranking over incidence of poverty in Balochistan. However, the intra-provincial disparity in the intensity of poverty in Balochistan is evident from the map and the Table 4.2.

b. KPK

The intensity of poverty is unequally distributed amongst various districts in KPK. The highest intensity of poverty is found in Kohistan district where the poor households are, on average, deprived in 60 per cent of the weight dimensions. Kohistan is followed by the neighboring Shangla, Batagram and Bonairdistricts. Some of the districts in central region, such as Peshawar, Nowshehra and Maradn also record relatively high intensity of poverty.

Table 4.6: Intensity of poverty amongst the KPK districts

Districts with high intensity			Districts with low intensity		
Rank	**District**	**Intensity**	**Rank**	**District**	**Intensity**
1	Kohistan	0.60	1	Chitral	0.47
2	Shangla	0.54	2	Abbottabad	0.48
3	Batagram	0.53	3	Bannu	0.49
4	Bonair	0.53	4	Kohat	0.49
5	Peshawar	0.53	5	Hangu	0.49
6	Nowshera	0.52	6	Charsada	0.49
7	Swat	0.52	7	Haripur	0.49
8	Mardan	0.52	8	Lakki Marwat	0.49
9	Mansehra	0.52	9	Upper Dir	0.50
10	Malakand	0.52	10	Swabi	0.50

Table 4.3 shows Chitral, Abbottabad and Haripur are the districts with the lowest intensity of poverty.. Several central districts such as Bannu, Kohat, Hangu, Charsadda and Lakki Marwat are amongst the low poverty intensity districts where poor households are on average deprived in 49 per cent of the weighted sum of dimensions.

The map 4.1 reflects that the intensity of poverty varies across districts in KPK. By and large, districts in mountainous northern region have high intensity of poverty and the central and Hazara districts have low intensity of poverty. This implies that bringing similar number of poor out of poverty would require more resources for the northern mountainous region than for the central region or Hazara Division.

c. Punjab

The intensity of poverty varies across districts in Punjab. Surprisingly,it is the highest in Jhelum which is least poor in terms of headcount ratio. Three per cent households in Jhelum, living below the poverty line, are on average deprived in 55 per cent of the total weighted dimensions. Jhelum is followed by Rajanpur and D.G. Khan districtswhere poor households are on average deprived in 52 per cent of the weighted dimensions. With the exception of Gujrat and Jhelumdistrict, remaining districts with the highest intensity of poverty are located in the southern region of the province.

Table 4.7: Intensity of poverty amongst the Punjab districts

Districts with high intensity			Districts with low intensity		
Rank	**District**	**Intensity**	**Rank**	**District**	**Intensity**
1	Jhelum	0.55	1	Chakwal	0.45
2	Rajanpur	0.52	2	Khushab	0.47
3	D.G. Khan	0.52	3	Narowal	0.48
4	Muzaffargarh	0.51	4	Faisalabad	0.48
5	Bahawalpur	0.51	5	T.T. Singh	0.49
6	Pakpattan	0.51	6	Khairpur	0.49
7	Lodhran	0.51	7	Attock	0.49
8	Multan	0.51	8	Mandi Bahuddin	0.49
9	Gujrat	0.51	9	Gujranwala	0.49
10	Layyah	0.51	10	Khanewal	0.49

On the other hand, Chakwal district has the lowest intensity of poverty where poor households are on average deprived in 45 per cent of the weighted dimensions. Table 4.1 shows that majority of the low poverty intensity districts are located in the northern region of Punjab. There is thus a clear clustering of the levels of intensity of poverty in Punjab.

The geographic clustering of the intensity of poverty suggests that bringing similar number of people out of poverty would require more resources in southern Punjab than in northern Punjab.

d. Sindh

Intra-provincial disparity in the intensity of poverty in Sindh is evident from the map 4.1 and the Table 4.5. The poor in northern districts generally experience low intensity than those in southern districts. District Mirpur Khas has the highest intensity of poverty where poor households are on average deprived in 59 per cent of the weighted dimensions. Mirpur Khas is followed by Jamshoro and Karachi. Despite being least poor in terms of headcount ratio, districts in Karachi have very high intensity of poverty. This suggests, despite being fewer as percentage of total population, poor households in Karachi experience high levels of deprivation.

Table 4.8: Intensity of poverty amongst the Sindh districts

Districts with high intensity			Districts with low intensity		
Rank	**District**	**Intensity**	**Rank**	**District**	**Intensity**
1	Mirpur Khas	0.59	1	Noshero Feroz	0.48
2	Jamshoro	0.54	2	Shikarpur	0.49
3	Karachi	0.53	3	Kashmore	0.49
4	Nawabshah	0.53	4	Larkana	0.49
5	Hyderabad	0.53	5	Badin	0.50
6	Tharparkar	0.52	6	Jacobabad	0.50
7	Thatta	0.52	7	Sukkur	0.50
8	Sanghar	0.52	8	Shahdadkot	0.51
9	Tando Allah Yar	0.51	9	Ghotki	0.51
10	Matiari	0.51	10	Dadu	0.51

On the other hand, Noshero Feroz has the lowest intensity of poverty as the poor households are on average deprived in 48 per cent of the weighted dimensions. Noshero Feroz is followed by several other districts in the northern region which also experience low intensity of poverty.

This regional and intra-provincial disparity in the intensity of poverty suggests that poverty reduction strategies would vary across the regions as varying levels of effort and resources would be needed in bringing similar number of poor out of poverty in the southern region of the province than in the northern region.

Summary

A meaningful understanding of poverty needs to take into account the extent of deprivation faced by the poor in addition to knowing about their number. The estimates show that poor households on average are deprived in 52 per cent of the weighted dimensions. The results also show that the intensity of poverty varies across provinces, rural-urban areas and across regions within each province. While the intensity of poverty is a measure independent from headcount ratio, the regions with high headcount ratios, by and large, experience high intensity of poverty. According to the headcount ratio, the intensity of poverty is also the highest in Balochistan and the lowest in Punjab. The district level analysis shows stark intra-provincial inequalities and different geographic regions, within each province, experience different levels of intensity of poverty. Within Balochistan, the districts at the border generally experience higher intensity of poverty. In KPK, the intensity of poverty is the highest in the northern

mountainous region than the rest of the province. Within Punjab and Sindh, the intensity of poverty is higher in southern districts than the northern ones.

An important policy lesson that emerges from this section is that bringing similar number of poor out of poverty in different regions would require different levels of effort and resources depending upon the extent of deprivations (intensity of poverty) faced by the poor. Those with higher intensity of poverty would need more resources than those with low intensity of poverty.

3-Multidimensional Poverty Index

The previous two sections have presented the estimates of poverty on two different measures;

a. The *headcount ratio* – the percentage of poor households out of total households

b. The *intensity of poverty* – the extent of deprivations faced by the households falling below the poverty line

These sections have identified that both *headcount ratio* and the *intensity of poverty*, despite capturing valuable information about poverty are insufficient to independently provide a comprehensive account of the depth and breadth of deprivation experienced by the poor. *Headcount ratio* gives only the ratio of households falling below the poverty line without informing about the extent of deprivation faced by them. . The *intensity of poverty*, on the other hand, tells only about the extent of deprivation faced by poor households regardless of their number in a particular region. Nonetheless, a meaningful analysis of poverty needs to take both aspects of poverty into account,simultaneously.

The Multidimensional Poverty Index, in this backdrop, is the third measure of this family of poverty measures, designed to overcome the limitation of the two measures of poverty. As a simple product of both *headcount ratio* and the *intensity of poverty*, the MPI simultaneously captures the depth and breadth of deprivation. It is thus a better measure to rank various regions and districts on poverty.

Results

In the following section we present the MPI results at national, provincial and district levels.

MPI at the national level

The overall value of MPI for Pakistan is 0.18 with strong rural-urban disparity. The MPI for rural Pakistan is almost three times higher than that for urban Pakistan. This shows that both the depth and breadth of deprivation is very high in rural than urban Pakistan.

Table 5.9: MPI score at the national level

	MPI Score
Total	0.18
Urban	0.09

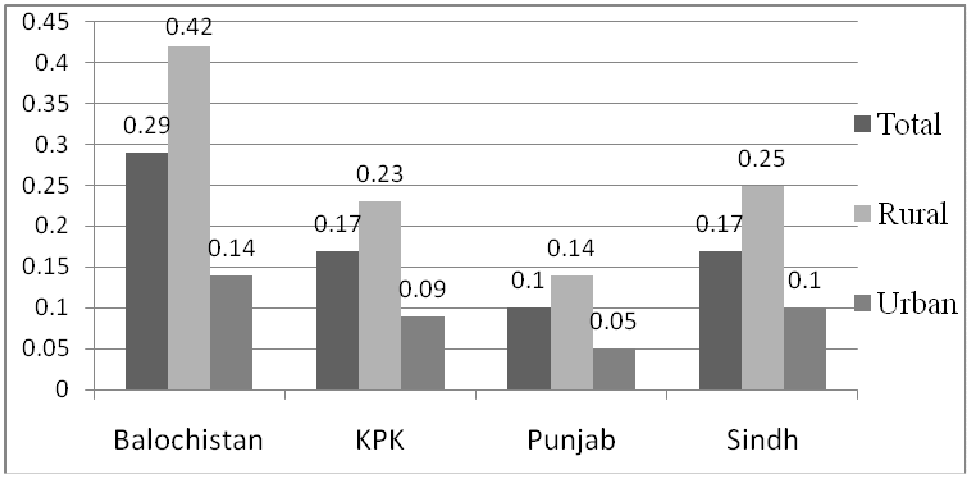
Rural	0.25

Inter-provincial disparities over MPI

The figure 5.1 presents the MPI score at the provincial level, highlighting the intra-provincial disparities in terms of MPI score. The figure also highlights the rural-urban disparities within each province.

As the figure shows, Balochistan has the highest MPI score of 0.29 which is almost three-times higher than that of Punjab. Both KPK and Sindh have equal MPI score of 0.17. The highest MPI score of Balochistan reiterates the earlier finding that both the depth and breadth of poverty are the highest in Balochistan.

Figure 5.2: MPI at the provincial level



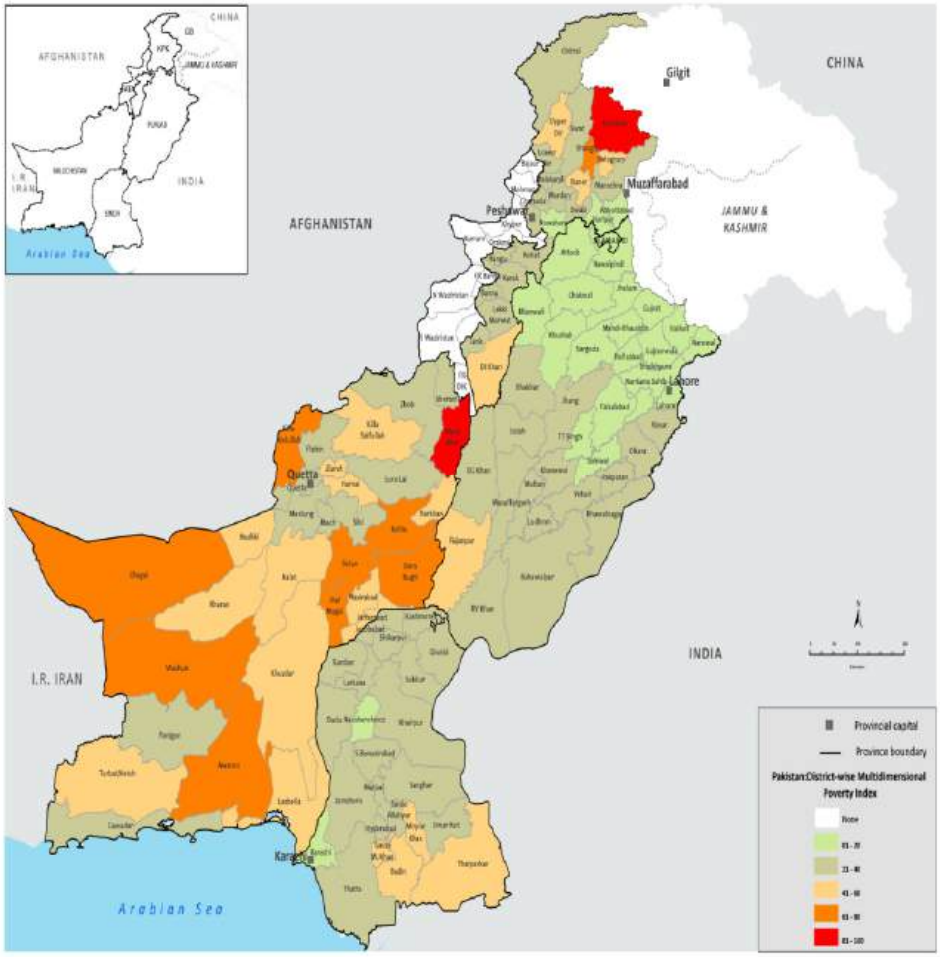
There are glaring rural-urban disparities in each province. Rural households experience high levels of depth and breadth of deprivation than urban households. This disparity is the highest in Balochistan as MPI for rural Balochistan is 0.42 which is three-times higher than for urban Balochistan. While the overall MPI is the lowest for Punjab, the proportionate difference between urban and rural Punjab is very high; MPI for rural Punjab is almost three-times higher than that for urban Punjab. Similarly, the MPI score for rural population in both KPK and Sindh is 2.5 times higher than for urban households in both provinces.

District-wise MPI score

The map 5.1 clearly reflects the geographic clustering of the depth and breadth of poverty in the form of MPI score. The highest levels of MPI

appear to be concentrated in several districts of Balochistan and few districts in northern KPK. While Kohistan has the highest headcount ratio, Musakhel district in Balochistan ranks the highest on the cumulative measure of both depth and breadth of poverty. Musakhel is followed by Kohistandistrict. The subsequent nine districts with high MPI score are located in Balochistan. Overall, out of 20 districts with the highest MPI score, 15 are in Balochistan and four in KPK. District Mirpur Khas in Sindh is also amongst the very high MPI districts. It is worth mentioning that none of the districts from Punjab is amongst the 20 highest MPI districts.

Map5.2[8]: MPI score at the district level



[8]See footnote 4.

As is the case with headcount ratio, all districts with the lowest MPI score are located in northern Punjab. Jhelum, Gujrat and Chakwal are the districts with the lowest MPI score in the country. With the exception of Islamabad, Haripur and Abbotabad, remaining of the 20 lowest MPI score districts are the ones in northern Punjab. Complete ranking of all districts on MPI score is provided in appendix 4. The distribution of MPI score within each province shows regional disparities within each province. The subsequent sections explain the geographic clustering of MPI levels within each province, highlighting the intra-provincial disparities over the MPI score.

Balochistan

The inequality of poverty in Balochistan is clearly reflected through the district level distribution of MPI score. With the exception of Panjgur and Gwadar, other districts in the south have very high MPI score. As the list of 10 highest MPI score districts shows, majority of the districts with higher depth and breadth of poverty are located in the south, such as Awaran, Washuk, Dera Bugti, Kohlu and Chaghi.

Table 5.10: District-wise MPI score in Balochistan

10 Districts with high MPI			10 Districts with low MPI		
Rank	**District**	**MPI**	**Rank**	**District**	**MPI**
1	Musakhel	0.56	8	Panjgur	0.17
2	Awaran	0.45	9	Quetta	0.19
	Washuk	0.45	10	Gwadar	0.20
3	Dera Bugti	0.44	11	Mastung	0.22
4	Kohlu	0.39		Loralai	0.22
	Chaghi	0.39		Pashin	0.22
5	Qillah Abdullah	0.37		Zhob	0.22
	Bolan/Kachi	0.37		Ziarat	0.22
6	Jhal Magsi	0.36	12	Sibbi	0.23
7	Nasirabad	0.31		Khuzdar	0.23

With the exception of Musakhel district having the highest MPI score, other districts in the north have relatively low MPI score. As is evident from the table 5.2, Quetta, Mastung, Loralai, Pishin, Zhob and Ziarat districtshave relatively low MPI score. The district-wise distribution of MPI score in Balochistan shows strong intra-provincial disparities. By and large, districts in the

north have lower levels of MPI whereas districts in north have very high levels of MPI.

KPK

Like the other two measures of poverty, the intra-provincial inequalities are strongly prevalent over MPI score in KPK. The MPI score for the district Kohistan is 0.53, which is 0.19 points higher than the second highest MPI district in the province. As one can see in the map 5.1, districts with the highest levels of depth and breadth of poverty are clustered in the northern mountainous region of the province. The list of 10 highest MPI score districts shows that the southern DI Khan district is also amongst the high MPI districts in the province.

Table 5.11: District-wise MPI score in KPK

10 Districts with high MPI			10 Districts with low MPI		
Rank	**District**	**MPI**	**Rank**	**District**	**MPI**
1	Kohistan	0.53	1	Haripur	0.06
2	Shangla	0.34		Abbottabad	0.09
	Upper Dir	0.27	2	Nowshera	0.09
	Batagram	0.27		Swabi	0.11
3					
4	Bonair	0.26	3	Chitral	0.11
	D.I. Khan	0.21		Bannu	0.12
5	Swat	0.21	4	Charsada	0.12
	Tank	0.18		Kohat	0.13
6	Malakand	0.18	5	Peshawar	0.13
7	Lower Dir	0.17	6	Hangu	0.14

In sharp contrast to Kohistan, Haripur, being the lowest MPI district in KPK, has the score of 0.06, which is 0.47 points lower than Kohistan. Haripur is followed by the adjacent Abbottabad and Nowshehra district.Both have MPI score of 0.09 only. Most of the districts in the central region of the province constitute the list of least MPI districts. The map 5.1 highlights the regional

nature of strong intra-provincial disparities over the MPI score in KPK.

Punjab

Like the other two provinces, the intra-provincial inequality over MPI score in Punjab is evident from the table 5.4. Rajanpur district has the highest MPI score of 0.24 followed by Muzaffargarh and D.G. Khan districtswith MPI scores 0.21 and 0.19 respectively. Almost all the districts in the southern region of the province have very high MPI score.

Table 5.12: District-wise MPI score in Punjab

10 Districts with high MPI			10 Districts with low MPI		
Rank	**District**	**MPI**	**Rank**	**District**	**MPI**
1	Rajanpur	0.24		Jhelum	0.02
2	Muzaffargarh	0.21		Gujrat	0.02
3	D.G. Khan	0.19	1	Chakwal	0.02
4	Bahawalpur	0.17		Mandi Bahuddin	0.03
	Layyah	0.16		Gujranwala	0.03
5	Lodhran	0.16	2	Sialkot	0.03
	Multan	0.15		Rawalpindi	0.04
6	Pakpattan	0.15	3	Faisalabad	0.04
	Rahim Yar Khan	0.14		T.T. Singh	0.05
7	Bhakkar	0.14	4	Attock	0.05

Contrary to the southern region, districts in the northern Punjab record very low levels of MPI. Jhelum, Gujrat and Chakwal districtshave the lowest MPI score in Pakistan that is only 0.02; 12 times higher than that of Rajanpur. Just like other measures of poverty, the cumulative measure of depth and breadth of poverty divides the province into southern and northern districts with south being at the disadvantage.

Sindh

The intra-provincial disparity over MPI score is also evident in Sindh as is shown in the table 5.5. With the exception of Karachi, southern districts in general have very high MPI score. Mirpur Khas district has the highest MPI score of 0.28, followed by Tharparker.

Table 5.13: District-wise MPI score in Sindh

10 Districts with high MPI			10 Districts with low MPI		
Rank	**District**	**MPI**	**Rank**	**District**	**MPI**

1	Mirpur Khas	0.28	1	Noshero Feroz	0.09
2	Tharparkar	0.25	2	Karachi	0.10

	Badin	0.21		Sukkur	0.13
	Thatta	0.21		Hyderabad	0.13
	Jamshoro	0.21	3	Khairpur	0.13
	Tando M Khan	0.21	4	Shikarpur	0.14
3	Nawabshah	0.21		Sanghar	0.15
	Shahdadkot	0.19		Dadu	0.15
4	Larkana	0.19	5	Matiari	0.15
5	Jacobabad	0.18	6	Kashmore	0.17

District Noshero Feroz has the lowest MPI score, 0.09 followed by 0.10 score of the districts in Karachi. Alongside these two districts, districts in northern region of Sindh have relatively low levels of MPI score. Like other three provinces, Sindh also shows strong intra-provincial inequality over MPI score which is regional in nature.

Summary

This section has presented the estimates of MPI score, which is a cumulative measure of the depth (*intensity of poverty*) and breadth of poverty (*headcount ratio*). The distribution of MPI score reflects the stark inter-provincial and rural-urban disparities. The MPI score reiterates the distribution of other two measures of poverty presented in the previous sections. The disaggregated analysis identifies the districts with the highest and the lowest MPI scores. A closer look at the district level MPI score reflects very strong intra-provincial inequalities within each province. Like incidence and the intensity of poverty, the MPI score is geographically distributed in all the four provinces, dividing them into regions of high and low MPI score.

4- Severe Poverty

We now turn to provide the estimates of severe poverty. This measure from the family of Alkire and Foster measures of poverty is similar to headcount ratio but with higher poverty line. It points out the ratio of the poorest of the poor households. Given the scarcity of resources, the poverty reduction programs are often limited in coverage, falling short to cover all those below the poverty line. By setting a higher line of 'severe poverty' those facing extreme poverty can be identified; their numbers can be estimated and they can be targeted for the provision of social safety nets. Our poverty line is 0.40 that implies all the households deprived of 40 per cent or more of the weighted dimensions are poor. In order to identify the poorest of the poor, we set the 'severe poverty line' at 0.50. This implies that households deprived in 50 per cent or more of the weighted dimensions are 'severe poor' or 'poorest of the poor'. These two terms are used interchangeably in this chapter.

Results

Following are the estimates of 'severe poverty' at the national, provincial and district levels.

Estimates at the national level

According to the Table 6.1, 21 per cent of the households in Pakistan fall in the category of extreme poor. Proportion of extreme poor households is very high in rural than urban areas; one-third of the rural households fall in the category of extreme poor as compared to only eight per cent urban households.

Table 6.1: Severe poverty in Pakistan

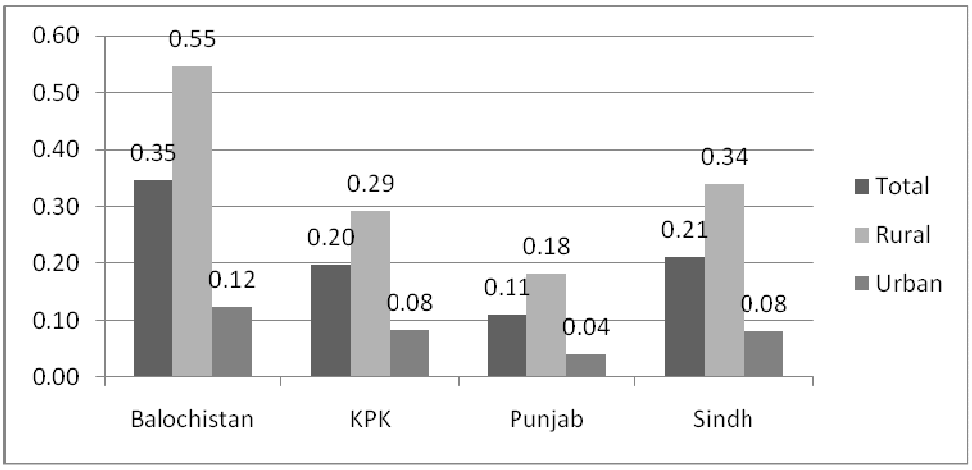
	Headcount Ratio of Extreme Poor
Total	0.21
Urban	0.08
Rural	0.33

Estimates at the provincial level

Like in the incidence of poverty, there are strong inter-provincial inequalities in the incidence of 'severe poverty'. As expected, severe poverty is very high in Balochistan where more than one-third (35 per cent) of the households are deprived of more than half of the weighted dimensions. KPK and Sindh have 20

and 21 per cent of households respectively, falling below the severe poverty line. On the other hand, only 11 per cent households in Punjab are found to be extreme poor.

Figure 6.1: Severe poverty – inter-provincial analysis

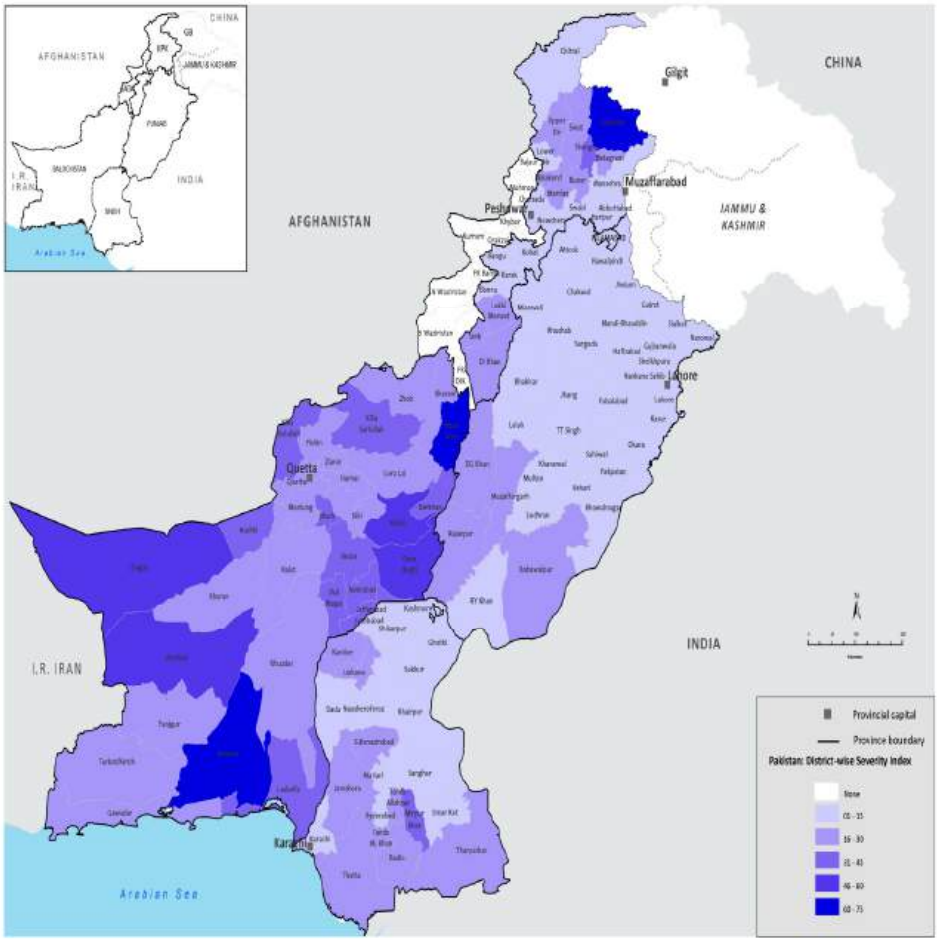


Alongside the inter-provincial disparities, the rural-urban divide in the incidence of severe poverty is sharp and evident across all the four provinces. Consistent across the provinces, the proportion of extreme poor households is far higher in rural population than in urban. The greatest incidence of inequality is found in Balochistan where 55 per cent of rural households are severely poor as compared to 12 per cent urban households. In KPK and Sindh, while severe poverty in urban population is only eight per cent, it is 29 and 34 per cent respectively for the rural households. Although proportion of severe poor households is low in Punjab, rural-urban divide is very high. Only four per cent of urban households are severely poor as compared to 18 per cent rural households.

District level analysis of severe poverty

As the map 6.1 shows, severe poverty is distributed along the lines of other measures of poverty. It is the highest in several districts of Balochistan and in some districts in KPK. Out of 20 districts with the highest ratio of severe poor households, 16 fall in Balochistan. Similarly, mountainous region in northern KPK, particularly Kohistan and adjacent districts have very high ratio of extreme poor households. Severe poverty is also very high in southern regions of each of the four provinces. Like poverty, severe poverty also seems clustered geographically.

Map 6.1[9]: District level incidence of severe poverty



On the other hand, severe poverty appears to be very low in northern Punjab and central parts of all the provinces. Out of 20 districts with lowest ratio of severe poor households, 17 fall in Punjab, mostly from northern region. This provides evidence that severe poverty is clustered geographically. A complete ranking of all districts over the incidence of severe poverty is provided in the appendix 5.

A province wise discussion of the intra-provincial disparities in the incidence of severe poverty in Pakistan is presented in the subsequent section.

[9]Please refer to footnote 4

Balochistan

While most of the severely poor districts of Pakistan are in Balochistan, there are strong regional disparities in the province. As many as 74 per cent households in Musakhel district fall below the severe poverty line. The subsequent districts in the list, Awaran and Washuk, have 64 and 58 per cent severely poor households. Similarly, more than half of the households in the adjacent Chaghi and Dera Bugti districts are severe poor. With the exception of Punjgur and Gwadar, districts in southern region experience high incidence of severe poverty.

Table 6.2: Incidence of severe poverty amongst the districts of Balochistan

Districts with high severity of poverty			Districts with low severity of poverty		
Rank	**District**	**Severity**	**Rank**	**District**	**Severity**
1	Musakhel	0.74	1	Panjgur	0.18
2	Awaran	0.64	2	Quetta	0.19
3	Washuk	0.58	3	Ziarat	0.21
	Chaghi	0.51		Gwadar	0.21
4	Dera Bugti	0.51		Pashin	0.21
5	Kohlu	0.47	4	Zhob	0.22
6	Qillah Abdullah	0.43	5	Khuzdar	0.24
7	Jhal Magsi	0.42	6	Sibbi	0.25
8	Bolan/Kachi	0.40		Kalat	0.25
9	Lasbela	0.37		Mastung	0.25

With the exception of Musakhel, districts in the north generally have low ratio of severely poor households.

KPK

In KPK, as the map 6.1 shows, extreme poverty is largely concentrated in northern mountainous region followed by the southern part of the province. Kohistan district has the highest proportion of population as 69 per cent households fall below the severe poverty line. The adjacent Shangla district also has very high incidence of severe poverty as 40 per cent of the households are severely poor. The other neighboring districts like Batagram, Upper Dir and Bonair have 28, 27 and 27 per cent households below severe poverty line respectively. Similarly, the adjacent Swat district and the southern DI Khan district also have high incidence of severe poverty with 20 per cent households falling below severe poverty line. In brief, severe poverty is largely clustered in northern mountainous region followed by the southern district.

Table 6.3: Incidence of severe poverty amongst the districts in KPK

Rank	District	Severity	Rank	District	Severity
1	Kohistan	0.69	1	Haripur	0.05
2	Shangla	0.40		Abbottabad	0.07
3	Batagram	0.28	2	Chitral	0.07
	Upper Dir	0.27	3	Nowshera	0.08
4	Bonair	0.27		Swabi	0.09
	Swat	0.20	4	Charsada	0.09
5	D.I. Khan	0.20	5	Bannu	0.10
6	Tank	0.17		Kohat	0.11
	Malakand	0.16	6	Hangu	0.11
7	Mardan	0.16	7	Mansehra	0.14

On the other hand, districts adjacent to Islamabad like Haripur and Abbottabad have only five and seven per cent households below the severe poverty line. In fact all three districts of Hazara division (Haripur, Abbottabad and Mansehra) are included in the districts with low proportion of sever poor households.Chitral also records low levels of severe poverty. Most of the districts in central KPK such as Nowshera, Swabi, Charsada, Bannu and Kohat have low proportion of households facing severe poverty. The levels of severe poverty are clustered geographically in the province.

Punjab

Despite the overall low ratio of severely poor households in Punjab, the strong intra-provincial inequality is evident from the map 6.1and the Table 6.4. Several districts in south Punjab have higher proportion of severe poor households than central or northern parts of the province. One-fourth of the households in Rajanpur district live under the conditions of severe poverty. Rajanpur is followed by neighboring Muzaffargarh (22 per cent) and DG Khan (19 per cent)districts.These districts are then followed by other districts in the region such as Bahawalpur, Layyah, Multan and Rahim Yar Khan.

Table 6.4: Incidence of severe poverty amongst the districts in Punjab

Districts with high severity			Districts with low severity		
Rank	**District**	**Severity**	**Rank**	**District**	**Severity**
1	Rajanpur	0.25	1	Jhelum	0.01
2	Muzaffargarh	0.22		Mandi Bahuddin	0.01
3	D.G. Khan	0.19		Chakwal	0.01
4	Bahawalpur	0.17	2	Sialkot	0.02
	Layyah	0.15		Gujrat	0.02
	Multan	0.15		Gujranwala	0.02
5	Rahim Yar Khan	0.15	3	Rawalpindi	0.03
	Lodhran	0.14		Faisalabad	0.03
6	Pakpattan	0.14		T.T. Singh	0.03
7	Bhakkar	0.12	4	Khushab	0.04

On the other hand, districts Jhelum, Mandi Bahauddin and Chakwal have only one per cent households deprived of more than 50 per cent of the weighted dimensions. These are followed by other districts in the north including Sialkot, Gujrat and Gujranwala with only two per cent severely poor households. Likewise, Rawalpindi, Faisalabad and T.T. Singh districts have only three per cent of the households living under the conditions of sever poverty. The regional nature of the inequality over the incidence of severe poverty in Punjab reflects the geographic clustering of severe poverty.

Sindh

As the map 6.1 shows, severe poverty in Sindh is largely concentrated in southern part of the province and few districts in the northwest. The unequal distribution of severity of poverty in Sindh is thus clearly evident from the map 6.1 and the Table 6.5. Mirpur Khas and Tharparker districts have the largest proportion of severely poor households i.e., 31 and 30 per cent respectively. These districts are followed by the neighboring districts like Thatta, Jamshoro, Badin, Nawabshah, Tando Musa Khan and Tando Allah Yar. These form a cluster of districts having high ratios of households facing severe poverty.

Table 6.5: Incidence of severe poverty amongst the districts in Sindh

Districts with high severity			Districts with low severity		
Rank	**District**	**Severity**	**Rank**	**District**	**Severity**
1	Mirpur Khas	0.31	1	Noshero Feroz	0.06
2	Tharparkar	0.30	2	Khairpur	0.09
3	Thatta	0.24		Sukkur	0.10
4	Jamshoro	0.23	3	Shikarpur	0.10
	Badin	0.20		Kashmore	0.11
	Nawabshah	0.20	4	Karachi	0.11
5	Tando Musa khan	0.20	5	Hyderabad	0.13
	Tando Allah Yar	0.17		Ghotki	0.14
6	Shahdadkot	0.17		Dadu	0.14
7	Larkana	0.16	6	Sanghar	0.14

On the other hand, district Noshero Feroz has the lowest incidence of severe poverty as only six per centhouseholds fall below the severe poverty line. It is followed by neighboring districts of Khairpur, Sukkur, Shikarpur, Kashmore, Ghotki, Dadu and Sanghar with severity of poverty ranging from 9 per cent to 14 per cent. Once again, we see a cluster of districts with low incidenceof severe poverty. The southwestern districts, Karachi and Hyderabad, also have low levels of severe poverty as only 11 and 13 per cent households face severe povertyrespectively.

Summary

By setting a higher poverty line, the proposed methodological framework can effectively be used to identify the poorest of the poor to target for social safety nets. The disaggregated estimates of severe poverty can be very useful to plan various social protection programs and poverty reduction strategies.

Overall, 21 per cent households in Pakistan are severely poor. Severe poverty in rural population is four times higher than in urban population. There are strong inter-provincial disparities in the incidence of severe poverty. Balochistan has the highest proportion (35 per cent) of households falling below the severe poverty line. On the other hand, only 11 per cent households in Punjab fall below the severe poverty line.

The district level analysis of severe poverty also shows stark intra-provincial disparities. These inequalities are regional as there is geographic clustering of the levels of severe poverty within each province. The northern regions of Balochistan, Punjab and Sindh have low incidence of severe poverty whereas southern regions in all the provinces have very high incidence of severe poverty. The northern mountainous region in KPK has the highest incidence of severe poverty;it is very low in the districts in central region of the province. The social protection programs thus need to take these regional differences into account.

5- Vulnerability

In the previous sections, we have discussed in detail the various aspects of poverty (headcount ratio, intensity, MPI and severe poverty) and their distribution.We now present an analysis of vulnerability in Pakistan. Vulnerability is defined as the level of deprivation, which is slightly lower than the poverty line. However, a small increase in the level of deprivation can push the households below the poverty line. Policies aimed at poverty reduction need to address vulnerability as failing to do so would increase the number of those falling below the poverty line.

For the purpose of this study, we define vulnerability as deprivation of weighted dimensions ranging from 30-39 per cent. Households in this band of deprivations, though non poor, are considered vulnerable.

Results

In the following sub-sections, the estimates of vulnerability are presented at the national, provincial and district levels.

Vulnerability at the national level

Overall 16 per cent households in Pakistan are found to be vulnerable. Unlike other measures of poverty, the vulnerability ratio is almost similar in both rural and urban population.

Table 7.14: Vulnerability at the national level

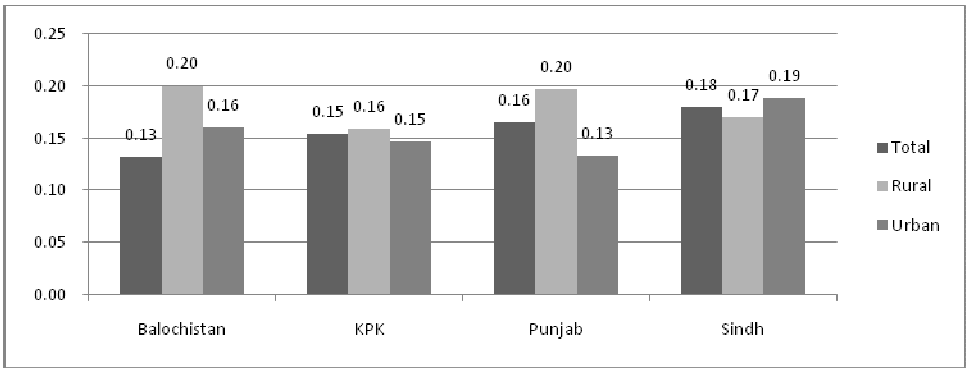
	Vulnerability
Total	0.16
Urban	0.15
Rural	0.16

Vulnerability at the provincial level

Regions with very large proportion of population falling below the poverty line are expected to have low levels of vulnerability since a high proportion of population is already below the poverty line due to higher levels of deprivation..

Figure 7.3 shows a low level of inter-provincial disparity in the incidence of vulnerability. The highest level of vulnerability is found in Sindh where 18 per cent households are vulnerable. Sindh is followed by Punjab and KPK where 16 and 15 per cent of households respectively are vulnerable. On the other hand, Balochistan has only 13 per cent vulnerable households which is lowest amongst all the provinces. The main reason of low vulnerability in Balochistan is the fact that more than 50 per cent households in Balochistan are already below the poverty line.

Figure 7.3: Vulnerability across provinces

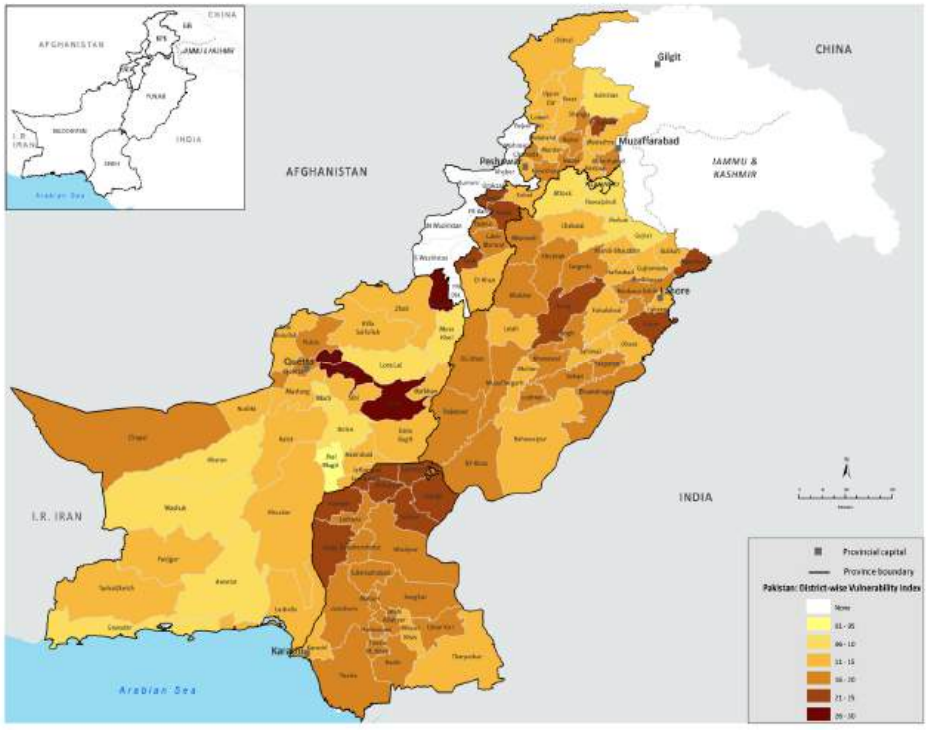


It is also important to note that the levels of rural urban disparity are low over vulnerability as compared to other measures of poverty. The highest rural urban disparity is found in Punjab where 20 per cent rural households are vulnerable as compared to only 13 per cent of urban households. Balochistan also records a significant level of vulnerability as 20 per cent rural households are vulnerable as compared to 16 per cent urban households. KPK has almost equal households vulnerable in both rural and urban population. On the other hand, urban households are more vulnerable in Sindh than the rural households.

Vulnerability: A district level analysis

The map 7.1 presents a district level analysis of vulnerability in Pakistan. It shows that high level of vulnerability is generally associated with the districts with mediocre levels of poverty (in terms of headcount ratio or MPI as shown in previous sections). Extremely poor districts such as Kohistan and Musakhel have very low levels of vulnerability. Similarly, districts with the low levels of poverty such as Jhelum, Chakwal and Gujrat also have very low levels of vulnerability. On the other hand, most of the districts with mediocre levels of poverty have quite high ratios of households vulnerable to poverty. The reason is very obvious – majority of the households in the poorest districts are already below the poverty line and fewer households are left behind to be vulnerable. In the least poor districts, the overall level of deprivation is very low hence fewer households fall near the poverty line.

Map 7.3[10]: A district level analysis of vulnerability



In general, vulnerability appears to be concentrated in the districts in central Balochistan, northern part of Sindh, and central parts of Punjab and KPK. The highest level of vulnerability is found in Kohlu and Ziarat districts in Balochistan

[10]Please refer to footnote 4

followed by Kashmore in Sindh and Batagram in KPK. The complete ranking of districts over the incidence of vulnerability is provided in appendix 6.

It is imperative to discuss the intra-provincial distribution of vulnerability for each province one by one.

Balochistan

Many districts with high incidence of poverty in Balochistan also show high vulnerability. Kohlu and Ziarat districtsthat have high incidence of poverty are the most vulnerable districts in Balochistan where 28 and 26 per cent households are slightly above the poverty line but below the vulnerability line. Relatively less poor Quetta district has the ratio of vulnerable households equal to high poor Lasbela, and Chaghidistricts. Similarly, other high poor districts i.e., Nasirabad, Barkhan, Jafarabad and Dera Bugti also have high proportion of households that are slightly above the poverty line and any increase in their deprivations can push them below the poverty line.

Table 7.15: Incidence of vulnerability amongst the districts in Balochistan

Most vulnerable			Least vulnerable		
Rank	**District**	**Vulnerability**	**Rank**	**District**	**Vulnerability**
1	Kohlu	0.28	1	Jhal Magsi	0.03
2	Ziarat	0.26	2	Musakhel	0.08
3	Pashin	0.18	3	Kharan	0.08
4	Quetta	0.17	4	Loralai	0.10
5	Lasbela	0.17	5	Washuk	0.10
6	Chaghi	0.17	6	Awaran	0.10
7	Nasirabad	0.15	7	Gwadar	0.10
8	Barkhan	0.15	8	Bolan/Kachi	0.10
9	Jafarabad	0.14	9	Kech/Turbat	0.11
10	Dera Bugti	0.14	10	Kalat	0.11

Highly poor district Jhal Magsi is the least vulnerable followed by the poorest district of the province Musakhel which has eight per cent households falling

undervulnerability. Districts with higher incidence of poverty appear to have relatively less proportion of vulnerable households. Loralai is nevertheless an exception where both poverty and vulnerability appear to be low.

KPK

The intra-provincial disparities in the incidence of vulnerability are apparent in Table 7.3. Alongside very high proportion of households falling below the poverty line, one-fourth of the households in Batagram district are vulnerable to poverty. Tank and Karakdistricts with relatively low proportion of poor households have high proportion of vulnerable households. Similarly, despite having very low poverty, Abbottabad district has high vulnerability as 18 per cent households are vulnerable to poverty.

Table 7.16 Incidence of vulnerability amongst the districts in KPK

Most vulnerable			Least vulnerable		
Rank	**District**	**Vulnerability**	**Rank**	**District**	**Vulnerability**
1	Batagram	0.25	1	Kohistan	0.08
2	Tank	0.23	2	Upper Dir	0.11
3	Karak	0.22	3	Mansehra	0.12
4	Hangu	0.22	4	Haripur	0.12
5	Lakki Marwat	0.19	5	Swat	0.12
6	Nowshera	0.18	6	D.I. Khan	0.12
7	Charsada	0.18	7	Mardan	0.14
8	Swabi	0.18	8	Kohat	0.14
9	Abbottabad	0.18	9	Peshawar	0.14
10	Shangla	0.16	10	Chitral	0.14

Extreme poor districts like Kohistan and Upper Dir have the lowest proportion of population vulnerable to poverty i.e., eight per cent and 11 per cent respectively. It is also important to note that 89 per cent households in Kohistan are already below poverty line and eight per cent slightly above the poverty line and vulnerable, thus only three per cent of households in Kohistan are neither poor nor vulnerable. Haripurdistrict, with the lowest ratio of the households below poverty line in KPK, records very low ratio of vulnerability. D.I Khandistrict despite high poverty ratio is amongst the KPK districts with low vulnerability ratio.

Punjab

The proportion of vulnerable households varies across districts within Punjab. Few districts in the least poor central part of Punjab record high proportion of

households vulnerable to poverty. Kasur district has the highest proportion of households i.e., 22 per cent, vulnerable to poverty. Narowal and Jhang districtshave 21 per cent households vulnerable to poverty. It is important to note that highly poor Muzaffargarh district (40 per cent household below poverty line) also records quite high proportion of households i.e., 19 per cent, vulnerable to poverty.

Table 7.17: Incidence of vulnerability amongst the districts in Punjab

Most vulnerable			Least vulnerable		
Rank	**District**	**Vulnerability**	**Rank**	**District**	**Vulnerability**
1	Kasur	0.22	1	Jhelum	0.08
2	Narowal	0.21	2	Rawalpindi	0.09
3	Jhang	0.21	3	Gujrat	0.10
4	Mianwali	0.20	4	Attock	0.10
5	Lodhran	0.20	5	Chakwal	0.11
6	Bhakkar	0.20	6	Layyah	0.12
7	Bahawalnagar	0.19	7	Lahore	0.13
8	Muzaffargarh	0.19	8	Mandi Bahuddin	0.13
9	Vehari	0.18	9	Faisalabad	0.14
10	Sheikupura	0.18	10	Sialkot	0.14

While almost all the least poor districts make the list of 10 least vulnerable districts in Punjab, Layyah district with 31 per cent poverty is also among the least vulnerable districts.

Sindh

Vulnerability in Sindh is largely concentrated in relatively less poor northern part of the province. Kashmore district has the highest proportion i.e., 25 per centhouseholds, vulnerable to poverty followed by Sukkur and Dadu. The least poor district of Sindh, Noshero Feroz has quite high vulnerability where 20 per cent households are vulnerable to poverty.

Table 7.18: Incidence of vulnerability amongst the districts in Sindh

Most vulnerable			Least vulnerable		
Rank	**District**	**Vulnerability**	**Rank**	**District**	**Vulnerability**
1	Kashmore	0.25	1	Karachi	0.15
2	Sukkur	0.23	2	Tharparkar	0.15
3	Dadu	0.23	3	Mirpur Khas	0.15
4	Shikarpur	0.22	4	Nawabshah	0.16
5	Shahdadkot	0.21	5	Jamshoro	0.16
6	Ghotki	0.21	6	Sanghar	0.17
7	Jacobabad	0.21	7	Tando Mitha Khan	0.17
8	Hyderabad	0.20	8	Tando Allah Yar	0.17
9	Khairpur	0.20	9	Larkana	0.18
10	Noshero Feroz	0.20	10	Thatta	0.18

Karachi, one of the least poor districts of Sindh, along with two poorest districts Tharparker and Mirpur Khas is the least vulnerable district; only 15 per cent of the households in these districts are found vulnerable to poverty.

Summary

This section presentsa true picture of the state of vulnerability in Pakistan. Overall 16 per cent households are found vulnerable to poverty with parity between rural and urban populations. A general finding is that vulnerability is higher in the regions with mediocre levels of poverty. Extreme poor as well as the least poor regions have low ratios of vulnerable households. Policies aimed at poverty reduction need to take into account the incidence of vulnerability as any increase in the deprivation level of vulnerable households would add to the number of those falling below the poverty line.

6- Geography of Poverty: Agenda for Future Research

Previous sections have highlighted the stark regional disparities in the incidence as well as intensity of poverty. The spatial disparities are evident not only through inter-provincial differences but also the intra-provincial disparities reflected in thedisaggregatedlevel estimates of poverty. Poverty maps (for headcount ratio, intensity of poverty, MPI, severe poverty and vulnerability) show various geographic regions are differently poor. This shows that development over the decades has been highly inequitable; as a consequence, prosperity and deprivation are clustered in different regions within each province.

Such geography of poverty necessitates understanding the factors that generate clusters of poverty so that appropriate policies could be suggested to reduce stark regional inequalities. It falls outside the scope of this study to find the factors that cause this clustering of poverty. Nevertheless, in this first disaggregated analysis of multidimensional poverty in Pakistan, we try to highlight some of the probable factors that may explain the clustering of extreme levels of poverty across the country. Given the critical importance of such understanding in devising appropriate policies, we strongly urge that future research should systematically explore all the factors leading to the persistence of poverty and regional inequalities within each province.

Pakistan is essentially an agrarian economy; agriculture appears to be the first factor that explains the geography of poverty in the country. Regions endowed with best agricultural conditions in the form of soil, water and favorable climate have high agricultural productivity, leading to economic prosperity (see Ahmad 2001 for the districts of Punjab). Our estimates suggest that the regions of high agricultural productivity, within each province, are generally the least poor regions. On the other hand, extreme poor districts appear to have unfavorable agricultural conditions; they have arid climate, unsuitable topography and non-fertile soil. The overall economic activity in these regions is thus very low.Consequently, poverty seems concentrated in these regions. Agricultural advantage thus seems explaining regional inequality, within and between provinces, to a significant extent. Nonetheless, more research is required to unfurl productivity-poverty nexus.

The second possible factor, which is closely linked with the geography of agriculture, is the evolution of agro-based industry in Pakistan. Agro-based industry, which is dependent upon agricultural inputs, is largely concentrated in the regions of high agricultural productivity. As this industry provides important

forward-backward linkages in the value chain, it has added to the economic prospects of the regions already advantaged by enhancing entrepreneurship as well as diversifying livelihood opportunities. On the other hand, regions with poor agriculture remained naturally disadvantaged from the economic gains associated with development of agro-based industry in Pakistan. Dedicated research on value chain analysis, livelihoods and poverty outcomes may provide better understanding of this issue.

The third factor worth exploring the geography of poverty is the development of megacities in Pakistan. There is a growing literature in economics that suggests cities serve as the engines of economic growth. As the World Development Report 1999-2000 highlighted, large cities are part of global chain production and the destination of foreign and local investment. The major growth sources of economy such as services and manufacturing are concentrated in big cities. Cities provide large markets for inputs, outputs and labor, and have rapid diffusion of ideas and knowledge. The WDR also says that big cities create agglomeration economics that enhance efficiency. Wages in large cities are high. Cities enjoy economies of scope as one activity generates parallel complementary activities leading to innovation. Lastly, as WDR adds, due to diverse economic base, population in large cities is often less vulnerable to economic shocks. These arguments particularly help explain the clustering of poverty in Pakistan. The urban planning in Pakistan has not taken into account the consequent regional disparities and the mega cities have evolved in certain regions within each province. Regions with large cities appear to have low levels of poverty, such as Karachi, Lahore, Rawalpindi, and Faisalabad. Regions distant from large cities have high levels of poverty. Evidences from India also support this hypothesis (Mitra and Mehta 2011[11]). There is little known about this phenomenon in Pakistan.

Fourth, an analysis of the allocation of public resources and regional concentration of development projects, over the previous decades, could also provide some explanation for the clustering of poverty in Pakistan. Development planning has historically been concentrated at the federal level (until the 18th amendment), which is extremely large administrative unit. Be it federal or provincial level, the allocation of public resources has overlooked the concerns for regional equality. This is also evident from the fact that until very recently, the data of key national surveys such as HIES, PSLM and PDHS was not available at the district level.A systematic tracking of public spending is required to explore the regions of high and low priority, resulting in inequality. There is a need for extensive research in this area.

[11] http://ascelibrary.org/upo/resource/1/jupddm/v137/i2/p171_s1?isAuthorized=no

The fifth possible factor, the least studied one, could be the quality of governance in various regions. The management of public finance, delivery of public services and provision of overall governance are critically dependent upon the competence and skill level of civil servants. The clusters of poverty in all four provinces are the areas with tough living conditions. They are less likely to be the preferred duty stations for the elite civil servants who often compete for urban centers resulting in the appointment of less skilled and less competent professionals in the remote areas. The consequent poor quality of governance could possibly contribute to the persistence of poverty in the regions which are already disadvantaged. Governance research in this direction can potentially help explain the clustering of deprivation.

Population density appears to be the sixth possible factor explaining the geography of poverty in Pakistan. By and large, regions with low levels of poverty are also the ones where population density is very high. Higher population density makes it cost-effective to provide public services to the citizens. The other advantages of high population density are the ones listed above in support of the argument that large cities serve as the engines of economic growth. The regions of extreme poverty in Pakistan appear to have low population density.

The seventh possible factor could be the migration trends in various regions. This factor is also the least studied in Pakistani context. The regions where people have migrated abroad, such as most of the districts in northern Punjab, appear to be less poor probably due to remittances and other gains of overseas migration. Poor regions seem to be the ones where internal migration takes place; workers migrate to big cities for employment and other opportunities resulting in the migration of the most dynamic people. Further research is required to explore the relationship between the dynamics of migration and its relationship with poverty in Pakistan.

Similarly, the geography of natural disasters overlaps the geography of poverty. Frequency of natural disasters, particularly floods and droughts, seems to be higher in the regions that appear to be the most poor. This could nonetheless be linked with the poor infrastructure in the poor regions to deal with the disasters. Disasters, however, continue adding to the miseries of the poor by dismantling economies in the entire area.

Lastly and most importantly, there is a host of cultural factors to explain the clusters of poverty deserving a careful analysis. Geographies, alone or per se, do not sufficiently explain the dynamics of poverty. It is the people, social and political structures influencing their lives, languages and social histories that inhabit geographies; and it is those who need to be placed in the centre while analyzing poverty. It is not merely a coincidence that geography of poverty overlaps the linguistic/ethnic and cultural geography in Pakistan. Unfortunately,

our data constrains us from making rigorously evidence-based claims. It is nonetheless evident from poverty maps that different ethnic groups located in different districts in the four provinces are differently poor. There is a need for systematic analysis of the cultural dynamics of poverty that would possibly explain the regional disparities.

Research on cultural dynamics of poverty should focus on both in-group and out-group factors.. There could be several in-group factors resulting in the attitudes, behaviors and relationships that perpetuate poverty. Such factors may include power structures within communities, priority placed upon the formation of human capital, varying levels of entrepreneurial attitudes, the nature of gender relations and so on. Contrary to such in-group factors, several out-group factors can also explain the clustering of poverty. As highlighted by rich literature on horizontal inequality,certain social groups might be discriminated against on the basis of their social identity yielding multi-faceted, group level, social, economic and political inequalities. This could be explored through investigating the power relations between different ethnic/linguistic groups at the provincial and federal levels, and the way these relationships mediate resource allocation. This may also involve tracking the flow of public resources towards various regions, and the representation of various ethnic/linguistic groups in public sector employment including military. The literature from elsewhere in the world warns of serious political repercussions of such multidimensional inequalities between social groups. Little is known about the cultural factors that produce and reproduce poverty and result in the persistence of regional disparities in Pakistan. Nonetheless, the growingly uneasy relationships between various ethnic/linguistic groups and the rise of language based nationalist political movements in the previous decades necessitate research dedicated to investigate the cultural dynamics of poverty in Pakistan.

7- Drivers of Poverty: Indicator-wise Decomposition of MPI

As we discussed in the methodology chapter, The Multidimensional Poverty Index can be decomposed by indicators to determine the share of each indicator in the overall MPI score by a simple process. First of all, a *censored headcount ratio* (*CH*) in each indicator is constructed. The *CH* is calculated as the sum of multidimensional *poor* households that are also deprived of a particular dimension, divided by the total population. Once *CH* is calculated, the MPI is broken down into the weighted sum of all the *censored headcount ratios*.

$MPI = w_1CH_1 + w_2CH_2 + \ldots\ldots\ldots + w_nCH_n$

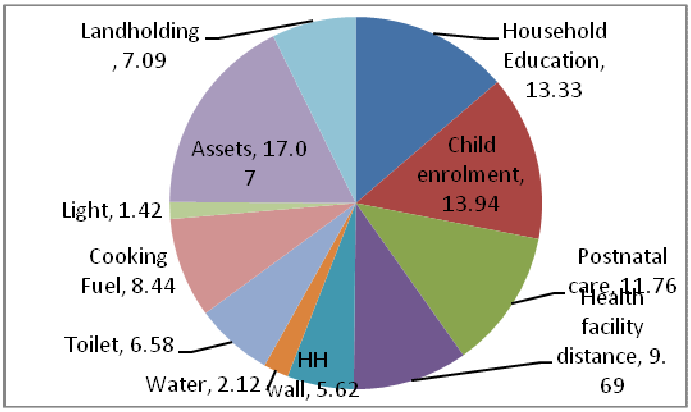
Where, n = is the number of indicators. The weights w_i are the same as assigned to each of the dimensions/indicators. The percentage contribution of each indicator to the overall MPI is determined as follows;

Percentage contribution of i^{th} indicator: $(w_iCH_i/MPI) \times 100$

The indicator-wise decomposition of MPI provides valuable information to identify the major drivers of multidimensional poverty. It, therefore, informs the poverty reduction programs to prioritize the allocation of public resources. Similarly, the indicator-wise decomposition of MPI at the disaggregated (district) level helps identify the varying nature of deprivations in different regions and districts. It can thus help formulate development projects responsive to the local needs.

Results

In the following sub-sections, we provide the results of indicator-wise decomposition of MPI at the national and provincial level. Some examples of indicator-wise decomposition of MPI at the district level in each province are also presented.

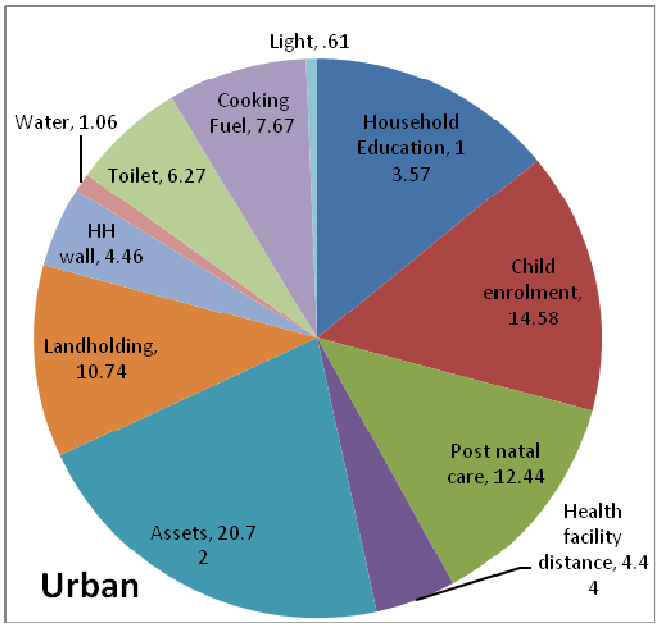


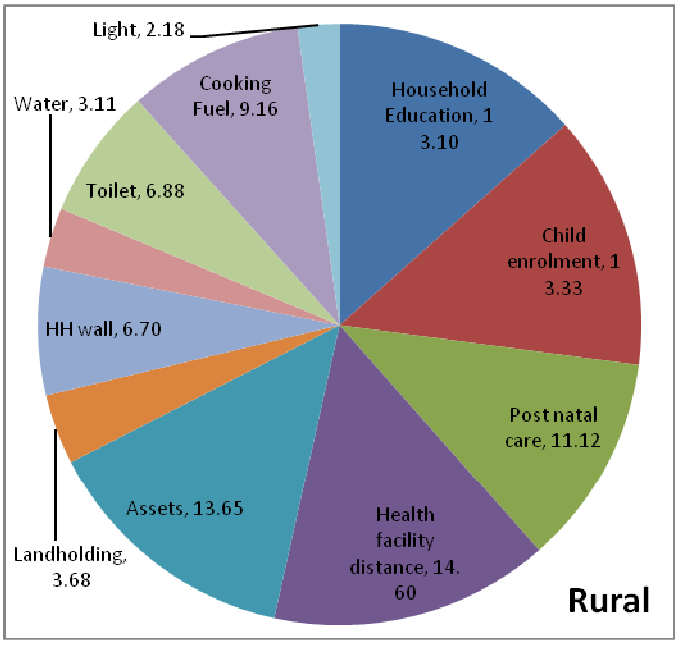
Drivers of multidimensional poverty at national level

As the figure 9.1 depicts, the lack of 'asset ownership' appears to be the largest contributor to the aggregate MPI score for Pakistan. Lack of child enrolment in school, with almost 14 per cent contribution to the overall MPI, is the second largest driver of multidimensional poverty. This is followed by the poor educational attainment of the household members that makes 13.33 per cent contribution to MPI. Education indicators are followed by health indicators. The lack of access to postnatal care contributes 11.76 per cent and lack of access to healthcare facilities contributes 9.7 per cent to MPI. Lack of access to non-solid cooking fuel, land ownership and improved toilet facilities make 8.44, 7.09, and 6.58 per cent contributions to MPI respectively. Whereas the deprivations in electrification of house, access to safe drinking water and quality housing appear to be the least contributors to MPI.

As the magnitude of MPI varies across rural and urban population, so does the extent of contribution to MPI made by each indicator. This difference is the most visible in the contribution made by education and health dimensions. Deprivation in education and health collectively contributes 52.15 per cent to MPI for rural households whereas their contribution to MPI decreases to 45.03 per cent for urban households. The greatest difference is observed in the access to healthcare facilities, lack of which makes 14.6 per cent contribution to MPI for rural and only 4.44 to urban MPI.

Figure 9.2: Indicator wise decomposition of MPI – Rural-urban differences





Lack of asset ownership makes greater contribution to MPI for urban than rural households. Lack of landholding also appears contributing more towards urban than rural MPI. Likewise, the share of each indicator in the respective MPI is different for rural and urban households. This implies that the nature of poverty is different in both the groups of population.

Drivers of multidimensional poverty at provincial level

Like rural-urban differences in the drivers of poverty at the aggregate level, the contribution of various indicators to MPI varies across provinces and across rural-urban groups within each province. In the following sub-section, we have discussed the major drivers of poverty for each province. The intra-provincial differences in the contribution of various indicators to MPI are elaborated by comparing three districts (least poor, poorer and the poorest) within each province.

Balochistan

Balochistan as a province has the highest MPI score in Pakistan. The lack of assets remains the largest contributor to MPI. The two indicators of education dimension make the next major drivers of poverty. Lack of child enrolment in schools and poor educational status of the household members respectively contribute 14.18 and 11.25 per centto MPI score respectively. Indicators of health dimensions, access to health facilities and postnatal care are the next major drivers of poverty by contributing 11.03 and 10.33 per cent to MPI.

Table9.1: Balochistan – Indicator wise decomposition of MPI

Indicators	Balochistan		
	Urban	Rural	Total
MPI score	*0.14*	*0.42*	*0.29*
Indicator wise contribution (percentage)			
Household educational attainment	11.62	10.91	11.25
Child enrolment	16.02	12.54	14.18
Access to post natal healthcare	11.78	9.03	10.33
Access to healthcare facilities	5.05	16.37	11.03
House wall	8.19	8.00	8.09
Safe drinking water	1.74	6.36	4.18
Type of toilet facility	8.15	6.42	7.23
Type of cooking fuel	7.58	8.01	7.81
Electrification	0.83	3.54	2.26
Assets ownership	18.98	15.97	17.39
Land ownership	10.07	2.85	6.25

from the table 9.1. Before interpreting the statistics in the table, it must be recalled that the MPI score for rural Balochistan is three times higher than the urban MPI. The contribution of each indicator is given as its percentage share to the respective MPI score.

Lack of access to healthcare facilities in rural areas contributes to MPI three times more than it does to MPI for urban population. It is important to note that the contribution of access to post-natal care, the poor educational attainment of household members and lack of child enrolment in school contribute to urban MPI greater than to the rural MPI. Similarly, asset ownership contributes more to MPI for urban Balochistan than for rural. The contribution of the lack of landownership that is only 2.85 per cent for rural households is almost four times higher for urban households. The MPI share of lack of access to safe drinking water is as high as 6.36 per cent for rural households compared to only 1.74 per cent for urban households.

The disaggregated analysis of poverty shows even more differences in the major drivers of poverty across the districts within each province. To illustrate these differences, we provide a comparison of three districts with various levels of poverty; least poor (Panjgur), medium poor (Nasirabad) and the poorest (Musakhel). The table below explains how does the share of various indicators in MPI change across the districts.

Table 9.2: Balochistan – Intra-provincial differences in the indicator wise decomposition of MPI

	Panjgur	Nasirabad	Musakhel
MPI score	*0.17*	*0.31*	*0.56*
Indicator wise contribution (percentage)			
Household educational attainment	5.13	8.87	14.49
Child enrolment	19.45	16.70	14.49
Access to postnatal healthcare	14.03	11.44	7.34
Access to healthcare facilities	8.46	13.61	18.38
House wall	7.84	8.59	6.20
Safe drinking water	6.99	2.74	7.86
Type of toilet facility	2.61	5.58	7.81
Type of cooking fuel	10.03	6.68	7.76
Electrification	2.71	1.66	3.29
Assets ownership	17.78	11.78	11.23
Land ownership	4.99	12.04	.51

Table 9.2 shows varying patterns of the drivers of multidimensional poverty across districts with various levels of poverty in Balochistan. In the least poor Panjgurdistrict, lack of child enrolment is the largest contributor to MPI followed by lack of assets and then access to postnatal care. In the poorer Nasirabaddistrict, lack of child enrolment is the largest driver of MPI followed by poor access to health facility and landlessness. In the poorest district, Musakhel, poor access to health facility is the largest contributor to MPI followed by lack of child enrolment and poor educational attainment of household members. These varying shares of different indicators to MPI of different districts highlight that the impact of different development programs on poverty are likely to be different across the districts. In other words, the strategies to reduce poverty need to have different priorities for different districts depending upon the nature of deprivations and relative contribution of various indicators to the MPI.

Khyber Pakhtunkhwa

As in Balochistan, lack of assets makes the greatest contribution of 21.48 per cent to MPI in KPK followed by 12.9 per cent of lack of child enrolment. Lack of access to postnatal care and poor educational attainment of the household members are the next leading contributors to MPI. Similarly, poor access to health facilities, type of cooking fuel and landlessness are also the significant contributors to MPI in KPK.

Table 9.3: KPK – Indicator wise decomposition of MPI

Indicators	KPK		
	Urban	Rural	Total
MPI score	*0.09*	*0.23*	*0.17*
Indicator wise contribution (percentage)			
Household educational attainment	12.14	10.42	11.20
Child enrolment	12.72	13.04	12.90
Access to postnatal healthcare	13.19	11.36	12.19
Access to healthcare facilities	5.45	13.34	9.75
House wall	5.09	7.55	6.43
Safe drinking water	2.18	4.00	3.17
Type of toilet facility	5.11	6.31	5.76
Type of cooking fuel	8.44	9.25	8.88
Electrification	0.38	0.96	0.70
Assets ownership	22.67	20.49	21.48
Land ownership	12.63	3.27	7.53

There are significant rural-urban differences in the contribution of various indicators to MPI score. Poor access to health facilities contributes much higher to rural MPI than the urban in relative terms. Similarly, lack of access to safe drinking water has two times higher share in rural MPI than in urban. On the other hand, landlessness makes four times higher contribution to urban MPI than the rural one. The important point here is that the extent of contribution made by each indicator to the respective MPI is different in both rural and urban areas. Poverty reduction strategies should, therefore, differ for both rural and urban households in terms of their priorities.

The intra-provincial differences in the major drivers of poverty are elaborated in Table 9.4, which shows the share of each indicator in the MPI for three districts with various levels of poverty. Kohistan has the second highest MPI score in Pakistan and the highest in KPK. Three major drivers of MPI in Kohistan are: poor access to health facilities, lack of child enrolment and poor household educational attainments. Lower Dir is relatively lesser poor district than Kohistan. Three major drivers of MPI in Lower Dir are: lack of child enrolment, poor access to postnatal care as well as health facilities. On the other hand, Haripur has the lowest MPI score in KPK. Three major contributors to MPI for Haripur are: lack of assets, landlessness and poor educational attainment of household.

Table 9.4: KPK - Intra-provincial differences in the indicator-wise decomposition of MPI

	Haripur	Lower Dir	Kohistan
MPI Score	*0.06*	*0.17*	*0.53*
Indicator wise contribution			
Household educational attainment	13.19	7.12	13.12
Child enrolment	6.65	15.09	13.94
Access to postnatal healthcare	13.01	12.00	8.41
Access to healthcare facilities	10.78	10.38	20.48
House wall	4.85	7.40	8.24
Safe drinking water	2.05	5.39	7.86
Type of toilet facility	7.43	9.55	7.32
Type of cooking fuel	4.68	9.88	8.35
Electrification	1.54	1.20	4.68
Assets ownership	19.19	7.54	4.71
Land ownership	14.25	5.10	.82

Table 9.4 shows that it is not merely the depth and breadth of poverty that varies across districts, the composition of the poverty also varies.

Punjab

Like in other two provinces, lack of asset ownership with 23.26 per cent continues to be the largest contributor to MPI in Punjab. Poor educational attainment of the household appears to be the second and post-natal care the third major contributor to MPI. The next significant contributor is the type of cooking fuel followed by landlessness and poor access to health facilities. The lowest contribution to MPI is made by the lack of access to safe drinking water, electrification and quality of housing.

Table 9.5: Punjab – Indicator-wise decomposition of MPI

Indicators	Punjab		
	Urban	Rural	Total
MPI score	*0.05*	*0.14*	*0.10*
Indicator wise contribution (percentage)			
Household educational attainment	15.73	14.29	15.01
Child enrolment	13.59	11.11	12.35
Access to post-natal healthcare	15.08	12.79	13.93
Access to healthcare facilities	3.80	11.91	7.86
House wall	1.90	3.91	2.91
Safe drinking water	0.41	0.76	0.58
Type of toilet facility	4.90	7.56	6.23
Type of cooking fuel	8.08	9.47	8.78
Electrification	0.50	1.39	0.94
Asset ownership	23.95	22.56	23.26
Land ownership	12.08	4.23	8.16

The rural-urban differences in the contribution of each indicator to the MPI are evident in Table 9.5. Poor access to health facilities makes four times greater contribution to rural MPI than the urban one. Similarly, the poor quality of the house, type of toilet facility, cooking fuel and electrification make more contribution to rural MPI than the urban. The share of landlessness in MPI score is three times higher for urban MPI than the rural. Similarly, poor educational attainment of household, lack of child enrolment and poor access to post-natal healthcare make higher percentage contribution to urban than rural population.

As shown in other sections, the incidence and extent of poverty varies not only among rural and urban areas but also across regions and districts. Same holds true for the composition of poverty. Table 9.6 shows difference in drivers of poverty among least poor (Jhelum), the poorer (Bhakkar) and the poorest (Rajanpur) districts of Punjab.

Table 9.6: Punjab - Intra-provincial differences in the indicator-wise decomposition of MPI

Indicators	Jhelum	Bhakkar	Rajanpur
MPI score	*0.02*	*0.14*	*0.24*
Indicator wise contribution (percentage)			
Household educational attainment	18.26	12.87	14.98
Child enrolment	5.81	13.71	15.00
Access to post-natal healthcare	10.77	14.72	14.92
Access to healthcare facilities	10.07	12.25	10.47
House wall	0.00	5.04	5.66
Safe drinking water	1.01	0.12	0.91
Type of toilet facility	4.34	8.98	7.59
Type of cooking fuel	8.00	10.02	9.81
Electrification	0.34	1.27	2.65
Asset ownership	18.26	16.05	13.80
Land ownership	12.39	4.66	3.07

Deprivation on the indicators of education and health are the major drivers of MPI score in the poorest district, Rajanpur. Lack of assets, poor health and education are the major drivers of MPI in the poorer district Bhakkar. On the other hand, lack of assets, poor educational attainment of household and landlessness are the major contributors to MPI in the least poor district. As the relative share of each indicator varies across the districts, poverty reduction programs need to be responsive to the relative deprivation of each indicator in various districts.

Sindh

With 22.63 per cent share, lack of assets is the largest contributor to MPI in Sindh, which is followed by lack of child enrolment that makes 15.62 per cent contribution to MPI. Poor educational attainment of households is the third major contributor to MPI in Sindh followed by poor access to post-natal care.

Table 9.7: Sindh – Indicator-wise decomposition of MPI

Indicators	Sindh		
	Urban	Rural	Total
MPI score	*0.10*	*0.25*	*0.17*
Indicator-wise contribution (percentage)			
Household educational attainment	14.44	11.53	12.98
Child enrolment	17.03	14.21	15.62
Access to post-natal healthcare	13.23	10.49	11.86
Access to healthcare facilities	4.00	14.47	9.23
House wall	4.22	7.22	5.72
Safe drinking water	0.44	1.41	0.92
Type of toilet facility	7.54	6.07	6.81
Type of cooking fuel	6.85	8.94	7.90
Electrification	0.79	2.46	1.63
Assets ownership	24.21	21.03	22.62
Land ownership	7.25	2.17	4.71

The share of each indicator to the respective MPI varies between rural and urban regions in Sindh. The contribution of deprivation on two indicators of education and poor access to post-natal care is greater to urban MPI than to the rural one. Poor access to health facilities and landlessness make almost four times greater contribution to rural MPI than the urban. The extent of contribution made by the poor quality of house, type of cooking fuel and electrification to MPI is higher for rural households than the urban.

We now discuss the intra-provincial differences in the drivers of MPI by comparing three districts with different levels of poverty. Noshero Feroz is the least MPI poor district of Sindh, Jacobabad is the poorer and Mirpur Khas is the poorest district.

Table 19.8: Sindh - Intra-provincial differences in the indicator wise decomposition of MPI

	Noshero Feroz	Jacobabad	Mirpur Khas
MPI score	*0.09*	*0.18*	*0.28*
Indicator wise contribution (percentage)			

Household educational attainment	9.65	13.55	12.04
Child enrolment	16.52	20.39	10.33
Access to post-natal healthcare	14.53	11.26	7.74
Access to healthcare facilities	6.30	7.11	17.53
House wall	6.71	4.70	6.09
Safe drinking water	.00	2.07	2.79
Type of toilet facility	10.06	5.14	6.56
Type of cooking fuel	8.35	7.51	8.20
Electrification	.34	.90	2.04
Assets ownership	19.02	17.12	16.28
Land ownership	5.05	8.02	10.39

Lack of assets, child enrolment and access to post-natal care are the three most significant contributors to MPI in the least poor Noshero Ferozdistrict. Lack of child enrolment, assets and poor educational attainment of households are the three significantly contributing indicators to MPI in district Jacobabad. Poor access to health facilities, lack of assets and poor educational attainment of households are the three major contributors to MPI in the poorest district, Mirpur Khas. As is evident from Table 9.8, alongside the magnitude of MPI, the major contributors and their respective share varies across the districts depending upon the level and nature of poverty.

Summary

In this section, we discussed the decomposition of MPI by indicator and identified the major drivers of poverty at the national and provincial levels. We have also highlighted the rural-urban and intra-provincial differences in the contribution of various indicators to the respective MPI score. At the aggregate level, the lack of assets makes the greatest contribution to MPI reflecting upon the inability of the poor to save their incomes and accumulate wealth in the form of valuable assets. Lack of educational opportunities is the next major contributor to poverty. The presence of children aging 6-14 in the household but not enrolled in school reflects households' inability to invest in the future of its young generation. It is the second largest contributing indicator to MPI. The large proportion of households with no single member educated up to primary level or above makes the third major contribution to poverty.

Lack of access to health facilities is also amongst the most significant drivers of poverty. Poor access to post-natal healthcare is the fourth largest contributing indicator to MPI. Similarly, non-availability of the health facilities,whether private or public, within half an hour distance makes the fifth largest contribution to multidimensional poverty in Pakistan. Landlessness, type of cooking fuel, poor sanitation facilities and poor quality of the house also make significant share to MPI.

The decomposition of the district level MPI also provides important insights. This section has highlighted that alongside the varying magnitude of MPI across rural, urban groups and across provinces, its composition also changes. Indicators have different share to the MPI for different provinces and for rural and urban groups. The section has also highlighted strong intra-provincial differences in the composition of poverty in various districts within each province. Identification of the drivers of poverty has highly useful policy implications as major drivers can be prioritized in the poverty reduction programs. As the major drivers of poverty vary across rural and urban groups, provinces and districts, policies to reduce poverty also need to take these differencesinto account.

8- Major Findings

This study is the first attempt to estimate poverty at the most disaggregated district level in Pakistan. By using the PSLM 2008-09 data on 11 indicators pertaining to four dimensions i.e.,education, health, living conditions and asset ownership, it applies the multidimensional approach to measure poverty. It adds to the empirical literature on poverty measurement by employing the Multidimensional Poverty Index methodology at the district level. It provides the estimates of poverty at the national, provincial and district levels on following five key measures of multidimensional poverty: 1) the incidence of poverty or the *headcount ratio*, 2) the extent of deprivation faced by poor or the *intensity of poverty,* 3) the cumulative measure of the incidence and intensity of poverty, *the Multidimensional Poverty Index,*4) the incidence of *severe poverty,* and 5) the incidence of *vulnerability.*

Overall, one-third households fall below the poverty line. There are strong rural-urban and inter-provincial differences in the incidence of poverty. Eighteen per cent urban households live under the conditions of poverty compared to 46 per cent rural households. Poverty is highest in Balochistan where 52 per cent households are poor. KPK and Sindh have 32 and 44 per cent poor households, equal to the national average levels of poverty. On the other hand Punjab is the least poor province with 19 per cent households falling below the poverty line.

The disaggregated analysis highlights stark intra-provincial and regional disparities in the incidence of poverty within each province. In Balochistan, the incidence of poverty is relatively low in the northern region compared to the rest of the province. In KPK, extreme poverty is concentrated in the northern mountainous region and high poverty is observed in the southern district of KPK. Districts in central KPK experience relatively low levels of poverty and the districts adjacent to Islamabad are the least poor ones. Within Punjab, districts in south have very high incidence of poverty whereas the ones in northern Punjab have very low incidence of poverty. Similarly, in Sindh, apart from southwestern region consisting of the districts of Karachi, poverty is high in rest of the province.

As the headcount ratio does not inform about the extent of deprivation faced by the poor, we have separately reported the intensity of poverty at all levels. At the poverty line of 40 per cent of weighted dimensions, poor households in Pakistan are on average deprived of 52 per cent of the weighted dimensions. Like the incidence of poverty, the extent of deprivation is also high amongst rural poor than the urban. The intensity of poverty varies across provinces; poor, on average, are deprived of 54 per cent of weighted dimensions in Balochistan and

50 per cent in Punjab. While the intensity of poverty is a measure independent from headcount ratio, the regions with high headcount ratios, by and large, experience high intensity of poverty. The district level analysis shows strong inequalities within each province as different geographic regions experience different intensity of poverty. Within Balochistan, the districts at the border generally experience higher intensity of poverty. In KPK, the intensity of poverty is the highest in the northern mountainous region than the rest of the province. Within Punjab, the intensity of poverty is higher in southern districts than the northern ones. Similarly in Sindh, the intensity of poverty is higher in southern districts than rest of the province.

We have also provided the estimates of the MPI score which is cumulative measure of the depth and breadth of poverty. The distribution of MPI score reiterates the stark inter-provincial, rural-urban and intra-provincial disparities. Like headcount ratio and the intensity of poverty, the MPI score is geographically distributed in all four provinces, dividing them into regions of high and low MPI score districts.

By setting a higher poverty line, our proposed methodological framework identifies the poorest of the poor. The disaggregated estimates of severe poverty can be very useful for planning various social protection programs and designing poverty reduction strategies. Overall, 21 per cent households in Pakistan are found to be severely poor. Severe poverty in rural population is four times higher than in urban population. There are strong inter-provincial disparities in the incidence of severe poverty. Balochistan has the highest proportion of households, 35 per cent, falling below the severe poverty line. On the other hand, only 11 per cent households in Punjab fall below the severe poverty line. This measure also points out strong regional disparities within each province. The northern regions of Balochistan, Punjab and Sindh have low incidence of severe poverty whereas southern regions in all the provinces have high incidence of severe poverty. The northern mountainous region in KPK has the highest incidence of severe poverty.

We have also provided the estimates of the households that despite being non poor are vulnerable to poverty and a slight increase in their deprivation can push them below the poverty line. Overall, 16 per cent households are vulnerable to poverty with parity between rural and urban population. It is generally found that vulnerability is higher in the regions with mediocre levels of poverty. Extreme poor as well as the least poor regions have low ratios of vulnerable households. Majority of the households in extreme poor districts are already below the poverty line whereas the deprivation level is generally low in least poor districts. Policies aimed at poverty reduction need to take the incidence of vulnerability into account as any increase in the deprivation level of these households would add to the number of those falling below the poverty line.

In order to identify the major drivers of poverty, we have provided the indicator-wise decomposition of MPI. At the aggregate level, deprivations in education and health dimensions collectively make 50 per cent contribution to MPI. The highest contribution by a single indicator is by the lack of asset ownership, followed by non-enrolment of children in school and poor educational attainment of the household members. Lack of access to post-natal care and healthcare facilities are the next major contributors to MPI. Identification of the major contributors to MPI guides policy makers to invest in the priority sectors to alleviate multidimensional poverty. The contribution of various dimensions and indicators varies across rural-urban households, provinces and districts within each province.

This study has repeatedly reported strong geographic clustering of poverty within each province, highlighting the need for further research to explore the factors that cause the clustering poverty. The factors that need particular focus by the future research include; 1) agricultural advantage as regions of less poverty have relatively high agricultural productivity; 2) evolution of agro-industry also seems in favor of the less poor regions; 3) districts around the mega cities seem less poor supporting the hypothesis that big cities are the engines of economic growth; 4) patterns of public spending; 5) quality of governance; 6) population density; 7) migration; and 8) frequency of natural disasters. We have urged to conduct further research on these lines for a prudent analysis of the geography of poverty.

Lastly and most importantly, the mapping also shows that the distribution of poverty in Pakistan is as much ethnic/linguistic as geographic. Different ethnic/linguistic groups across all provinces experience different levels of poverty. Multidimensional inequality between groups with different social identities is called *Horizontal Inequalities*. Literature suggests that horizontal inequalities often cause political instability. Given the scarcity of literature in this dimension, and severity of the consequences of horizontal inequalities, we urge for further research in this direction.

9- Policy Recommendations

This research has several important policy implications to deal with the growing challenge of multidimensional poverty in Pakistan. Most importantly, the decomposition of Multidimensional Poverty Index by indicators makes the case for addressing the major drivers of poverty. As the decomposition of aggregate MPI shows, lack of assets is found to be the single largest contributor to poverty reflecting upon the inability of poor households to save out of their incomes and accumulate valuable assets. There is a need to increase the incomes of the poor by creating livelihood opportunities. As poverty is more concentrated in rural Pakistan, the economic growth strategy needs to emphasize upon the areas of economic activity that would particularly raise the income of rural poor. Existing rural support programs need to be strengthened and innovative approaches are required to reach out to poorest households.

Education indicators are the next major contributors to the MPI. Given the overall poor state of education in Pakistan, there is a dire need to increase allocations of resources for education alongside addressing the inefficiencies of the education system. The priorities within the education system also need to be responsive to the needs of the poor. Global evidence suggests primary education is instrumental in reducing poverty. In the wake of a high proportion of households without a single member educated up to primary level (or beyond) and 7.2 million out of school children, basic education needs to be the highest priority of public policy. The increasing emphasis upon higher education (such as laptop distribution in the universities in Punjab) needs to be revisited as it benefits non-poor compromising the concerns for social justice. More specifically, out of school children need to be sent to schools and drop-out rates need to be reduced particularly when the constitution makes it the responsibility for the government to provide free compulsory education up to the age of 16.

The lack of access to health is the next major driver of multidimensional poverty in Pakistan. The public expenditure on health in Pakistan makes 0.9 per cent of GDP compared to regional South Asian average of 1.3 per cent and global average of 6.1 per cent (WDI 2009). Given the scarcely allocated resources, health provision largely remains a private phenomenon as almost 70 per cent of total health expenditures in Pakistan are private expenditures (WDI 2009) and 56.8 per cent of these private expenditures are out of pocket. Maintaining health is thus very expensive for the poor. Several surveys have repeatedly highlighted that major economic shocks to poor households are often caused by illness and diseases (Bhatti, *et al.* 2010, for example). As a consequence, Pakistan performs extremely poor on all key health indicators. The existing tertiary healthcare

facilities are concentrated in few urban centers and basic health facilities are also insufficient to meet the needs. There is thus need for restructuring the health system so that healthcare is easily accessible for everyone regardless of affordability. The existing Lady Health Visitor program, which is considered to have successfully contributed in reducing maternal mortality, needs to be strengthened and access to post-natal healthcare should be increased.

There is also a need to increase household access to non-solid cooking fuel that would not only improve the health of the household but also contribute to environmental protection. Energy policy should take into account the household needs for cooking fuel. Landlessness combined with poor quality of house being important contributors to poverty need to be addressed through appropriate land reforms and housing policies for poor. Similarly, the access to safe drinking water and sanitation facilities also need to be improved.

It is important to highlight that the contribution of deprivation on various indicators to MPI varies for rural and urban population. Access to healthcare makes particularly large contribution to rural MPI. The section on drivers of poverty highlights that major contributors to poverty (assets, education and health) remain almost the same for all four provinces, however, their respective share in MPI score varies. Policies at the provincial level need to take these differences into account. Similarly, as long as possible, poverty reduction programs need to consider differences in the significance of drivers of poverty at the district level. The varying composition of poverty at the district level calls for district specific policies. Hence, it makes the case for decentralization beyond provincial level.

While the regional clustering of poverty particularly severe poverty is a matter of serious concern, it simultaneously provides the opportunity to effectively reach the poorest of the poor by targeting the geographical clusters of poverty within each province. Alongside reducing poverty, such regional targeting can greatly help achieve several MDGs since majority of the households in the geographic clusters of poverty are simultaneously deprived of multiple dimensions. Addressing their deprivations would improve several key indicators of education, health, living conditions and assets ownership. Provincial governments need to develop special regional development plans to target the poorest districts. As the MPI ranking suggests, provincial governments should target the following districts on priority basis.

Balochistan: Following are the highest priority districts of Balochistan: Musakhel, Awaran, Washuk, Dera Bugti, Kohlu, Chaghi, Qilla Abdullah, Bolan/Kachi, Jhal Magsi and Nasirabad

KPK: Mountainous region in the north being extremely poor deserves the greatest focus for poverty reduction. Ten priority districts should be:

Kohistan, Shangla, Upper Dir, Batagram, Bonair, D.I Khan, Swat, Tank, Malakand and Lower Dir.

Punjab: Poverty is very high in south Punjab. Ten priority districts in Punjab should be: Rajanpur, Muzaffargarh, D.G Khan, Bahawalpur, Layyah, Lodhran, Multan, Pakpattan, Rahim Yar Khan and Bhakkar.

Sindh: Following districts should be the priority of the poverty reduction programs in Sindh: Mirpur Khas, Tharparker, Badin, Thatta, Jamshoro, Tando Mitha Khan, Nawabshah, Shahdadkot, Larkana and Jacobabad.

While focusing upon the priority districts, the respective share of each of the indicators must be kept in mind as drivers of poverty vary across districts. The dimensions making higher contribution to MPI should be given priority.

The high incidence of vulnerability also suggests that poverty reduction cannot be achieved by focusing only upon the poorest districts and ignoring the ones where large proportion of households is vulnerable to poverty. The development planning also needs to focus upon the districts with the highest incidence of vulnerability within each province. Vulnerability can be reduced by improving economic opportunities and investing in the major drivers of poverty such as education, health and living conditions.

Lastly, this research has highlighted several areas, which need further research and analysis. The first and foremost important recommendation is that the multidimensionality of poverty approach needs to be adopted to provide official estimates of poverty. Secondly, provincial governments need to provide as disaggregated level estimates of poverty as possible. We have shown in this research that district level analysis of poverty opens up new avenues for debate and policies. The nationally representative standard surveys need to be available at the disaggregated level providing data about all districts and covering all important indicators. These surveys also need to provide information about social identities particularly language since we have observed that distribution of poverty in Pakistan overlaps the linguistic diversity. Thirdly, a great deal of research is required to explore the factors that could explain the geography of poverty in Pakistan. We have highlighted some of the possible factors that need prudent analysis.

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APPENDIX 1[12]: SAMPLE DESIGN FOR PAKISTAN SOCIAL AND LIVING

STANDARDS MEASUREMENT SURVEY (DISTRICT LEVEL), 2008-09

Objectives:

The data generated through PSLM Survey will be used to assist the government in formulating the poverty reduction strategy as well as development plans at district level.

The indicators will be developed at district level in the following sectors.

1. Education
2. Health
3. Water Supply & Sanitation.
4. Household Assets/Amenities.
5. Satisfaction to Service Delivery.

Universe:

The universe of this survey consists of all urban and rural areas of all four provinces. Military restricted and protected areas of Khyber Pakhtunkhwa have been excluded from the scope of the survey.

SAMPLING FRAME

Urban area:

FBS has developed its own urban area frame. All urban areas comprising cities/towns have been divided into small compact areas known as enumeration blocks (E.Bs) identifiable through map. Each enumeration block consists of about 200-250 households and categorized into low, middle and high-income groups, keeping in view

[12]Directly provided from the PSLM 2008-09 report

the socioeconomic status of the majority of households. Urban area sampling frame consist of 26698 enumeration blocks updated in 2003.

Rural area:

With regard to the rural areas, the lists of villages/mouzas/dehs according to Population Census, 1998 have been used as sampling frame. In this frame, each village/mouza/deh is identifiable by its Name, Hadbast Number, Cadastral map etc. This frame consists of 50590 villages/mouzas. The number of enumeration blocks in urban and mouzas/dehs/villages in rural areas of the country is as under:

Province	Number of Enumeration Blocks	Number of Villages
Punjab	14,873	26,007
Sindh	9,025	5,871
Khyber Pakhtunkhwa	1,913	7,337
Balochistan	613	6,557
Azad Jammu & Kashmir	210	556
Northern Areas	64	566
Fata	-	2596
Total	26,698	50,588

STRATIFICATION PLAN

Urban Areas:

Within each district, large sized cities with population of five lac or above have been treated as an independent stratum. Each of these cities has further been sub-stratified into low, middle and high income group areas. The remaining cities/towns within each district have been grouped together to constitute an independent stratum. The entire Azad Jammu & Kashmir and Northern Areas have been treated as separate stratum, respectively.

Rural Areas:

The rural areas in the districts of Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan are considered as independent stratum. All rural areas within AJK and Northern Areas have been adopted as independent stratum, respectively.

Sample Size and its Allocation

To determine optimum sample size for this survey, analytical studies based on the results of Pakistan Demographic Survey, Labor Force

Survey and Pakistan Integrated Households Sample Survey were undertaken. Keeping in view the variability existing within the population for the characteristics for which estimates are to be prepared, population distribution, level of estimates and field resources available, a sample size of 76520 households enumerated from 5348 sample PSUs (2262 from urban and 3086 from rural areas) has been considered sufficient to produce reliable estimates at district level with respect to all provinces.

Sample Design:

A two-stage stratified sample design has been adopted for this survey.

Selection of Primary Sampling Units (PSUs):

Enumeration blocks in the urban domain and mouzas/dehs/villages in rural domain have been taken as primary sampling units (PSUs). In urban domain, sample PSUs from each stratum have been selected by probability proportional to size (PPS), method of sampling scheme using households in each block as measure of size (MOS). Similarly in rural areas, population of each village has been taken as MOS for selection of sample villages using probability proportional to size method of selection.

Selection of Secondary Sampling Units (SSUs):

Households within each Primary Sampling Unit (PSU) have been considered as Secondary Sampling Units (SSUs). 16 and 12 households have been selected from each sample village and enumeration block, respectively, by systematic sampling scheme with a random start.

Appendix 2: District ranking over the incidence of poverty (headcount ratio)

Province	District	Headcount Ratio	Rank	Province	District	Headcount Ratio	Rank
KPK	Kohistan	0.89	1	Sindh	Tando M Khan	0.41	31
Balochistan	Musakhel	0.88	2	Punjab	Muzaffargarh	0.40	32
Balochistan	Washuk	0.78	3	Balochistan	Pashin	0.40	33
Balochistan	Awaran	0.75	4	Sindh	Thatta	0.40	34
Balochistan	Dera Bugti	0.72	5	Balochistan	Mastung	0.40	35
Balochistan	Chaghi	0.69	6	Balochistan	Sibbi	0.39	36
Balochistan	Qillah Abdullah	0.66	7	Balochistan	Zhob	0.39	37
Balochistan	Jhal Magsi	0.65	8	Sindh	Nawabshah	0.39	38
Balochistan	Kohlu	0.64	9	KPK	Swat	0.39	39
Balochistan	Bolan/Kachi	0.63	10	Sindh	Jamshoro	0.39	40
KPK	Shangla	0.63	11	Balochistan	Loralai	0.38	41
KPK	Upper Dir	0.55	12	Balochistan	Gwadar	0.38	42
Balochistan	Nasirabad	0.54	13	Sindh	Larkana	0.38	43
Balochistan	Jafarabad	0.54	14	Sindh	Shahdadkot	0.38	44
Balochistan	Qillah Saifuallh	0.53	15	KPK	Tank	0.36	45
Balochistan	Barkhan	0.52	16	Sindh	Jacobabad	0.36	46
Balochistan	Nushki	0.51	17	Punjab	D.G. Khan	0.36	47
Balochistan	Lasbela	0.51	18	KPK	Malakand	0.35	48
Balochistan	Kharan	0.51	19	Balochistan	Quetta	0.34	49
KPK	Batagram	0.50	20	Sindh	Kashmore	0.34	50
KPK	Bonair	0.50	21	KPK	Lower Dir	0.33	51
Balochistan	Kalat	0.49	22	Sindh	Ghotki	0.33	52
Balochistan	Kech/Turbat	0.47	23	Punjab	Bahawalpur	0.33	53
Sindh	Tharparkar	0.47	24	KPK	Lakki Marwat	0.33	54
Sindh	Mirpur Khas	0.44	25	KPK	Mardan	0.33	55
Punjab	Rajanpur	0.44	26	Sindh	Tando Allah Yar	0.32	56
Balochistan	Khuzdar	0.43	27	Balochistan	Panjgur	0.31	57
Balochistan	Ziarat	0.43	28	Punjab	Layyah	0.31	58
Sindh	Badin	0.42	29	Punjab	Lodhran	0.31	59

KPK	D.I. Khan	0.41	30	Sindh	Matiari	0.29	60

Province	District	Headcount Ratio	Rank	Province	District	Headcount Ratio	Rank
Sindh	Dadu	0.29	61	Sindh	Noshero Feroz	0.20	86
Punjab	Pakpattan	0.29	62	Sindh	Karachi	0.20	87
Punjab	Multan	0.28	63	Punjab	Nankana Sahib	0.19	88
KPK	Hangu	0.28	64	KPK	Nowshera	0.18	89
Sindh	Sanghar	0.28	65	KPK	Abbottabad	0.18	90
Sindh	Shikarpur	0.28	66	Punjab	Sahiwal	0.18	91
Punjab	Khanewal	0.28	67	Punjab	Sheikupura	0.16	92
Punjab	Bhakkar	0.28	68	Punjab	Sargodha	0.16	93
Sindh	Khairpur	0.27	69	Punjab	Mianwali	0.14	94
Punjab	Rahim Yar Khan	0.27	70	Punjab	Narowal	0.14	95
KPK	Karak	0.27	71	Punjab	Khushab	0.14	96
Punjab	Vehari	0.27	72	Punjab	Hafizabad	0.13	97
Punjab	Bahawalnagar	0.27	73	Punjab	Lahore	0.12	98
KPK	Mansehra	0.26	74	Punjab	Attock	0.11	99
KPK	Kohat	0.26	75	KPK	Haripur	0.11	100
Punjab	Jhang	0.26	76	Punjab	T.T. Singh	0.10	101
Sindh	Sukkur	0.25	77	Punjab	Faisalabad	0.09	102
KPK	Bannu	0.25	78	Punjab	Rawalpindi	0.08	103
Sindh	Hyderabad	0.25	79	Punjab	Sialkot	0.07	104
KPK	Charsada	0.24	80	Punjab	Gujranwala	0.07	105
KPK	Peshawar	0.24	81	Punjab	Mandi Bahuddin	0.06	106
KPK	Swabi	0.22	82	Punjab	Chakwal	0.05	107
KPK	Chitral	0.22	83	ICT	Islamabad	0.05	108
Punjab	Kasur	0.21	84	Punjab	Gujrat	0.04	109

Punjab	Okara	0.21	85	Punjab	Jhelum	0.03	110

Appendix 3: District ranking on the intensity of deprivation faced by poor

Province	District	Intensity	Rank	Province	District	Intensity	Rank
Balochistan	Musakhel	0.63	1	KPK	Peshawar	0.53	31
Balochistan	Dera Bugti	0.60	2	Sindh	Hyderabad	0.53	32
Balochistan	Awaran	0.60	3	KPK	Nowshera	0.52	33
KPK	Kohistan	0.60	4	KPK	Swat	0.52	34
Sindh	Mirpur Khas	0.59	5	KPK	Mardan	0.52	35
Balochistan	Kohlu	0.57	6	Sindh	Tharparkar	0.52	36
Balochistan	Washuk	0.57	7	Sindh	Thatta	0.52	37
Balochistan	Qillah Abdullah	0.56	8	Sindh	Sanghar	0.52	38
Balochistan	Chaghi	0.56	9	KPK	Mansehra	0.52	39
Balochistan	Bolan/Kachi	0.55	10	Balochistan	Kech/Turbat	0.52	40
Balochistan	Lasbela	0.55	11	KPK	Malakand	0.52	41
Balochistan	Jafarabad	0.55	12	Punjab	Rajanpur	0.52	42
Punjab	Jhelum	0.55	13	Balochistan	Ziarat	0.52	43
Balochistan	Sibbi	0.55	14	Punjab	D.G. Khan	0.52	44
Balochistan	Nasirabad	0.55	15	Punjab	Muzaffargarh	0.51	45
Balochistan	Pashin	0.55	16	Punjab	Bahawalpur	0.51	46
KPK	Shangla	0.54	17	Balochistan	Mastung	0.51	47
Balochistan	Barkhan	0.54	18	Sindh	Tando Allah Yar	0.51	48
ICT	Islamabad	0.54	19	Sindh	Matiari	0.51	49
Sindh	Jamshoro	0.54	20	Balochistan	Khuzdar	0.51	50
Balochistan	Zhob	0.54	21	Punjab	Pakpattan	0.51	51
KPK	Batagram	0.53	22	Punjab	Lodhran	0.51	52
Balochistan	Loralai	0.53	23	Punjab	Multan	0.51	53
Balochistan	Nushki	0.53	24	Sindh	Tando M khan	0.51	54
Balochistan	Qillah Saifuallh	0.53	25	Punjab	Gujrat	0.51	55
Balochistan	Jhal Magsi	0.53	26	Punjab	Layyah	0.51	56
Balochistan	Quetta	0.53	27	Sindh	Dadu	0.51	57
Sindh	Karachi	0.53	28	Sindh	Ghotki	0.51	58
Sindh	Nawabshah	0.53	29	Punjab	Okara	0.51	59

KPK	Bonair	0.53	30	Sindh	Shahdadkot	0.51	60

Province	District	Intensity	Rank	Province	District	Intensity	Rank
KPK	Lower Dir	0.51	61	Punjab	Nankana Sahib	0.49	86
Punjab	Kasur	0.51	62	KPK	Lakki Marwat	0.49	87
Punjab	Rawalpindi	0.51	63	Sindh	Larkana	0.49	88
Punjab	Rahim Yar Khan	0.51	64	KPK	Haripur	0.49	89
Balochistan	Gwadar	0.50	65	KPK	Charsada	0.49	90
KPK	Tank	0.50	66	Punjab	Hafizabad	0.49	91
Punjab	Sialkot	0.50	67	Sindh	Kashmore	0.49	92
Sindh	Sukkur	0.50	68	Sindh	Shikarpur	0.49	93
KPK	Karak	0.50	69	Punjab	Mianwali	0.49	94
Balochistan	Kharan	0.50	70	Punjab	Khanewal	0.49	95
Balochistan	Kalat	0.50	71	Punjab	Gujranwala	0.49	96
Punjab	Lahore	0.50	72	Punjab	Mandi Bahuddin	0.49	97
Punjab	Sargodha	0.50	73	KPK	Hangu	0.49	98
Sindh	Jacobabad	0.50	74	Punjab	Attock	0.49	99
KPK	D.I. Khan	0.50	75	KPK	Kohat	0.49	100
Punjab	Vehari	0.50	76	Sindh	Khairpur	0.49	101
Punjab	Sheikupura	0.50	77	Punjab	T.T. Singh	0.49	102
Punjab	Sahiwal	0.50	78	KPK	Bannu	0.49	103
Sindh	Badin	0.50	79	KPK	Abbottabad	0.48	104
KPK	Swabi	0.50	80	Punjab	Faisalabad	0.48	105
Balochistan	Panjgur	0.50	81	Sindh	Noshero Feroz	0.48	106
Punjab	Bhakkar	0.50	82	Punjab	Narowal	0.48	107
KPK	Upper Dir	0.50	83	KPK	Chitral	0.47	108
Punjab	Bahawalnagar	0.50	84	Punjab	Khushab	0.47	109
Punjab	Jhang	0.49	85	Punjab	Chakwal	0.45	110

Appendix 4: District ranking over MPI Score

Province	District	MPI Score	MPI Rank	Province	District	MPI Score	MPI Rank
Balochistan	Musakhel	0.56	1	Balochistan	Pashin	0.22	31
KPK	Kohistan	0.53	2	Balochistan	Loralai	0.22	32
Balochistan	Awaran	0.45	3	Balochistan	Mastung	0.22	33
Balochistan	Washuk	0.45	4	Sindh	Badin	0.21	34
Balochistan	Dera Bugti	0.44	5	Sindh	Thatta	0.21	35
Balochistan	Kohlu	0.39	6	KPK	D.I. Khan	0.21	36
Balochistan	Chaghi	0.39	7	Sindh	Jamshoro	0.21	37
Balochistan	Qillah Abdullah	0.37	8	Punjab	Muzaffargarh	0.21	38
Balochistan	Bolan/Kachi	0.37	9	KPK	Swat	0.21	39
Balochistan	Jhal Magsi	0.36	10	Sindh	Tando M Khan	0.21	40
KPK	Shangla	0.34	11	Sindh	Nawabshah	0.21	41
Balochistan	Nasirabad	0.31	12	Balochistan	Gwadar	0.20	42
Balochistan	Jafarabad	0.30	13	Sindh	Shahdadkot	0.19	43
Balochistan	Barkhan	0.30	14	Sindh	Larkana	0.19	44
Balochistan	Qillah Saifuallh	0.30	15	Punjab	D.G. Khan	0.19	45
Balochistan	Lasbela	0.29	16	Balochistan	Quetta	0.19	46
Sindh	Mirpur Khas	0.28	17	KPK	Tank	0.18	47
Balochistan	Nushki	0.27	18	Sindh	Jacobabad	0.18	48
KPK	Upper Dir	0.27	19	KPK	Malakand	0.18	49
KPK	Batagram	0.27	20	Sindh	Tando Allah Yar	0.17	50
Balochistan	Kharan	0.26	21	Punjab	Bahawalpur	0.17	51
KPK	Bonair	0.26	22	KPK	Lower Dir	0.17	52
Sindh	Tharparkar	0.25	23	Sindh	Ghotki	0.17	53
Balochistan	Kalat	0.25	24	KPK	Mardan	0.17	54
Balochistan	Kech/Turbat	0.25	25	KPK	Lakki Marwat	0.17	55
Punjab	Rajanpur	0.24	26	Sindh	Kashmore	0.17	56
Balochistan	Khuzdar	0.23	27	Balochistan	Panjgur	0.17	57
Balochistan	Sibbi	0.23	28	Punjab	Layyah	0.16	58
Balochistan	Ziarat	0.22	29	Punjab	Lodhran	0.16	59
Balochistan	Zhob	0.22	30	Sindh	Matiari	0.15	60

Province	District	MPI Score	MPI Rank	Province	District	MPI Score	MPI Rank
Sindh	Dadu	0.15	61	Sindh	Karachi	0.10	86
Sindh	Sanghar	0.15	62	Sindh	Noshero Feroz	0.09	87
Punjab	Multan	0.15	63	KPK	Nowshera	0.09	88
Punjab	Pakpattan	0.15	64	Punjab	Nankana Sahib	0.09	89
Punjab	Rahim Yar Khan	0.14	65	Punjab	Sahiwal	0.09	90
KPK	Karak	0.14	66	KPK	Abbottabad	0.09	91
KPK	Mansehra	0.14	67	Punjab	Sheikupura	0.08	92
Punjab	Bhakkar	0.14	68	Punjab	Sargodha	0.08	93
KPK	Hangu	0.14	69	Punjab	Mianwali	0.07	94
Punjab	Khanewal	0.14	70	Punjab	Khushab	0.07	95
Sindh	Shikarpur	0.14	71	Punjab	Narowal	0.07	96
Punjab	Vehari	0.14	72	Punjab	Hafizabad	0.06	97
Sindh	Khairpur	0.13	73	Punjab	Lahore	0.06	98
Punjab	Bahawalnagar	0.13	74	KPK	Haripur	0.06	99
Sindh	Hyderabad	0.13	75	Punjab	Attock	0.05	100
Punjab	Jhang	0.13	76	Punjab	T.T. Singh	0.05	101
Sindh	Sukkur	0.13	77	Punjab	Faisalabad	0.04	102
KPK	Kohat	0.13	78	Punjab	Rawalpindi	0.04	103
KPK	Peshawar	0.13	79	Punjab	Sialkot	0.03	104
KPK	Bannu	0.12	80	Punjab	Gujranwala	0.03	105
KPK	Charsada	0.12	81	Punjab	Mandi Bahuddin	0.03	106
KPK	Swabi	0.11	82	ICT	Islamabad	0.02	107
Punjab	Okara	0.11	83	Punjab	Chakwal	0.02	108
KPK	Chitral	0.11	84	Punjab	Gujrat	0.02	109
Punjab	Kasur	0.10	85	Punjab	Jhelum	0.02	110

Appendix 5: District ranking over the incidence of severe poverty

Province	District	Severity	Rank	Province	District	Severity	Rank
Balochistan	Musakhel	0.74	1	Balochistan	Khuzdar	0.24	31
KPK	Kohistan	0.69	2	Sindh	Jamshoro	0.23	32
Balochistan	Awaran	0.64	3	Balochistan	Zhob	0.22	33
Balochistan	Washuk	0.58	4	Punjab	Muzaffargarh	0.22	34
Balochistan	Dera Bugti	0.51	5	Balochistan	Ziarat	0.21	35
Balochistan	Chaghi	0.51	6	Balochistan	Gwadar	0.21	36
Balochistan	Kohlu	0.47	7	Balochistan	Pashin	0.21	37
Balochistan	Qillah Abdullah	0.43	8	KPK	Swat	0.20	38
Balochistan	Jhal Magsi	0.42	9	KPK	D.I. Khan	0.20	39
Balochistan	Bolan/Kachi	0.40	10	Sindh	Badin	0.20	40
KPK	Shangla	0.40	11	Sindh	Nawabshah	0.20	41
Balochistan	Lasbela	0.37	12	Sindh	Tando M Khan	0.20	42
Balochistan	Nasirabad	0.37	13	Balochistan	Quetta	0.19	43
Balochistan	Barkhan	0.37	14	Punjab	D.G. Khan	0.19	44
Balochistan	Qillah Saifuallh	0.35	15	Balochistan	Panjgur	0.18	45
Balochistan	Jafarabad	0.33	16	KPK	Tank	0.17	46
Balochistan	Nushki	0.33	17	Sindh	Tando Allah Yar	0.17	47
Sindh	Mirpur Khas	0.31	18	Sindh	Shahdadkot	0.17	48
Sindh	Tharparkar	0.30	19	Punjab	Bahawalpur	0.17	49
Balochistan	Kech/Turbat	0.29	20	KPK	Malakand	0.16	50
KPK	Batagram	0.28	21	KPK	Mardan	0.16	51
KPK	Upper Dir	0.27	22	KPK	Lakki Marwat	0.16	52
KPK	Bonair	0.27	23	Sindh	Larkana	0.16	53
Balochistan	Kharan	0.27	24	Punjab	Layyah	0.15	54
Balochistan	Loralai	0.27	25	KPK	Lower Dir	0.15	55
Balochistan	Sibbi	0.25	26	Sindh	Jacobabad	0.15	56
Punjab	Rajanpur	0.25	27	Sindh	Matiari	0.15	57
Balochistan	Kalat	0.25	28	Punjab	Multan	0.15	58
Balochistan	Mastung	0.25	29	Punjab	Rahim Yar Khan	0.15	59
Sindh	Thatta	0.24	30	KPK	Mansehra	0.14	60

Province	District	Severity	Rank	Province	District	Severity	Rank
Punjab	Lodhran	0.14	61	KPK	Nowshera	0.08	86
Sindh	Ghotki	0.14	62	Punjab	Nankana Sahib	0.08	87
Sindh	Dadu	0.14	63	KPK	Chitral	0.07	88
KPK	Peshawar	0.14	64	Punjab	Kasur	0.07	89
KPK	Karak	0.14	65	KPK	Abbottabad	0.07	90
Sindh	Sanghar	0.14	66	Punjab	Sheikupura	0.07	91
Punjab	Pakpattan	0.14	67	Sindh	Noshero Feroz	0.06	92
Sindh	Hyderabad	0.13	68	Punjab	Hafizabad	0.05	93
Punjab	Bhakkar	0.12	69	Punjab	Sargodha	0.05	94
Punjab	Bahawalnagar	0.12	70	Punjab	Mianwali	0.05	95
KPK	Kohat	0.11	71	KPK	Haripur	0.05	96
Punjab	Vehari	0.11	72	Punjab	Khushab	0.04	97
Sindh	Kashmore	0.11	73	Punjab	Lahore	0.04	98
Sindh	Karachi	0.11	74	Punjab	Attock	0.04	99
Punjab	Jhang	0.11	75	Punjab	Narowal	0.04	100
KPK	Hangu	0.11	76	Punjab	Rawalpindi	0.03	101
Punjab	Khanewal	0.11	77	Punjab	Faisalabad	0.03	102
Punjab	Okara	0.10	78	Punjab	T.T. Singh	0.03	103
Sindh	Sukkur	0.10	79	Punjab	Sialkot	0.02	104
Sindh	Shikarpur	0.10	80	ICT	Islamabad	0.02	105
KPK	Bannu	0.10	81	Punjab	Gujrat	0.02	106
Sindh	Khairpur	0.09	82	Punjab	Gujranwala	0.02	107
KPK	Swabi	0.09	83	Punjab	Jhelum	0.01	108
KPK	Charsada	0.09	84	Punjab	Mandi Bahuddin	0.01	109
Punjab	Sahiwal	0.08	85	Punjab	Chakwal	0.01	110

Appendix 6: District ranking over the incidence of vulnerability

Province	District	Vulnerability	Rank	Province	District	Vulnerability	Rank
Balochistan	Kohlu	0.28	1	Sindh	Thatta	0.18	31
Balochistan	Ziarat	0.26	2	Balochistan	Pashin	0.18	32
Sindh	Kashmore	0.25	3	Sindh	Badin	0.18	33
KPK	Batagram	0.25	4	KPK	Swabi	0.18	34
Sindh	Sukkur	0.23	5	Punjab	Sheikupura	0.18	35
KPK	Tank	0.23	6	KPK	Abbottabad	0.18	36
Sindh	Dadu	0.23	7	Punjab	Pakpattan	0.18	37
Punjab	Kasur	0.22	8	Sindh	Sanghar	0.17	38
KPK	Karak	0.22	9	Punjab	Nankana Sahib	0.17	39
KPK	Hangu	0.22	10	Sindh	Tando M. khan	0.17	40
Sindh	Shikarpur	0.22	11	Balochistan	Quetta	0.17	41
Punjab	Jhang	0.21	12	Balochistan	Lasbela	0.17	42
Punjab	Narowal	0.21	13	Sindh	Tando Allah Yar	0.17	43
Sindh	Shahdadkot	0.21	14	Balochistan	Chaghi	0.17	44
Sindh	Ghotki	0.21	15	Punjab	Sargodha	0.17	45
Sindh	Jacobabad	0.21	16	Punjab	Khanewal	0.16	46
Punjab	Mianwali	0.20	17	KPK	Shangla	0.16	47
Sindh	Hyderabad	0.20	18	Punjab	Rajanpur	0.16	48
Sindh	Khairpur	0.20	19	Punjab	T.T. Singh	0.16	49
Sindh	Noshero Feroz	0.20	20	Sindh	Nawabshah	0.16	50
Punjab	Lodhran	0.20	21	Punjab	Khushab	0.16	51
Punjab	Bhakkar	0.20	22	Punjab	D.G .Khan	0.16	52
Punjab	Bahawalnagar	0.19	23	Punjab	Rahim Yar Khan	0.16	53
KPK	Lakki Marwat	0.19	24	KPK	Bannu	0.16	54
Punjab	Muzaffargarh	0.19	25	KPK	Bonair	0.16	55
Sindh	Matiari	0.19	26	Sindh	Jamshoro	0.16	56
KPK	Nowshera	0.18	27	Punjab	Multan	0.15	57
Sindh	Larkana	0.18	28	Punjab	Bahawalpur	0.15	58
KPK	Charsada	0.18	29	KPK	Lower Dir	0.15	59
Punjab	Vehari	0.18	30	Punjab	Sahiwal	0.15	60

Province	District	Vulnerability	Rank	Province	District	Vulnerability	Rank
Balochistan	Nasirabad	0.15	61	Balochistan	Panjgur	0.12	86
Sindh	Karachi	0.15	62	Balochistan	Khuzdar	0.12	87
Sindh	Tharparkar	0.15	63	Balochistan	Nushki	0.12	88
Punjab	Okara	0.15	64	Balochistan	Zhob	0.12	89
Sindh	Mirpur Khas	0.15	65	KPK	D.I. Khan	0.12	90
Balochistan	Barkhan	0.15	66	Punjab	Layyah	0.12	91
KPK	Malakand	0.15	67	Balochistan	Qillah Saifuallh	0.12	92
Punjab	Hafizabad	0.15	68	Balochistan	Kalat	0.11	93
Punjab	Faisalabad	0.14	69	Balochistan	Kech/Turbat	0.11	94
Balochistan	Jafarabad	0.14	70	KPK	Upper Dir	0.11	95
KPK	Mardan	0.14	71	Punjab	Chakwal	0.11	96
Balochistan	Dera Bugti	0.14	72	Balochistan	Bolan/Kachi	0.10	97
Punjab	Sialkot	0.14	73	Balochistan	Gwadar	0.10	98
KPK	Kohat	0.14	74	Punjab	Gujrat	0.10	99
Balochistan	Sibbi	0.14	75	Punjab	Attock	0.10	100
KPK	Peshawar	0.14	76	Balochistan	Awaran	0.10	101
KPK	Chitral	0.14	77	Balochistan	Washuk	0.10	102
Punjab	Gujranwala	0.14	78	Balochistan	Loralai	0.10	103
Balochistan	Mastung	0.13	79	Punjab	Rawalpindi	0.09	104
Punjab	Lahore	0.13	80	Balochistan	Kharan	0.08	105
Punjab	Mandi Bahuddin	0.13	81	KPK	Kohistan	0.08	106
Balochistan	Qillah Abdullah	0.13	82	Balochistan	Musakhel	0.08	107
KPK	Mansehra	0.12	83	Punjab	Jhelum	0.08	108
KPK	Haripur	0.12	84	ICT	Islamabad	0.06	109
KPK	Swat	0.12	85	Balochistan	Jhal Magsi	0.03	110