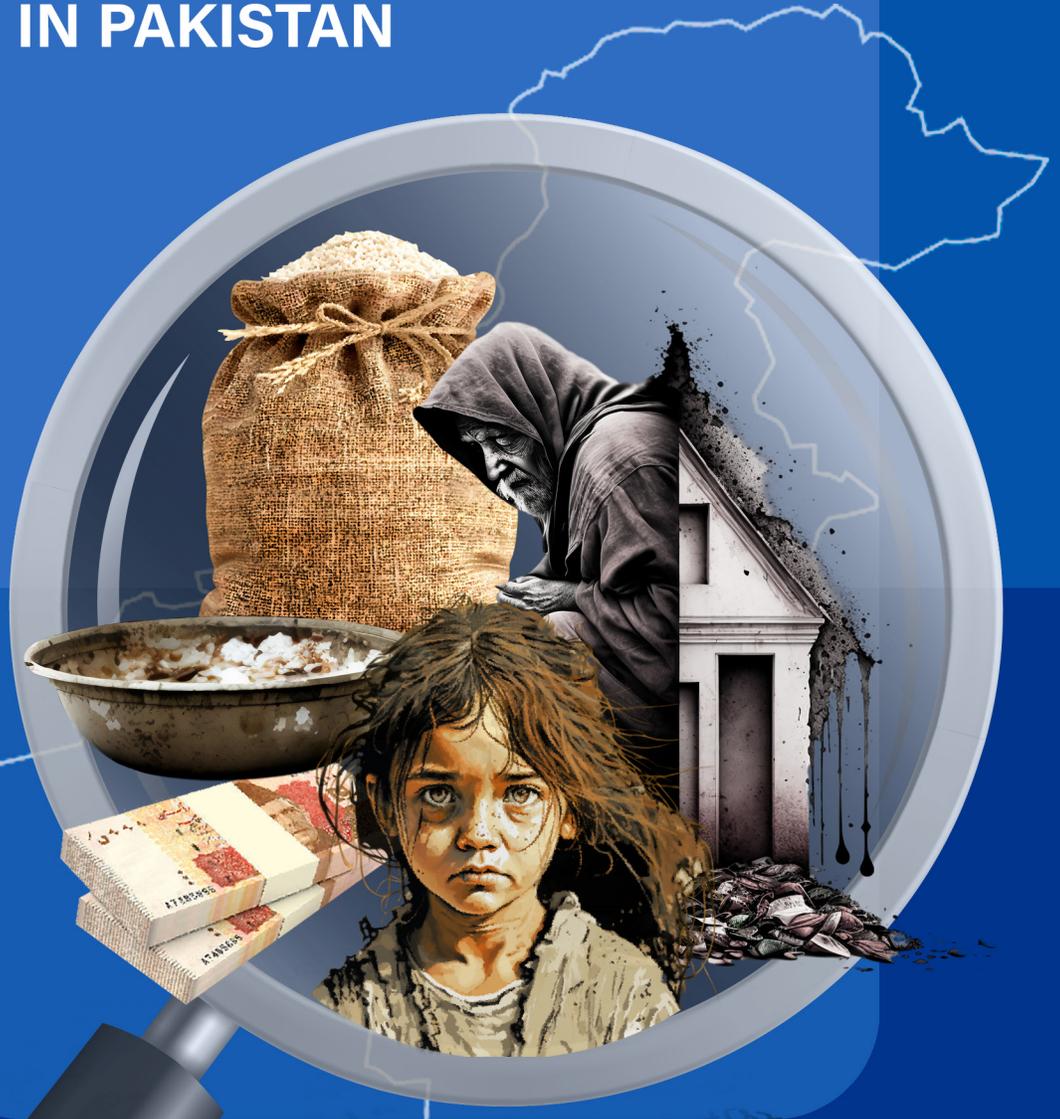


REPORT **MULTIDIMENSIONAL  
POVERTY**  
IN PAKISTAN





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## Foreword

Eradication of all forms and dimensions of poverty by 2030 is the first goal of the UN's Sustainable Development Goals (SDGs). A key step towards this goal involves the identification and evaluation of the poor and the extent of poverty. This crucial exercise informs the design and implementation of targeted and cost-effective poverty reduction programs and safety nets.

PIDE has taken a leading role in the debate on poverty issues in Pakistan. Over the decades it has extensively contributed to poverty measurement, identification of the determinants of poverty, exploration of poverty dynamics and the evaluation of the effectiveness of social protection programs. PIDE annual report 2021 on "***The State of Poverty in Pakistan***" came as an important step in the direction of the production of contextual knowledge about the state of poverty in Pakistan. It estimated the degree of poverty and developed a consistent poverty series, using CBN approach, to understand the dynamics of poverty in the country.

As a logical progression, PIDE embarks upon the endeavor to estimate the multidimensional poverty in Pakistan. The rationale behind this measurement is to compliment the income-based measures of poverty and thus capture its true extent and reality. This explains not just who is affected by poverty, but also how they are affected, showing the array of challenges the poor encounter in their search for a better quality of life.

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## Executive Summary

**Background and Objectives:** This report presents Multidimensional Poverty using various rounds of Pakistan Social and Living Standards Measurement (PSLM) surveys. Multidimensional Poverty Index (MPI) is developed using the Alkire-Foster (AF) method, comprises of three dimensions: education, health and living standards, these dimensions collectively entail 15 indicators. Three indicators are under the education dimension (year of schooling, child school attendance and school quality), four indicators are under the health dimension (access to health facilities, immunization, anti-natal care and assisted delivery) while eight indicators are used within the dimension of living standards (water, sanitation, wall, overcrowding, electricity, cooking fuel, assets and land and livestock). Nested weights are used to determine the value of each dimension and indicator.

Following the AF method, this reports also for the first time designs a multidimensional poverty index to measure digital poverty in Pakistan. Pakistan's ICT MPI consist of three dimensions, namely, ICT availability, ICT access and affordability and ICT literacy. Within these dimensions collectively eleven indicators are used to measure acute digital deprivation in the country. Four indicators are under the ICT availability dimension (basic ICT items, modern ICT items, basic ICT communication and modern ICT communication), four indicators are under the ICT access and affordability dimension (internet access, ICT affordability/access, affordability/access of ICT for communication and internet affordability/access, while the ICT literacy dimension contains three indicators (use of computer, use of mobile and use of internet). These dimension and indicators are respectively assigned weights to measure the digital poverty in Pakistan.

### Key Findings

**Magnitude of Multidimensional Poverty:** Recent estimates show that 39.5% of population is identified as multidimensional poor. The average intensity of deprivation which reflects the share of deprivation each person experiences on average is 48.3%. In other words, each multidimensionally poor person in Pakistan on average is deprived in nearly half of the 15 weighted indicators used for MPI calculations. Pakistan's national MPI, which is the product of the percentage of poor people and the average intensity of poverty, stands at 0.191 This indicates that poor people in Pakistan experience 19.1% of the deprivations that would be experienced if all people were deprived in all indicators. Furthermore, the incidence (headcount ratio) of multidimensional poverty in urban areas is reported to be 17% while in the rural areas more than half of the population (51%) is multidimensional poor.

In terms of the percentage contribution of each of the 15 indicators, the largest contribution comes from year of schooling (33.15%) followed by health facilities with 18.95% and school attendance with 10.7%. When aggregating the indicators by dimensions, the largest contribution is due to education with 49.4% followed by standards of living with 26.5%. While deprivation in health with 24.1% has the lowest contribution among the dimensions.

**Trend in MPI:** Multidimensional poverty has slightly increased in 2019-20 compared to 2014-15. The percentage share of multidimensional poor has increased from 38.6% in 2014-15 (the last time MPI was calculated) to 39.5% in 2019-20. This marginal increase signifies a deviation from the historical pattern of multidimensional poverty in Pakistan. Over the last fifteen years multidimensional poverty in Pakistan has consistently declined. The trajectory from 2014-15 to 2019-20 however is in the opposite direction. For the first time in fifteen years the population share of multidimensional poor in the country has increased.

**Regional Poverty:** The regional spread of MPI informs that primarily the increase has occurred in urban areas of the country. The headcount ratio in the urban areas has increased from 9.5% in 2014-15 to 17.3% in 2019-20 exhibiting almost 50% increase in urban poverty. Even though multidimensional poverty in Pakistan is mostly concentrated in the rural areas its share is in consistent decline. Rural poverty has dropped from 54.2% in 2014-15 to 51.9% in 2019-20.

**Multidimensional Poverty Across Provinces:** Among the four provinces of Pakistan, multidimensional poverty is highest in Balochistan. According to the data 70% of the population in Balochistan are identified as multidimensionally poor. This is followed by 48% in Khyber Pakhtunkhwa and 45% in Sindh. Punjab has the lowest incidence (headcount ratio) of multidimensional poverty in the country. With 30% of its population identified as poor, it is the only province that has a lower headcount ratio than the national average of 39.1%. Except for Sindh, multidimensional poverty has decreased in the provinces. For instance, in Balochistan the headcount ratio has dropped from 72.4% in 2014-15 to 70.5% in 2019-20, in KP from 49.1% to 48.8% while in Punjab the share of multidimensional poor decreased from 31.0% to 30.4. In Sindh, however the headcount ratio increased from 43.1% in 2014-15 to 45.2% in 2019-20.

**Multi-dimensional ICT Poverty:** According to the estimates, 44.1% of Pakistan's population is identified as multidimensional ICT poor. This shows that around half of the country's population faces acute deprivation in availability, access and affordability of ICT services and severely lack digital literacy. The intensity which shows the share of deprivation each person experiences on average is 43.7%. This means that a multidimensional digital poor person in Pakistan on average is deprived in 43% of the weighted indicators used in the MPI calculations.

The ICT MPI value for the year 2019-20 stands at 0.191, showing that on average the population identified as multidimensional poor in Pakistan are deprived in 19.1% of total deprivation that would be experienced if all people were deprived in all indicators. Digital poverty in Pakistan is predominantly concentrated in the rural areas of the country. The incidence (headcount ratio) shows that more than half (53.10%) of the rural population is multidimensional poor. In contrast the situation in urban areas is comparatively better. Here, the ICT poor make up 28.5% of the total urban population.

Multidimensional ICT poverty in Pakistan is mainly driven by availability of ICT. At the dimension level ICT availability makes up more than half of the ICT MPI with 55.6% contribution. ICT Literacy and access has the second highest contribution with 30.7%, followed by ICT affordability and access. With 13.7%, deprivation ICT affordability and access has the lowest contribution to national MPI among the three dimensions.

At the indicator level use of computer with 22% has the highest percentage contribution to the ICT MPI. This is followed by basic ICT items for communication, Modern ICT items and internet access with each contributing 15%. The third highest contribution to the ICT MPI among the indicators is affordability/access of ICT for communication with 10%.

**Provincial Spread of Multi-dimensional ICT Poverty:** Among the provinces, Balochistan has the highest prevalence of multidimensional digital poverty. According to the data, 59.8% of the population in Balochistan are identified as multidimensional ICT poor. This is followed by 43.6% in Khyber Pakhtunkhwa and 47.9% in Sindh. Punjab has the lowest incidence (headcount ratio) of multidimensional ICT poverty in the country. With 37.7% of its population identified as poor, it is the only province that has a lower headcount ratio than the national average of 44.1%.



## MULTIDIMENSIONAL POVERTY IN PAKISTAN

*“Poverty is not just the lack of money; it is not having the capability to realize one’s full potential as a human being.” - Amartya Sen*

### 1.1 Introduction

The discourse on poverty has evolved in recent times, with a growing recognition of the complex nature of this societal challenge. Traditional consumption-based poverty measures, while helpful in gauging economic disparities, are now seen as limited in capturing full scope of poverty, which extends beyond mere monetary deprivation. The distinction between inequality of outcome and inequality of opportunity has sparked ongoing debates, prompting a fundamental question: how can poverty be best measured?

In response to this imperative, the Pakistan Institute of Development Economics (PIDE) has undertaken the task of measuring multidimensional poverty in Pakistan. This endeavor aims to comprehend the intricate interplay of various factors, including education, healthcare, and living standards, which collectively shape the multifaceted nature of poverty. Notably, this multidimensional measurement complements the cost of basic need (CBN) estimation conducted by PIDE in its annual report titled *“The State of Poverty in Pakistan”* in 2021

This transition towards a multi-dimensional approach not only aligns Pakistan with global Sustainable Development Goals (SDGs) but also ensures a more nuanced understanding of poverty. Recognizing the multifaceted dimensions of poverty is crucial, equipping policymakers with the necessary tools to design interventions that address not only material deprivation but also the broader complexities of well-being and human development. This holistic perspective is vital for crafting effective policies that uplift communities and foster comprehensive societal.

### Box.1: The State of Poverty in Pakistan: PIDE Report 2021

*PIDE annual report 2021 on “The State of Poverty in Pakistan” came as an important step in the direction of the production of contextual knowledge about the state of poverty in Pakistan. It estimated the degree of poverty and developed a consistent poverty series, using CBN approach, to understand the dynamics of poverty in the country.*

**Key Findings:** According to the findings of this report: Poverty in Pakistan stood at 21.5% in 2018-19. This showed a considerable decline over the last two decades, as poverty in 1998-99 was at 61.6%. In the urban areas poverty has decreased from 47.4% to 10.7% while in rural areas it declined from 67.5% to 27.6%, during the same period (1998-99-2018-19). Across the provinces, the results, showed that poverty declined during the 1998-99-2018-19 period.

## 1.2 Multidimensional Poverty Index

Recognizing limitations of the traditional measures of poverty, the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Program (UNDP) in collaboration devised the global Multidimensional Poverty Index (MPI). The MPI serves as an instrument to gauge acute poverty by encompassing the diverse set of deprivations individuals face across various dimensions, which are fundamental to securing a life of dignity. Much like the Human Development Index (HDI), the MPI rests upon three core dimensions—education, health, and living standards. Nevertheless, the MPI extends its scope by incorporating a broader array of indicators.

### Box 2: Multidimensional Poverty Index (MPI)

*MPI is a product of two components:*

$$MPI = H \times A$$

**Incidence of poverty (H):** *The percentage of people who are identified as multidimensional poor, or poverty headcount.*

**Intensity of poverty (A):** *The average percentage of dimension in which poor people are deprived.*

Multidimensional poverty metric is invaluable in providing a holistic depiction of poverty. As this measure captures the various facets of deprivation that can affect peoples' wellbeing, it offers an effective tool to the policymakers for the design of effective strategies to alleviate poverty and deprivation within a nation.

### 1.2.1 Multidimensional Poverty Index in Pakistan

The Multidimensional Poverty Index (MPI) of Pakistan consists of three dimensions, namely, health, education and standard of living. These dimensions collectively subsume fifteen indicators (see figure 1). Each dimension and indicator are assigned different weights to measure the Multidimensional Poverty Index for Pakistan. The weights used in this report follows Pakistan’s first Multidimensional poverty Index calculated by the Ministry of Planning, Development and Special Initiatives. One third of the MPI’s total weight is assigned to each of the three core dimensions. Within the dimensions different indicators are normally weighted equally with slight adjustments to this nested weighted structure, which are shown in the following graph.

**Figure 1: Structure of Pakistan's MPI (dimensions, indicators, and weights)**



Source: Author’s formulation

### 1.2.2 Measurement Methodology

To measure the MPI this report follows the standard Alkire Foster (AF) Method developed by Alkire and Santos (2010, 2014) collaboration with UNDP. It represents one adaption of adjusted head count ratio proposed by Alkire and Foster (2011). Alkire Fosters methodology for measuring multidimensional poverty identifies the extent of poverty by considering the intensity of deprivation which the poor suffers from (A) as well as percentage of the population who are identified as poor(H).

#### 1.2.2.1 Poverty and Deprivation Cutoffs

Using the AF measurement framework thresholds are used to decide whether a person in Multidimensionally poor. This the poverty cut off is denoted by “k”. In Pakistan’s MPI it takes the value 33 %. This threshold is used to identify a person as multidimensional poor. Hence the individual whose weighted deprivation scores are equal to or greater than 33 % will be identified as multidimensional poor. While those whose scores do not exceed 33% will be identified as non-poor.

### 1.2.3 Data Source

The data used in this report to calculate the MPI is drawn from the Pakistan Social and Living Standards Measurement (PSLM) surveys for 2004-05, 2006-07, 2008-09, 2010-11, 2012-13, 2014-15 and 2019-

20. PSLM surveys provide social and economic indicators in alternate years at both the provincial and district levels. These surveys encompass questions ranging from demographic characteristics to education, health, employment, household assets, households' amenities, water supply and sanitation.

The MPI measure by the Planning Commission in collaboration with UNDP (2019) for 2014-15 to 2019-20 considers a household deprived by taking the definition "if no man OR no woman in a household above 10 years of age has completed five years of schooling". However, when we measured the year of schooling by definition given in the below table 1 we got the same results as estimated by the MPI report furnished by the Planning commission.

**Table 1: Indicators and Deprivation Cutoffs**

Indicators	Deprivation Cut-offs
Year of Schooling	Deprived If no man and women in household 10 years and above of age has completed five years of schooling
Child School Attendance	Deprived if any child is not attending school between (6-to-11 years age)
School Quality	Deprived If any child between (5 to 16 years of age) is not attending Deprived If any child between (5 to 16 years of age) is not attending because of school quality issues (not enough teachers, schools are far away, too costly, no male/female teachers, substandard schools) or is attending school but remain dissatisfied. <sup>1</sup>
Access to Health Facilities/ Clinics Basic Health Unit (BHU)	Deprived if health facilities are not used for all or only used once in a while because of access constraints (too far away, too costly, unsuitable, lack of tools/staff, not enough facilities).
Immunization	Deprived if any child under age 5 is not fully immunized according to vaccination calendar (household with no children under age 5 are considered non deprived)
Anti- natal Care	Deprived if any women in the household who has given birth in the last three years did not take any ante-natal check-ups (households with no women who have given birth are considered non deprived).
Assisted Delivery	Deprived if any women in the household have given birth in the last 3 years attended by untrained personnel (family member, friend traditional birth attendant etc.) or in an inappropriate facility (home, other) (household with no women who has given birth are concorded to be non-deprived).
Water	Deprived if the household has no access to an improved source of drinking water according to MDG standards, considered distance (less than a 30 minutes a round trip): tap water, hand pump, motor pump, protected well, mineral water.
Sanitation	Deprived if the household has no access to adequate sanitation according to MDG standards: flush system (sewerage, septic tank and drain), privy seat.
Wall	Deprived if the household has unimproved wall (mud uncooked/mud brisk, wood bamboo, others)
Overcrowding	Deprived if household is overcrowded (4 or more people per room)
Electricity	Deprived if a household has no access to electricity.
Cooking Fuel	Deprived if the household uses solid cooking fuels for cooking (wood, dung cakes, crop residue, coal/charcoal, others)
Assets	Deprive if household has no more than two small assets (radio, tv, iron, fan, sewing machine, video cassette player , chair, watch air color, bicycle) OR no large asset( refrigerator, air conditioner, tractor, computer and motorcycle), AND has no car
Land and Livestock	Deprived if household is deprived in land and deprived in livestock, i.e:
	A) Deprived in land: the household has less than 2.5 acres of non-irrigated land AND less than 1.125 acres of irrigated land. B) Deprive din Livestock: the household has less than 2 cattle, fewer than 3 sheep and goat, fewer than 5 chicken AND no animal for transportation (Urban household are considered non deprived)

<sup>1</sup> For Year 2019-20 we only consider that the household is deprived if any child between (5 to 16 years) is not attending because of school quality issues (not enough teachers, schools are far away, too costly, no male/female teachers, substandard schools). PSLM 2019-20 doesn't provide information regarding school satisfaction

### 1.3 Magnitude of Multidimensional Poverty

According to the latest estimates, incidence (headcount ratio) of multidimensional poverty in Pakistan is 39.5%. This shows that more than one third of the country’s population is multidimensional poor, facing deprivation in health, education and standard of living. The intensity which shows share of deprivation each person experiences on average is 48.3%. This means a multidimensional poor person in Pakistan on average is deprived in nearly half of the weighted indicators used in the MPI calculations.

The MPI value for the year 2019-20 stands at 0.191 showing that on average, the population identified as multidimensionally poor in Pakistan are deprived in 19.1% of the important aspects of life measured by the index.

**Table 2: Incidence, Intensity, and MPI, 2019-20**

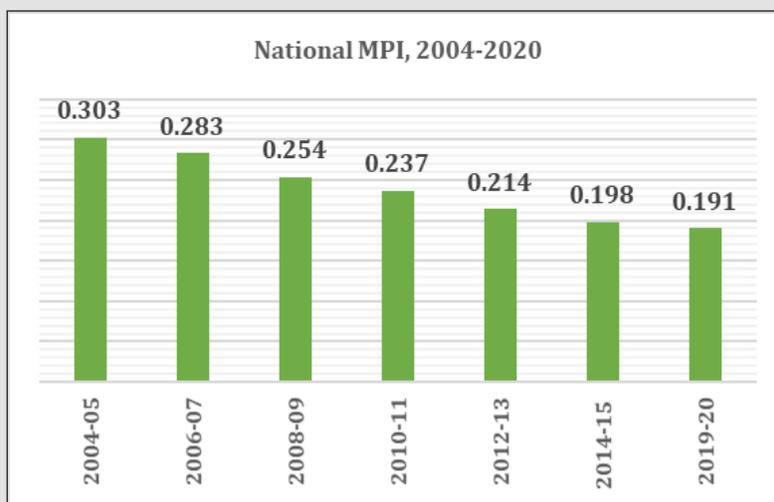
<i>Index</i>	<i>Overall</i>
<i>Incidence (%)</i>	39.5
<i>Intensity (%)</i>	48.3
<i>MPI</i>	0.191

*Source: Author’s calculation based on 2019-20 PSLM survey*

#### 1.3.1 Trends in Multidimensional Poverty

The trend analysis shows that MPI in Pakistan is in consistent decline and has dropped from 0.303 in 2004-05 to 0.191 in 2019-20. The current status of MPI (2019-20) shows a decline of 0.007 percentage points from the last time (2014-15) it was calculated at the national level in Pakistan.

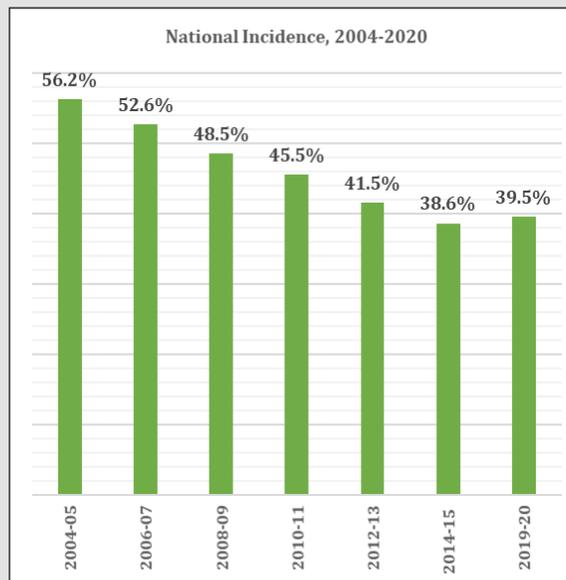
**Figure 1A: National MPI Trend**



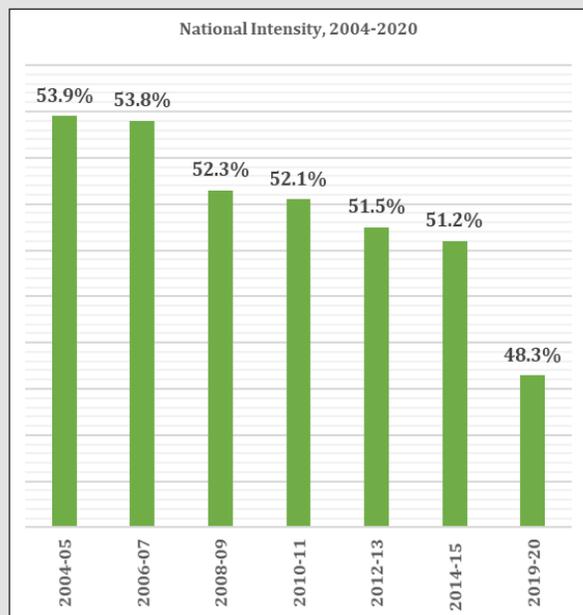
The incidence (head count ratio) of multidimensional poverty during the same period has also shown a declining trend. The population of multidimensional poor in the country has dropped from 56.2% in 2004-05 to 39.5% in 2019-20, showing an impressive decline of 16.5 percentage points over the period of sixteen years. While the overall population of the poor is in decline, it nevertheless exhibits an increase from the last time. The incidence has slightly increased from 38.6% in 2014-15 to 39.5% in

2019-20 showing a marginal increase of 0.9 percentage points.

**Figure 1B: National Multidimensional Poverty Incidence Trend**



**Figure 1C: National Multidimensional Poverty Intensity Trend**



The intensity of multidimensional poverty in the country has also consistently decreased over this period. It has reduced from 53.9% in 2004-05 to 48.3% in 2019-20. The drop in the intensity is the highest from 2014-15 to 2019-20. In this period the average deprivation of the multidimensional poor has decreased by 2.9 percentage points.

### 1.3.2 Rural and Urban Spread of Multidimensional Poverty

Multidimensional poverty in Pakistan is mostly concentrated in the rural areas of the country. The incidence (headcount ratio) shows that more than half (51%) of the rural population is multidimensional poor. In contrast the situation in urban areas is comparatively better. In here, the poor constitute 17% of the population share.

The statistics also show that poverty is more intense in the rural areas. On average, rural poor's level of deprivation is higher than urban one. As, a rural poor experience deprivation in half (50%) of the indicators used in MPI calculation, its counterpart in urban areas faces 43% deprivation. The intensity even though is higher overall in rural Pakistan; however, the difference is not as great as in headcount ratios.

The urban and rural dispersion of MPI shows that multidimensional poverty in Pakistan is concentrated in the rural areas. Where a large portion of the population is poor and the average level of deprivation among them is more intense. In comparison urban areas are relatively better off and have lower incidence and a slightly lower intensity of poverty.

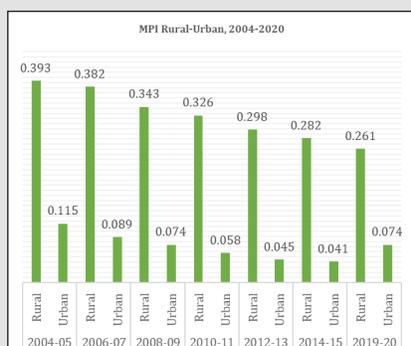
**Table 3: MPI, Incidence and Intensity by Region, 2019-2020**

Index	Population share	Value
<b>MPI</b>	<b>36.28%</b>	0.07
<b>Incidence %</b>		17.1
<b>Intensity %</b>		43
<b>MPI</b>	<b>63.71%</b>	0.36
<b>Incidence (%)</b>		51
<b>Intensity (%)</b>		50

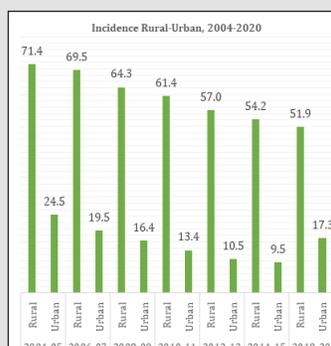
Source: Author's calculation based on 2019-20 PSLM survey

#### 1.3.2.1 The Urban and Rural Trend of Multidimensional Poverty

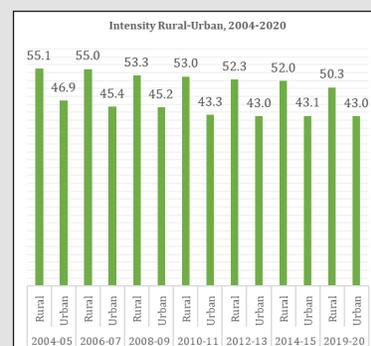
**Figure 2A: Rural/Urban MPI Trend**



**Figure 2B: Rural/Urban Incidence Trend**



**Figure 2C: Rural/Urban Intensity Trend**



Similarly, the incidence (headcount ratio) in urban areas has nearly doubled as it has increased from 9.5% in 2014-15 to 17.3% in 2019-20.

### 1.3.3 Provincial Dispersion of Multidimensional Poverty

Among the provinces of Pakistan, Balochistan has the highest prevalence of multidimensional poverty. According to the data, 70% of the population in Balochistan are identified as multidimensionally poor. This is followed by 48% in Khyber Pakhtunkhwa and 45% in Sindh. Punjab has the lowest incidence (headcount ratio) of multidimensional poverty in the country. With 30% of its population identified as poor, it is the only province that has a lower headcount ratio than the national average of 39.1%.

**Table 4: Multidimensional Poverty by Provinces, 2019-20**

Province		MPI	Incidence %	Intensity %
<b>KPK</b>	<i>Over All</i>	0.236	48.5	48.9
	<i>Urban</i>	0.079	19.6	40.5
	<i>Rural</i>	0.264	54.1	48.7
<b>Punjab</b>	<i>Over All</i>	0.141	30.4	46.3
	<i>Urban</i>	0.056	13.7	40.6
	<i>Rural</i>	0.188	40.5	46.5
<b>Sindh</b>	<i>Over All</i>	0.236	45.2	52.1
	<i>Urban</i>	0.080	18.9	42.6
	<i>Rural</i>	0.402	75.2	53.5
<b>Baluchistan</b>	<i>Over All</i>	0.378	70.5	53.6
	<i>Urban</i>	0.216	44.6	48.4
	<i>Rural</i>	0.432	80.4	53.8

*Source: Author's calculation based on 2019\20 PSLM survey*

Similarly, the intensity of poverty is also high in Balochistan. In here, the multi dimensionally poor on average experience deprivation in more than half of the indicators (53%) used in MPI calculations. This is closely followed by Sindh with a 52 % intensity, while in Khyber Pakhtunkhwa the average deprivation among the poor is 48%. Punjab likewise has the least average deprivation with 46%.

It is noticeable that while the difference in the prevalence of multidimensional poverty among the provinces is more pronounced, the discrepancy in intensity is not matched up. This suggest that regardless of locality the multidimensional poor in Pakistan more or less on average face the same level of deprivation across the key welfare indicators.

### 1.3.4 The Composition of Poverty

The decomposition of multidimensional poverty into its constituent elements highlight the nature of poverty in Pakistan. It can be seen that multidimensional poverty in Pakistan is largely driven by deprivation in education. At the dimension level education makes up nearly half of the MPI with 49.4% contribution. The standard of living has the second highest contribution with 26.5%, followed by health. With 24.1%, deprivation in health has the lowest contribution to national MPI among the three dimensions.

Figure 3A: Poverty composition—percentage contribution of each dimension 2019-20

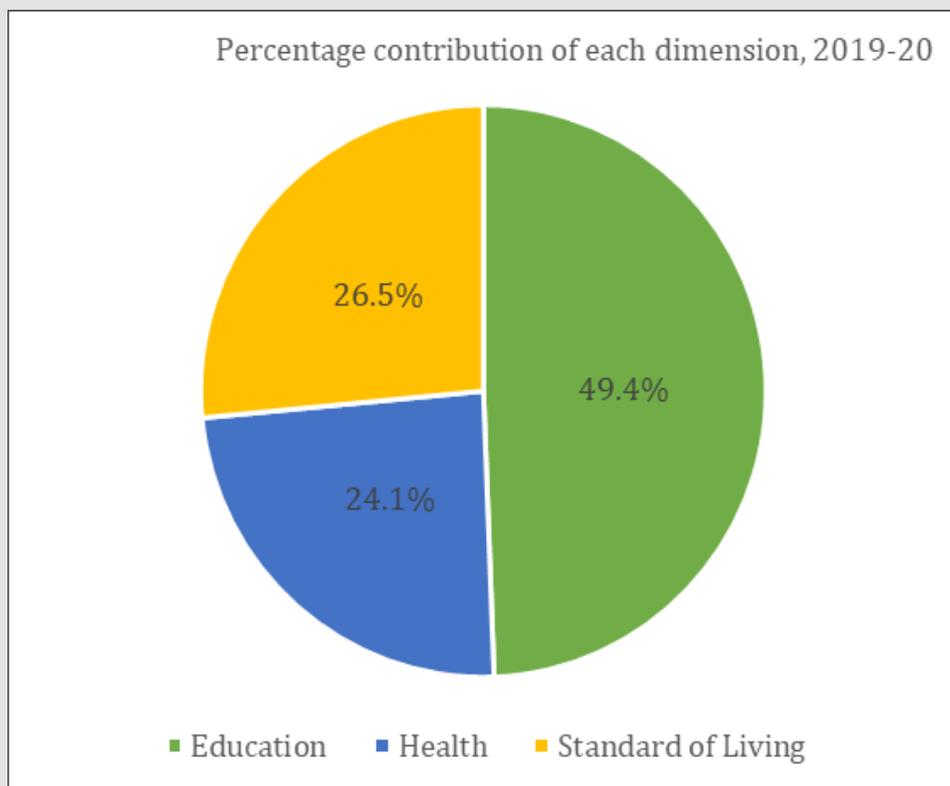
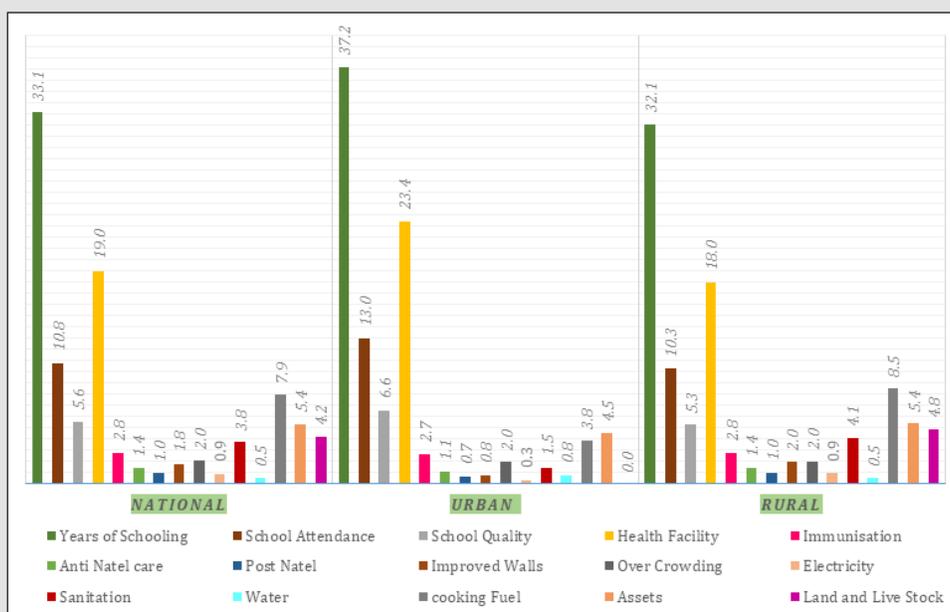


Figure 3B: Poverty composition—percentage contribution of each indicator

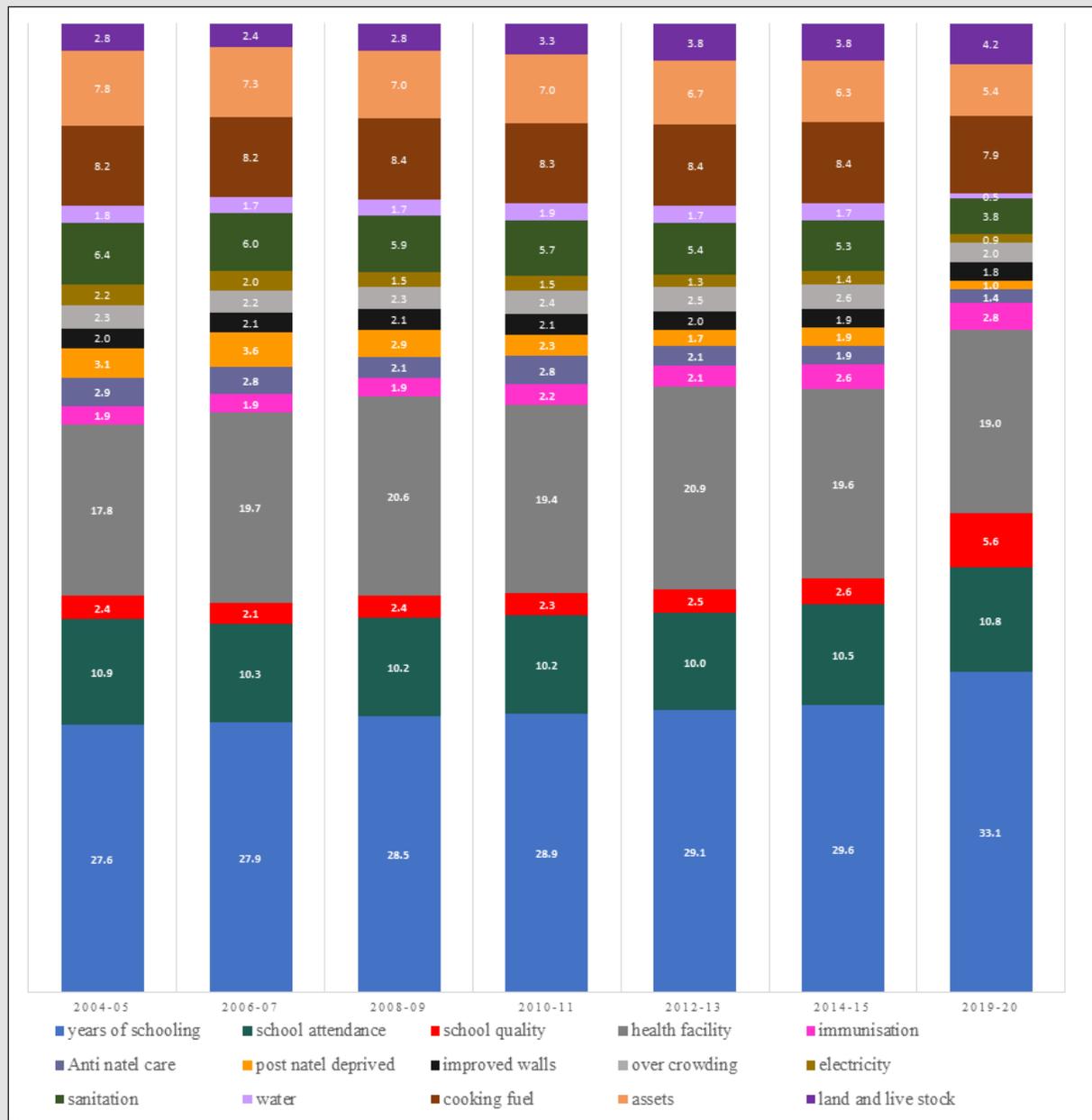


### 1.3.5 Contribution of Each Indicator Over Time

Figure 4 illustrates the percentage contribution of each indicator used in the MPI over the period 2004-05 to 2019-20. It highlights how over the period the share of these indicators in Multidimensional poverty

has changed. The share of most of these indicators has declined during these years. Only four indicators have shown an increase over time. For instance, the percentage contribution of immunization has increased from 1.9% in 2004-05 to 2.8% in 2019-20, health from 17.8% to 19.0%, school quality from 2.4% to 5.6%. The greatest increase during this period can be observed in years of school. The percentage contribution of this share has increased from 27.6% in 2004 to 33.1% in 2019-20.

**Figure 4: Share of Each indicator, 2004-05 to 2019-20**

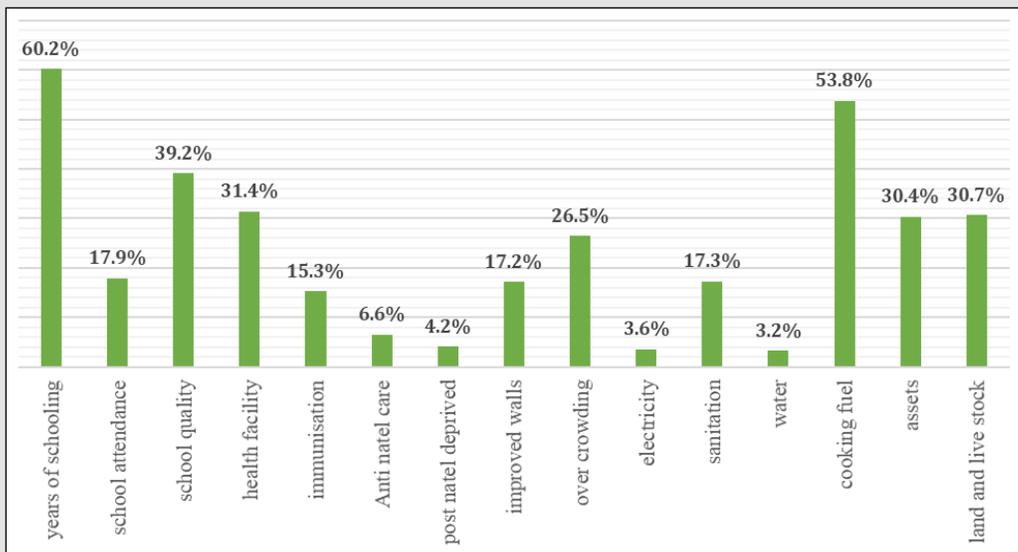


## 1.4 National Uncensored Head Count Ratios

The uncensored headcount ratios show the deprivation in each of the 15 indicators used in MPI, irrespective of the poverty status of people. These ratios are calculated without applying the cutoff criteria

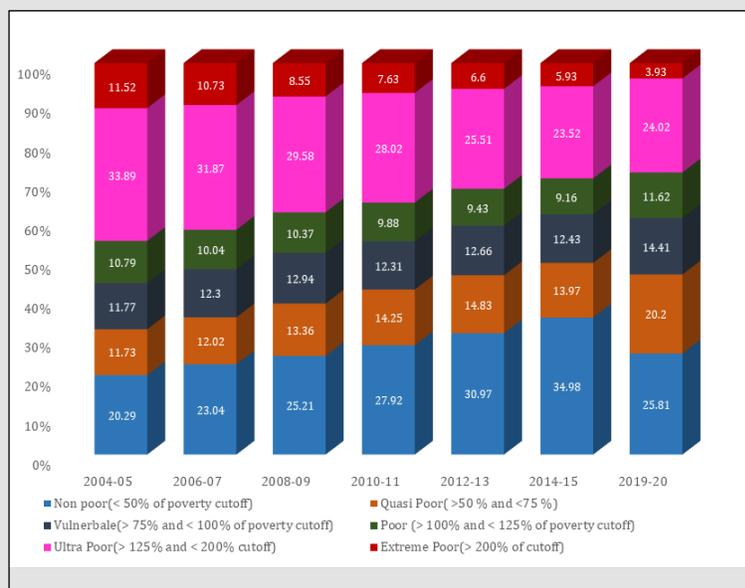
used to categories and individual as multidimensionally poor. Figure 5, presents these rates for 2019-20, highlighting the respective level of deprivation across these indicators. The greatest deprivation is found in the year of schooling, with 60.2% of the population deprived in this indicator. This is followed by cooking fuel 53.8%, land and livestock 30.7% and assets with 30.4%.

**Figure 5: Uncensored Head count ratio 2019-2020**



### 1.5 Multidimensional Poverty Bands

The incidence (head count ratio) shows the count of people below and above the poverty cutoffs. It does not, however, capture the true extent and depth of deprivation. The incidence informs how many are poor it however cannot show how poor the poor are. The poverty profile in terms of poverty bands is very insightful in this regard. As it groups the poor population into different bands with varying levels of deprivation, indicating how far off households are from the poverty line.



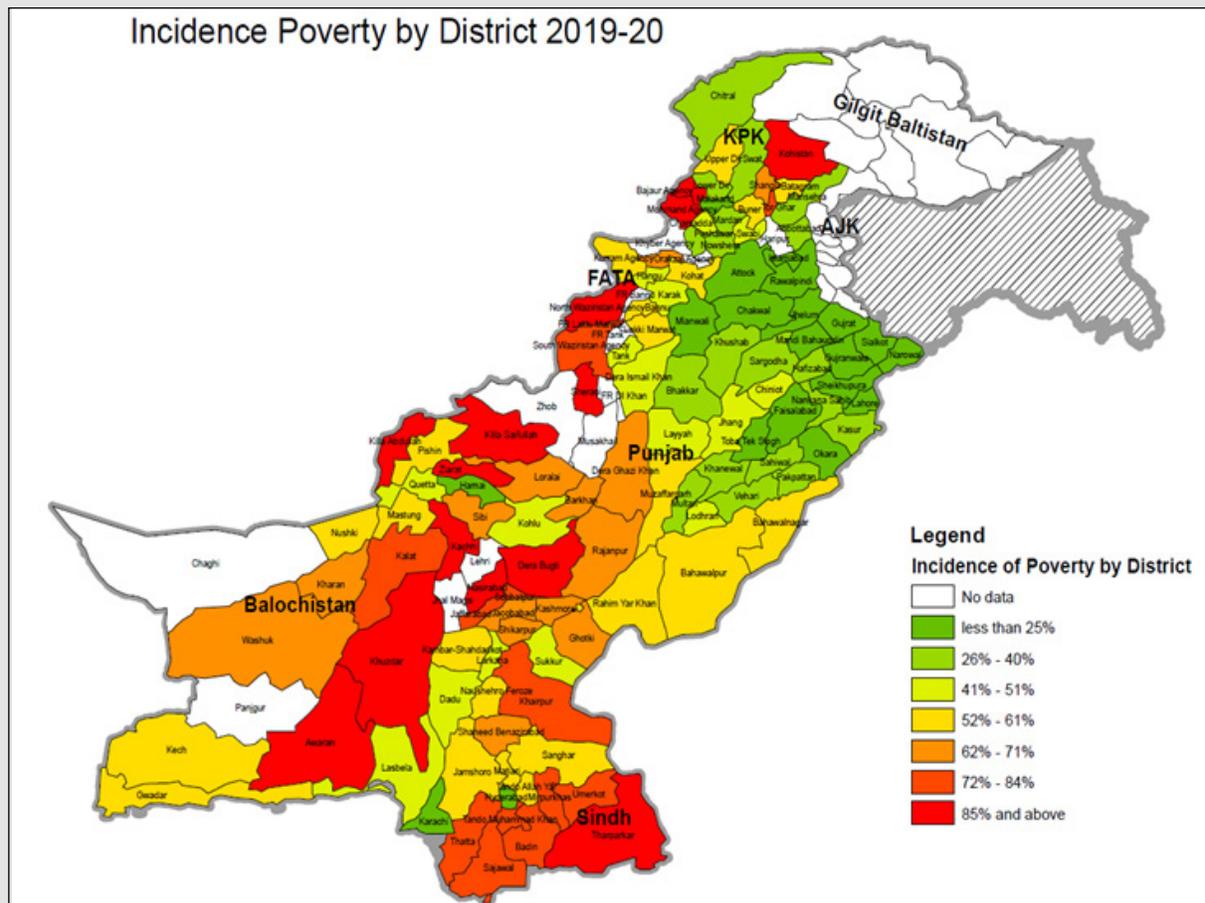
**Figure 1.6 MPI Bands from 2004-05 to 2019-20**

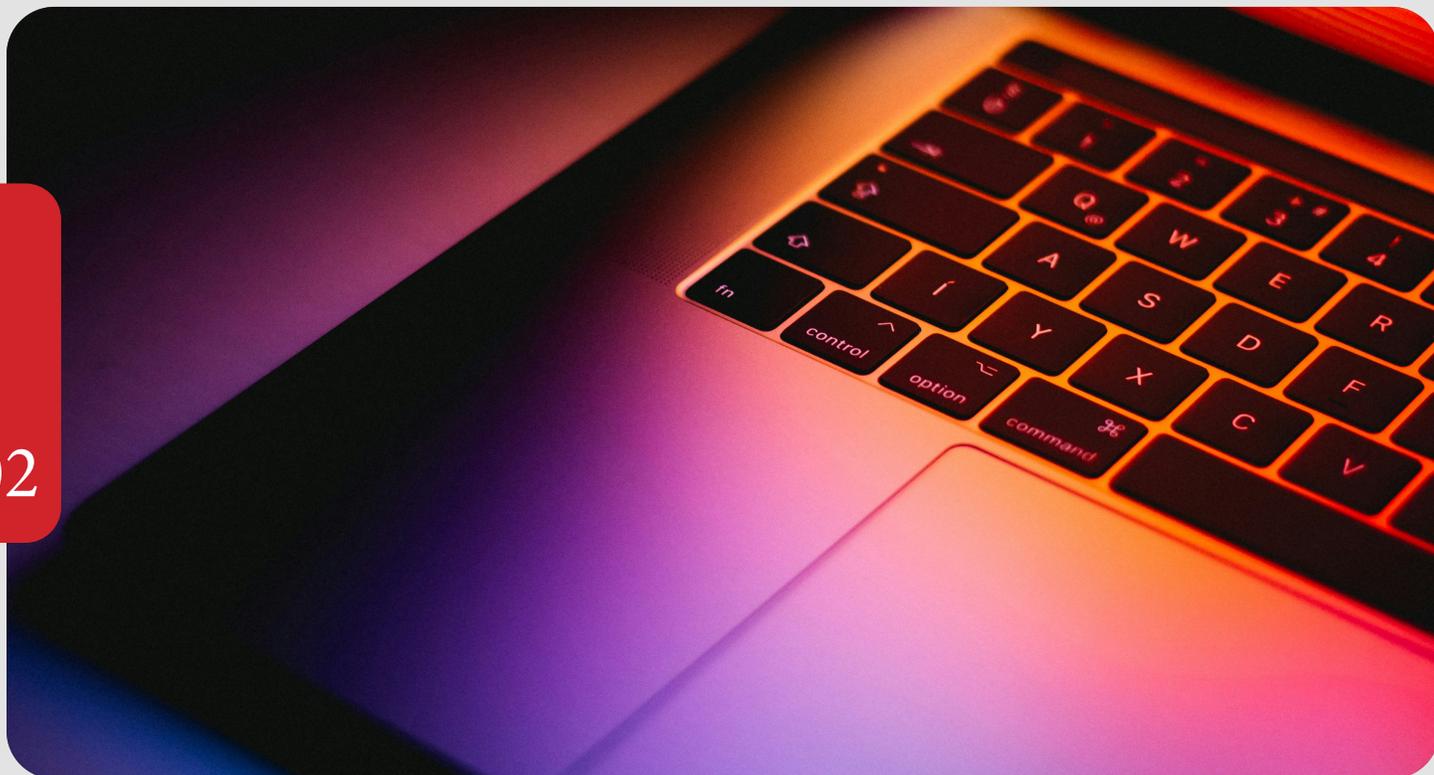
Figure 1.5 shows the multidimensional poverty bands comprising six groups: extreme poor, ultra-poor, poor, vulnerable, quasi poor and the non-poor along with the trends across these bands for the period 2004-05 to 2019-20.

Overall, during this period poverty in Pakistan has declined. It can be observed that the share of non-poor in the population has increased from 20.29% in 2004-05 to 25.81% in 2019-20. Similarly, the extreme and vulnerable poor declined from 11.52% to 3.93% and 33.89% to 24.02% respectively.

However, when the status of these bands is compared with the situation from 2014-15 to 2019-20 poverty in Pakistan has increased. The share of non-poor dropped from 34.98% to 25.81%. Similarly, the share of poor increased from 9.16% to 11.62%, ultra-poor from 23.52% to 24.02%. Also, the share of quasi poor and vulnerable poor increased during this period.

### MPI District Map





## ICT POVERTY IN PAKISTAN

### 2.1 Introduction

*“Information Communication Technology permeates all aspects of life providing newer, better and quicker way for people to interact networks, seek help, gain access to information and learn”.*

The World Bank defined information and communication technology (ICT) as a set of activities facilitated by electronic equipment in processing, transmission, and presenting information. UNESCO defined ICT as technology form that is used to transmit, save, create, share, and exchange information . Technology in this case includes radio, television, video, DVD, fixed line and mobile phone, satellite system, computer, hardware and software network, and equipment and services associated with technology, such as video conference and electronic mail. ICT is a combination of communication, reservation, processing, and multimedia capability (Shahmir, et al, 2011). The main functioning of ICT is done through communication network that was later named ICT.

In Covid-19 pandemic, almost all aspects of people’s lives used ICT to facilitate them in continuing their work and study from home. Today we live in an information and communication era. Information and communication technology has an important role in this world. ICT has become very important in people’s daily lives. Someone can connect with his/her family and colleagues even when being abroad through electronic mail, call conference, or video conference. Moreover, digital computer and network has changed world’s economic concept to boundaryless economics in time and space. ICT also has become a pillar in achieving national competitive advantage. Similarly, ICT can improve human life quality because it can be used for learning and education, for media and mass communication in important and practical issues, and for promotion and campaign, such as health and social areas. ICT is being rated on top in scientific findings, in particular training, science, developmental psychology, knowledge, and education capabilities have improved

markedly because of ICT (Shamir et al, 2011). ICT can also reduce education system gaps as well as encourage and improve creativity, critical thinking, learning, curriculum development, and learning implementation.

### 2.1.1 Current Status of ICT Poverty in Pakistan

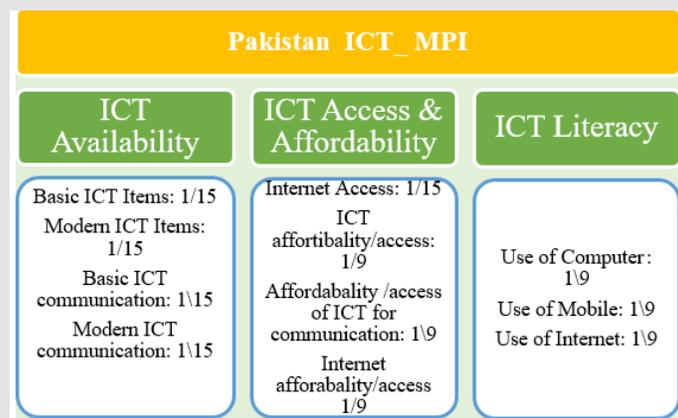
ICT poverty is the term used to refer to those who live without, or with very minimal access to the internet and digital technologies capable of connecting to it. Pakistan is far behind in ICT as it is ranked at 148 out of 175 countries in the ICT Development Index (ITC 2017) - the lowest ranking among South Asian Association for Regional Cooperation (SAARC) countries. Similarly on the Digital Evolution Index 2017, Pakistan was ranked 56th out of 60 countries. Furthermore, the state of internet accessibility in Pakistan is well below international standards and considerably lower than other regional countries. Pakistan has been ranked 90th out of 120 countries on the inclusive internet index 2021 by the Economist Intelligent Unit and it stands well behind India, Bangladesh, Nepal, and Sri Lanka. Further 5G launch in Pakistan is pending since long and many areas are still deprived of 3G/4G cellular services. Therefore, it is imperative to measure digital poverty at household level for Pakistan’s economy as the country cannot acquire its right position in the international market without addressing this digital poverty.

## 2.2 Methodology to Measure ICT Poverty

To analyze the ICT poverty in terms of ICT deprivation at the household level, we introduce the ICT MPI, a tool crafted by considering various components that constitute the foundation of information and communications technology. Drawing inspiration from international benchmarks like the Inclusive Internet Index by the Economist Impact, our index incorporates key factors such as Availability, Affordability, Relevance, and Readiness. Similarly digital divide also involves the accessibility, utilization, and outcome gaps of the digital economy (Van Dijk, 2006; Bingjiang Luan et al., 2023). Moreover, digital divide is considered a multidimensional rather than one-dimensional phenomenon caused by a series of factors (Bruno et al., 2011; Lythreatis et al., 2021). Thus, a single indicator is not enough to reflect the digital divide at the household level. Understanding these dimensions is essential as we navigate the complex terrain of ICT poverty in Pakistan. Only then can we formulate targeted interventions and policies that can close the gap and guarantee that everyone can benefit from the digital age, regardless of socioeconomic, educational, or geographic limitations.

As PSLM 2019-20 has introduced very first time ICT module by inquiring factors like usage, access and affordability of ICT at individual and household levels so PIDE has taken the initiative to measure the ICT Poverty at household level keeping in consideration the crucial importance of this in eradicating poverty. The national ICT MPI of Pakistan consists of three dimensions, namely, ICT availability, ICT access and affordability and ICT literacy. These dimensions collectively subsume eleven indicators (see Figure 7). Each dimension and indicator are assigned different weights to measure the Multidimensional ICT Poverty in Pakistan.

**Figure 7: Structure of ICT MPI Pakistan (dimensions, indicators and weights)**



<sup>2</sup> <https://learningportal.iiep.unesco.org/en/glossary/information-and-communication-technologies-ict>

### 2.2.1 ICT Poverty Weights and Deprivation Cutt -offs

The weight assignment used in this report assigns weight 1/3 to each of three core dimensions of ICT: Availability, Access & Affordability and Literacy to measure ICT poverty. Within each dimension different indicators are assigned the same weights. Overall weights add up to 100%. In the next step a second cut-off is used, as we already used to measure MPI in chapter 1 as given by Alkire and Foster Methodology (2010, 2014). The second cut-off denoted by “k” takes the values 33%. This threshold is used to identify if a person is Multidimensional poor in ICT. Hence the individuals whose weighted deprivation scores are equal to or greater than 33% are identified as Multidimensional poor in ICT. Details of indicators used in Pakistan’s ICT MPI are presented in Table 5.

**Table 5: Indicator of ICT to Measure ICT Deprivation Index or Digital Divide**

Indicators	Deprivation Cut-offs
Basic ICT Items	Deprived if household does not have ANY basic items of ICT like (Television/ LCD/LED, Radio).
Modern ICT Items	Deprived if household doesn't have ANY modern items of ICT like (Computer, laptop, tablet/iPad).
Basic ICT Items for Communication	Deprived if household doesn't have landline telephone or simple mobile phone.
Modern ICT Items for Communication	Deprived if household doesn't have smart phone for communication.
Internet Access	Deprived if household has no access or internet facility in their home.
ICT Affordability/ Access	Deprived if no man or woman in household 15 years of age or above has not use computer because of (affordability).
Affordability/Access of ICT for Communication	Deprived if no man or women in the household 15 years of age or above has not use mobile phone because of (cost of mobile is too high or services are not available in area).
Internet Affordability/ Access	Deprived if no man or woman in the household 15 years of age or above has not use internet due to (cost of internet is too high or internet services are not available in this area).
Use of Computer	Deprived if no man or woman in household 15 years of age or above don't use computer because he/she does not know how to use computer.
Use of Mobile	Deprived if no man or women in household 15 years of age or above don't use mobile because he/she does not know how to use mobile.
Use of Internet	Deprived if no man or women in household 15 years of age or above don't use computer because he/she have no idea how to use internet.

### 2.2.2 Data

The data for this chapter has been taken from Pakistan Social Living Measurement (2019-20) conducted by Pakistan Bureau of Statistics. Current PSLM provides information regarding the uses and availability of information communication technology (ICT) in various dimensions which are important to measure ICT poverty or digital divide at household level.

## 2.3 Results

Table 6 shows that incidence (headcount ratio) of multidimensional ICT poverty in Pakistan is 44.1%. This shows that close to half of the country's population is multidimensionally digitally poor. These people face deprivation in availability, access, affordability, and literacy in ICT. The intensity that shows the share of deprivation each person experiences on average is 43.7%. This means a multidimensional digital poor person in Pakistan on average is 43% deprived of the weighted indicators used in the MPI calculations.

Since MPI is product of Incidence (H) and Intensity (A). The ICT MPI value for the year 2019-20 stands at 0.191 showing that on average, the population identified as multidimensional poor in Pakistan experience 19.1% of total deprivation that would be experienced if all people were deprived in all indicators.

**Table 6: Incidence, Intensity and Multidimensional ICT Poverty 2019-20**

Indicator	Value	Confidence Interval (95%)	
		Min.	Max
<i>MPI</i>	0.193	0.192	0.193
<i>Incidence (%)</i>	44.1	44	44.2
<i>Intensity (%)</i>	43.7	43	43.7

Source: Author's calculation based on 2019\20 PSLM survey

### 2.3.1 Urban and Rural Spread of ICT Poverty in Pakistan

The digital poverty in Pakistan is predominantly concentrated in the rural areas of the country. The incidence (headcount ratio) shows that more than half (53.10%) of the rural population is multidimensional poor in ICT as given in Table 7. In contrast the situation in urban areas is comparatively better. Here, the ICT poor make up 28.5% of the total urban population.

While there is considerable difference in the prevalence of digital poverty between the rural and urban areas of Pakistan. However, the statistics show that intensity is the same across these regions. On average, the multidimensional digital poor whether in urban or rural areas experience 43% deprivation.

**Table 7: Incidence, Intensity and Multidimensional ICT Poverty 2019-20 by region**

Indicator	Values
<i>Urban</i>	
<i>MPI</i>	0.124
<i>Incidence %</i>	28.50
<i>Intensity %</i>	43.60
<i>Rural</i>	
<i>MPI</i>	0.232
<i>Incidence %</i>	53.10
<i>Intensity %</i>	43.70

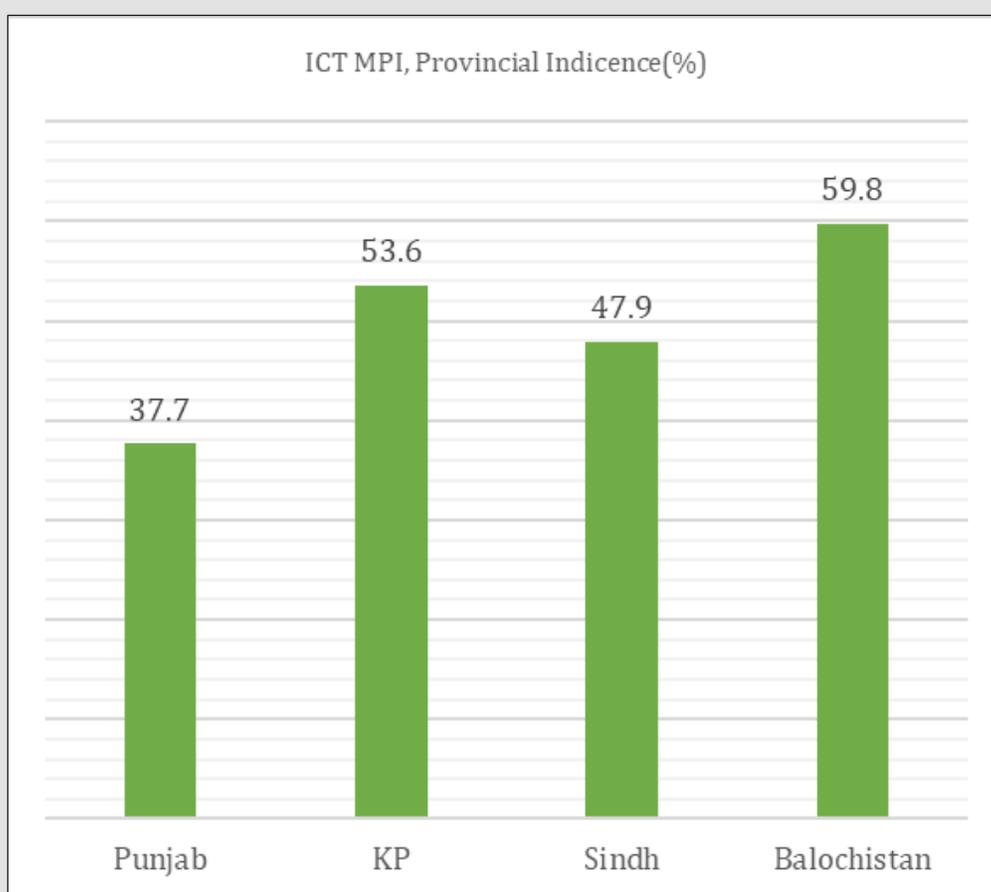
Source: Author's calculation based on 2019\20 PSLM survey

The urban and rural dispersion of ICT MPI shows that ICT poverty in Pakistan is concentrated in the rural areas. Where a large portion of the population is poor, in comparison urban areas are relatively better off and have lower incidence of poverty.

### 2.3.2 Provisional distribution of Digital poverty in Pakistan

Among the provinces, Balochistan is the most digitally poor province of the country. It has the highest prevalence of multidimensional digital poverty. According to Figure 8, 59.8% of the population in Balochistan are identified as multidimensional ICT poor. This is followed by 53.6% in Khyber Pakhtunkhwa and 47.9% in Sindh. Punjab has the lowest incidence (headcount ratio) of multidimensional ICT poverty in the country. With 37.7% of its population identified as poor, it is the only province that has a lower headcount ratio than the national average of 44.1%

**Figure 8: ICT Incidence by Province (%)**



### 2.3.3 Composition of Digital Poverty in Pakistan

The breakdown of multidimensional ICT poverty into its constituent elements highlight the nature of digital poverty in Pakistan. Multidimensional ICT poverty in Pakistan is largely driven by availability of ICT. At the dimension level ICT availability makes up more than half of the ICT MPI with 55.6% contribution. ICT Literacy and access has the second highest contribution with 30.7%, followed by ICT affordability and access. With 13.7%, deprivation ICT affordability and access has the lowest contribution to national MPI among the three dimensions.

**Figure 9: Percentage contribution of dimensions**

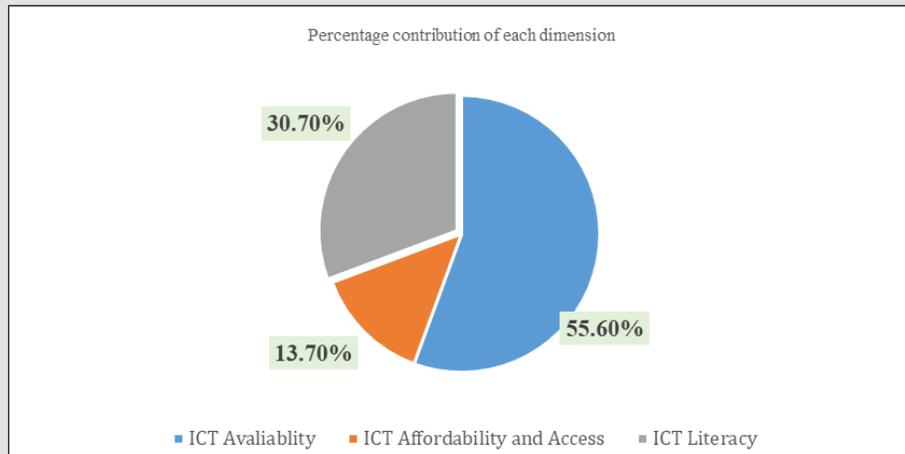
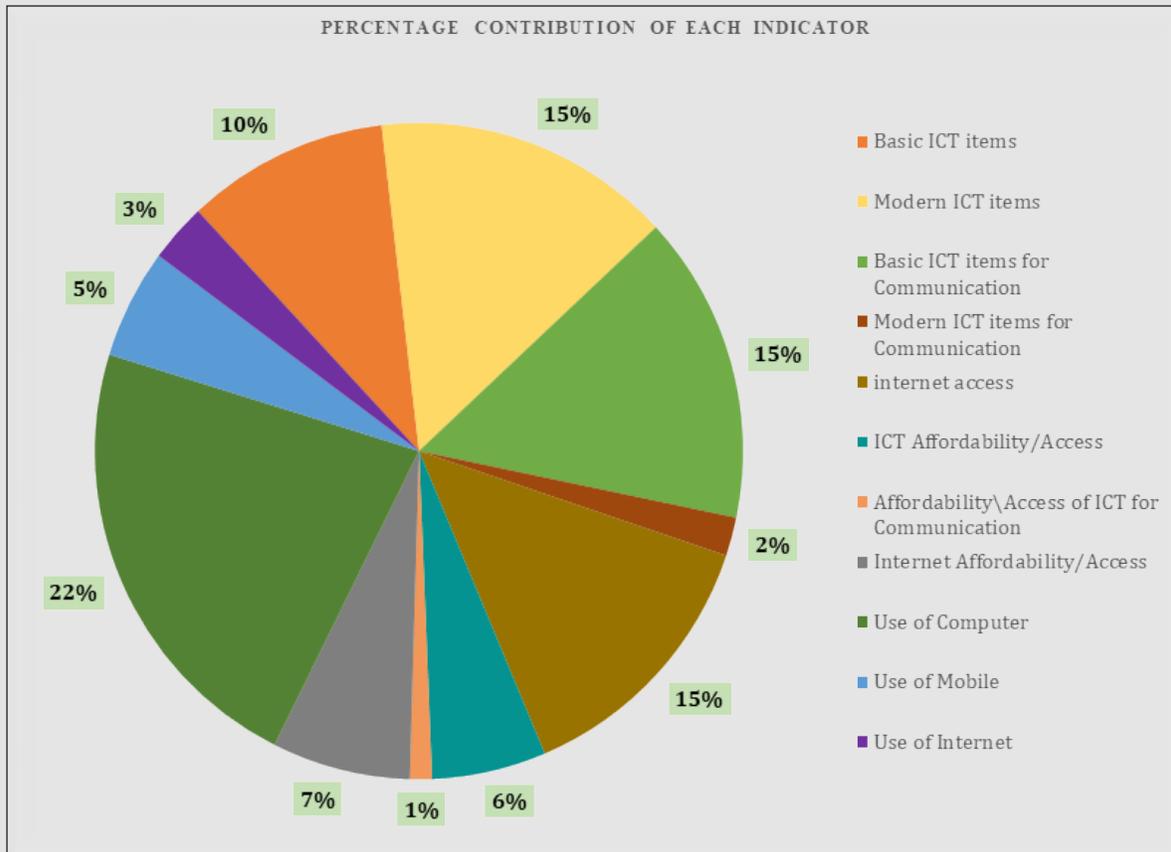


Figure 10 shows the percentage of contribution of each indicator in digital poverty. The disaggregation of contributing factors into individual indicators reveals that use of computer with 22% has the highest percentage contribution to the ICT MPI. This is followed by basic ICT items for communication, Modern ICT items and internet access with each contributing 15%. The third highest contribution to the ICT MPI among the indicators is affordability/access of ICT for communication with 10%.

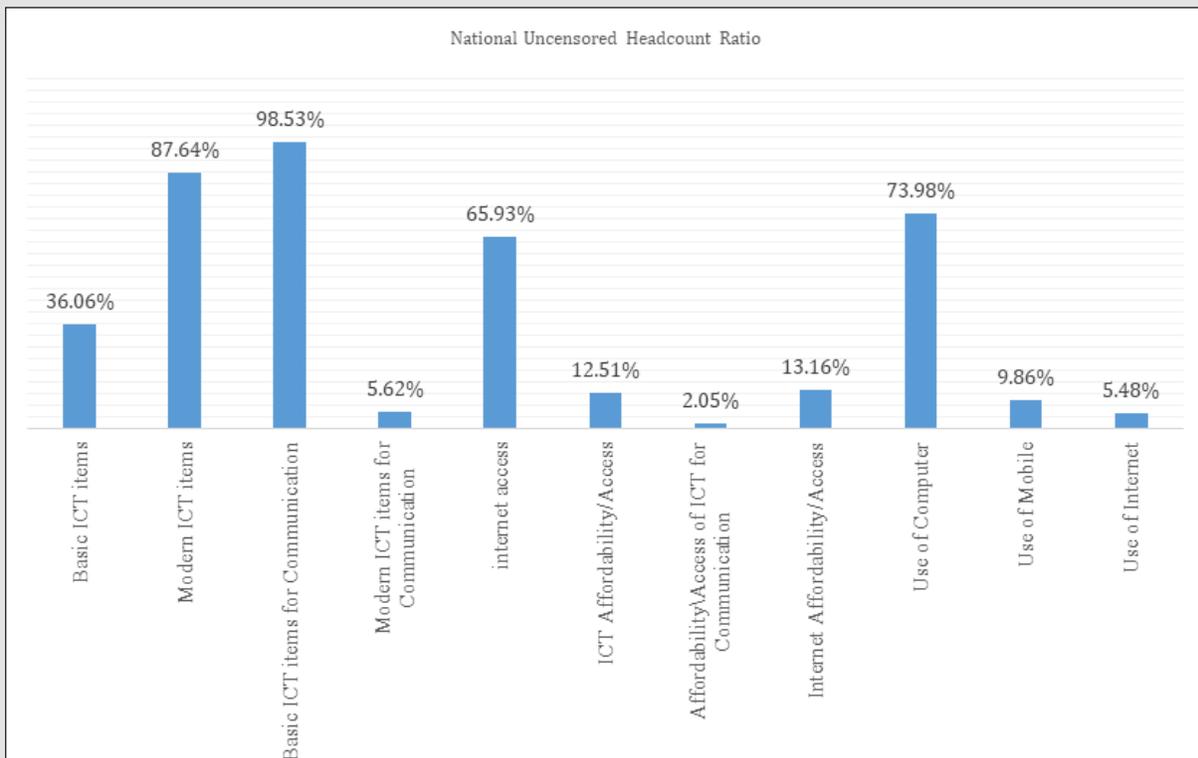
**Figure 10: Percentage share of each indicator in digital poverty**



### 2.3.4 National Uncensored Headcount ratio in Digital Poverty

The uncensored headcount ratios in digital poverty show the deprivation in each of the 11 indicators used in ICT MPI, irrespective of the digital poverty status of people. These ratios are calculated without applying the cutoff criteria used to categories and individuals as multidimensional poor. The following facts and figures show the deprivation rate in each indicator irrespective of whether these individuals are ICT poor or not. It can be seen that the greatest deprivation is found in basic ICT items, with 98.53% of the population deprived in this indicator. This is followed by modern ICT

**Figure 11: National Uncensored Headcount Ratio**





## WAY FORWARD

The first goal of SDGs is to achieve the target of no poverty till 2030. Pakistan has achieved significant reduction in monetary poverty from 61.6% in 1998-99 to 21.5% in 2018-19 and now Pakistan ranks at 134th out of 193 countries. Pakistan's poverty alleviation programs and anti-poverty legislation are creating a great and meaningful impact in reducing poverty and taking country in the right direction to achieve the set targets. Similarly, when we come across multidimensional poverty index, though it decreased from 19.1 in 2004-05 to 11.9 in 2019-20 with percentage decrease of 31% however, from 2015-16 to 2019-20 the reduction is just 0.7 percentage points. Moreover, when we talk about head count ratio it has increased from 38.6% in 2014-15 to 39.5% in 2019-20 which is also alarming. Moreover, greater contribution in national poverty is made by indicators concerning years of schooling (33.3%), access to health facility (19%) and child school attendance (10%), whereas deprivation in years of schooling has increased since 2004-05 while little improvement is observed in school attendance and health facilities.

The state of digital empowerment is also not very encouraging in the country as many households are digitally poor with no or minimal access to internet and ICT technologies. A significant proportion of population does not have basic ICT items with which they can communicate with the outer world, can get latest information, and learn new skills and to better sell off their products and services.

This is partially caused by the lack of pro-poor policies and their weak execution, as well as the macroeconomic crisis brought on by structural economic problems. Pakistan has a long history of poverty reduction policies and interventions. However, the consistent high levels of poverty indicate that these measures were inadequate and were focused mainly on static measures with limited outreach.

In terms of the debt load, rising debt payment obligations caused a growing fiscal squeeze, which in turn caused the 1990s to see a decline in the share of GDP allocated to social and development

sectors. Declining public investment and failed attempts at macroeconomic stabilization had a negative impact on private investment as well. Simultaneously, in the 1990s, the removal of export subsidies, the reduction of tariffs, and the depletion of easy import substitution options made international competitiveness a more significant factor in determining investment prospects in Pakistan. Pakistan was not competitive in many areas of the economy due to inadequate human development, overbearing government meddling, and dilapidated physical infrastructure. The outcome was a sharp reduction in total fixed investment, which lowered the rate of economic growth. Furthermore, the negative effects of structural variables were reinforced by the consequences of bad governance.

### **3.1 Poverty Reduction Strategies**

The strategy is built on important pillars like Governance Reforms, Political Stability and Health Related Measures and Ease of Doing Business etc.

#### **3.1.1 Governance Reforms**

Governance is defined as the way power is exercised in the management of a country's social and economic resources for development. Economic growth and social development that are inclusive are characteristics of good governance. It must make it possible for the government, the business community, and civil society to improve the welfare of a sizable portion of the populace.

Furthermore, since it creates the enabling legislative and regulatory framework necessary for the smooth operation of the labor, capital, land, and other factor markets, effective governance is a necessary precondition for pro-poor growth. However, if the general belief, that the majority of population does not benefit from the growth, continues Pakistan's economic expansion is likely to become unsustainable. Despite the abundant evidence of the failure of governance institutions, empirical research from various nations indicates that the quality of institutions has a significant impact on economic performance. The disparity in economic performance between rich and poor countries can be partially explained by differences in the caliber of institutions.

The size, composition, and purview of the federal, provincial, and local governments, as well as the qualifications, rewards, and abilities of the civil servants, all need to be improved in this area. A review and redesign of the entire human resource policy value chain, from hiring to remuneration, is required. In a similar vein, it is necessary to define and distinguish the roles and duties assigned to the various tiers of the government. The Ministry's and Division's long-standing hierarchies need to be reduced, and the Ministry's relationship with the executive departments and autonomous bodies needs to be reevaluated.

#### **3.1.2 Political Stability**

Political stability is the second pillar of poverty reduction because it is essential to the establishment of an atmosphere that is favorable to growth and development. To function effectively, economic agents-investors in particular-need to be encouraged to take risks, feel confident in the government's credibility, and be reassured about the continuation of policies.

Today a country's credit rating is far more important than its economic well-being and the natural resources it has. Credit ratings indicate the probability that a country can pay its debts smoothly. In addition to purely economic data, political, social, and even cultural factors are considered while deciding about a country's credit rating. An oil-rich country cursed with a authoritarian regime, endemic warfare and a corrupt judicial system will usually receive a low credit rating (Harari,2015). Edoun and Mbohwa (2016) maintain that there is a strong correlation between political instability and the rising poverty in Africa. Therefore, political stability is a must for a country to raise the necessary capital for getting its people out of poverty.

Pakistan has experimented with local bodies government with 3 to 4 times mostly under military regimes. However democratic governments soon coming into power, considering it a dictator's legacy' would abolish these local bodies without looking into the fact that these local bodies were playing a critical role in efficient devolution of authority and service. Therefore, this practice needs to be stopped and legislation should be made so that local bodies' elections would be held soon after formation of the government following general elections.

### 3.1.3 Evaluation of Social Protection Programs

To reduce the poverty government has adopted different Social Protection Programs (SPP) under different policies and strategies. Although it is observed that monetary poverty has been reduced in period 1988 to 2018 from 68 to 21 percent however when we analyze social protection programs like BISP, the number of beneficiaries has increased from 1.7 million in FY 2009 to approximately 5.42 million at the end of March 2017. On the one side social protection programs help poor and vulnerable people to cope with crises and shocks, find jobs, invest in the health and education of their children, and protect the aging. On the other hand, social protection programs are designed to guard the susceptible poor and marginalized segments of the society from livelihood problems, to help the extreme poor financially through cash transfers, to improve their social status, to protect their rights and to promote growth in the society. These carefully targeted and effectively managed social protection programs and initiatives can decrease loss of human capital, enhance employment and protect people from falling into vicious circle of poverty in case of facing economic risks (Cook & Kabeer, 2016). Well planned social protection programs constitute social policy of any country and prop up social solidarity.

Further there are regular SPP that work in the form of direct cash transfers and other services which include both budgetary and non-budgetary programs. Budgeted social safety net programs include Benazir Income Support program (BISP), Pakistan Bait-ul-Mal (PBM) while Zakat, Employees Old-age Benefit Institution (EOBI), Workers Welfare Fund (WWF) and Pakistan Poverty Alleviation Fund (PPAF) are the non-budgetary part of the program. Microfinance through specialized financial institutions also provides micro finance services to the needy poor.

- However, the average cost of these programs such as BISP alone is 400 billion in 2023 whereas education received just 1101 billion, which is 2% of GDP. Therefore, it is needed to analyze that whether these programs are helpful in reducing poverty and in improving the household standard as Farooq and Nayab (2023) observed that BISP unconditional cash transfer has not been quite helpful in alleviating poverty. Similarly, Bari et al (2005) also maintained that these programs have almost no impact in poverty alleviation from the society. The amount of grant given cannot fulfill the needs of the poor households.
- Hence it raises the questions that whether social protection programs are helpful to reduce poverty and what is the opportunity cost associated with these programs. Therefore, there is a need for evaluation and monitoring of social protection programs.
- Moreover, there is a dire need to analyze other countries' model that how they reduced their poverty, like models adopted in developing countries such as Bangladesh, Vietnam and developed countries model like South Korea and China.

### 3.1.4 Health Related Measures

One of the big reasons that poor remain poor is that they don't get the required nutrition which is prerequisite for doing some hard work or enough work to earn them a reasonable income. Banerjee and Duflo (2012) highlighted a few of such cases during their experimental study on poverty in South Asia. The households, especially the bread earners, wouldn't even have the meal three times a day which keep them from indulging in extra or adequate work. Therefore, such households should be identified,

and social safety net programs should be directed only to these households.

A safe and clean-living environment is as important for a healthy workforce as is nutrition. According to Punjab Local Government and Community Development (LG&CD), there were over 7000 sewage ponds in Punjab alone which serve as dumping sites for villages sewage. Out of these 7000 only 211 ponds have been removed or redesigned by channeling village sewage into sullage carriers or seepage drains. These ponds act as breeding grounds for mosquitoes and for many vector diseases along with affecting animals and the adjacent soils. So, the situation in other provinces especially Sindh and KP would also be not too different from Punjab. Therefore, measures should be taken to improve sanitation facilities in these villages by constructing sullage carriers.

The relationship between health and poverty reduction and subsequent economic growth is more powerful and stronger than is generally understood. A two-pronged strategy, of promoting health initiatives and containing disease spreading environment, is inevitable to develop a healthy workforce which would have the capability to bring itself out of the poverty (Madi & Hussain, 2007).

### **3.1.5 Ease of Doing Business**

With 122 regulatory bodies under the federal government Pakistan looks like a permission economy. PIDE one-year growth strategy paper for Pakistan shows that approval for new business takes on average from 1 to 4 years with a plethora of documents to be provided and accompanied by multiple visits to the concerned government office. Therefore, a time limit should be fixed for such approvals along with removing all unnecessary approvals and formalities.

Further this research by PIDE shows that most of the loanable funds are tied up in government securities (52 % investment in securities and an additional 15 % in government guarantee loans) which renders very low amount of credit available for the private investors. Pakistan has huge potential to generate money in processing of agriculture and livestock products but this low and cumbersome availability of credit bars people to invest in this sector. Further this sector could produce lot of jobs in rural areas where majority of the country's population lives.

Moreover, government of Pakistan has a huge footprint (67 % of total economy) in different business activities like state owned enterprises (SOEs) operating in energy, transportation, finance, trading, manufacturing, wheat, electricity, gas, medicines, milk and petrol (Haque and Ullah, 2022). Therefore, such a large presence of government in every sector leaves little room for other competitors and investors as they may perceive not enjoying the same privileges as these SOEs have.

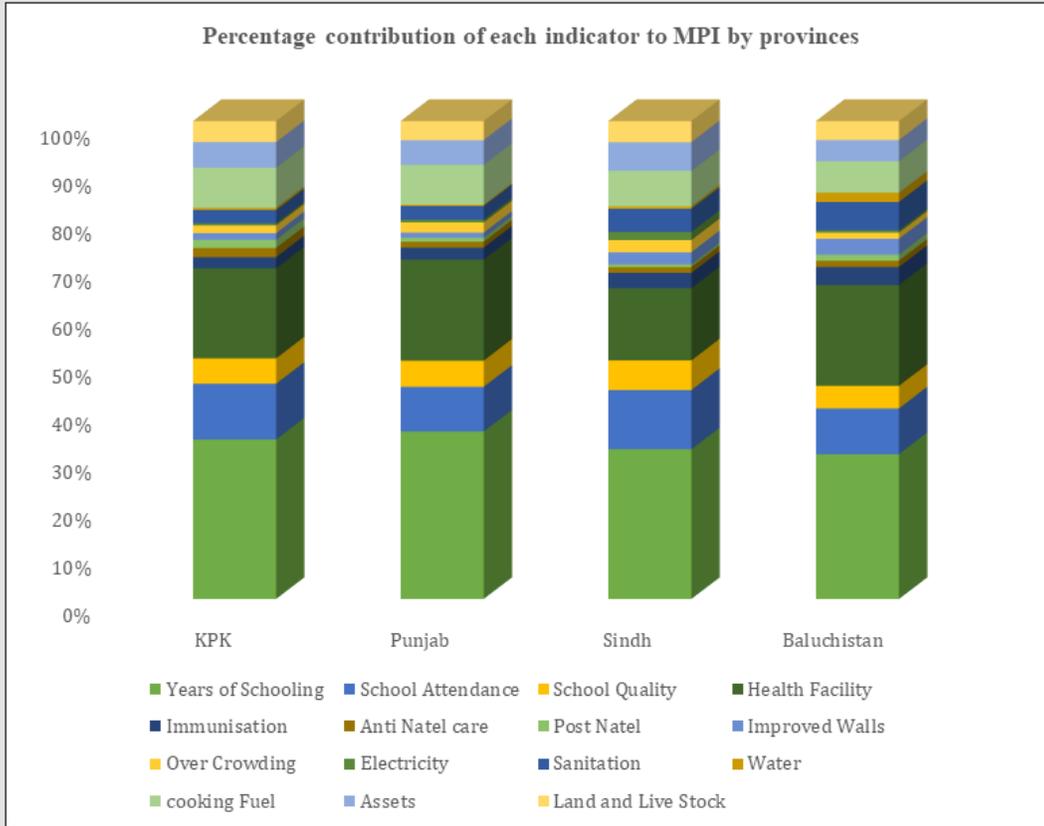
Hence there is a need for governance reforms that should be based on good institutions to ensure two desirable outcomes – one that there is a relatively equal access to economic opportunity (a level playing field) and second those who provide labor or capital are appropriately rewarded and their property rights are protected (Acemoglu and Johnson, 2003).

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## Appendix

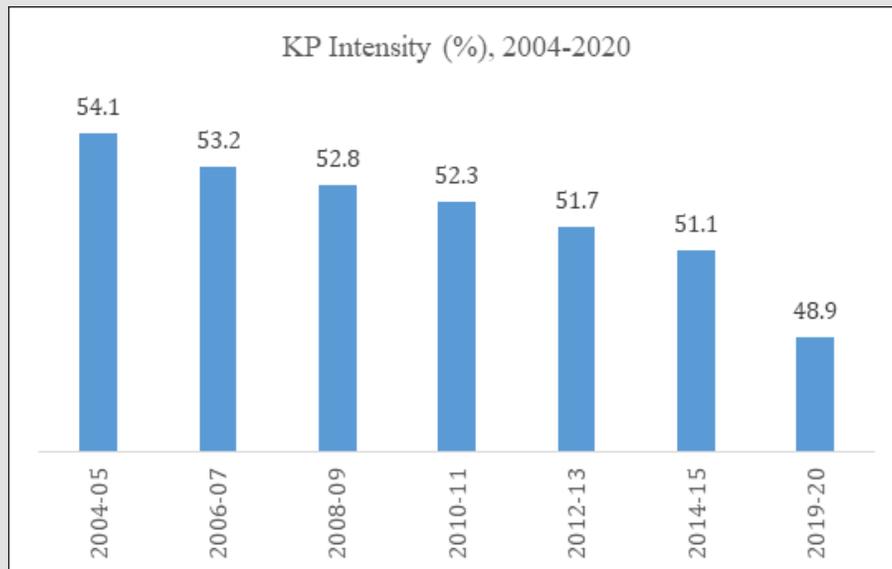
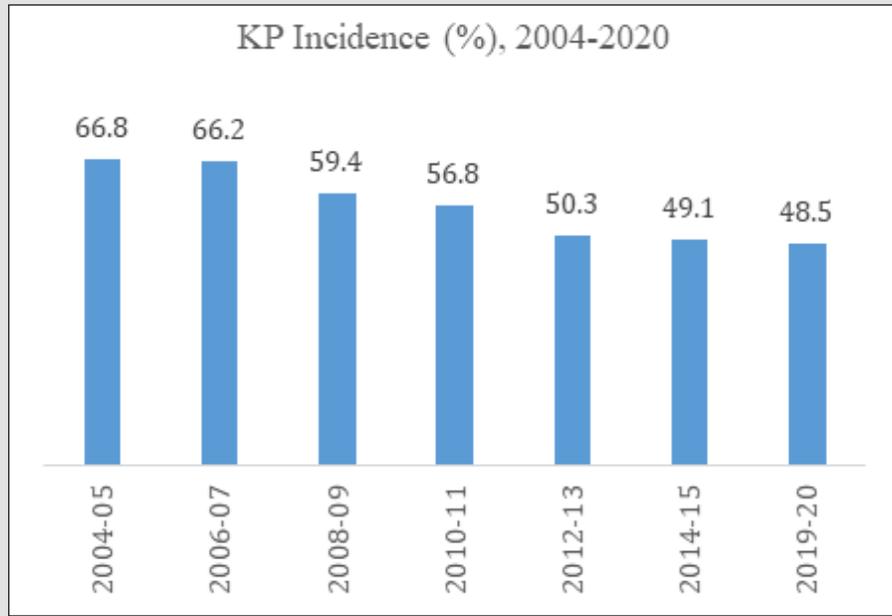
### Percentage contribution of each Indicator by Provinces



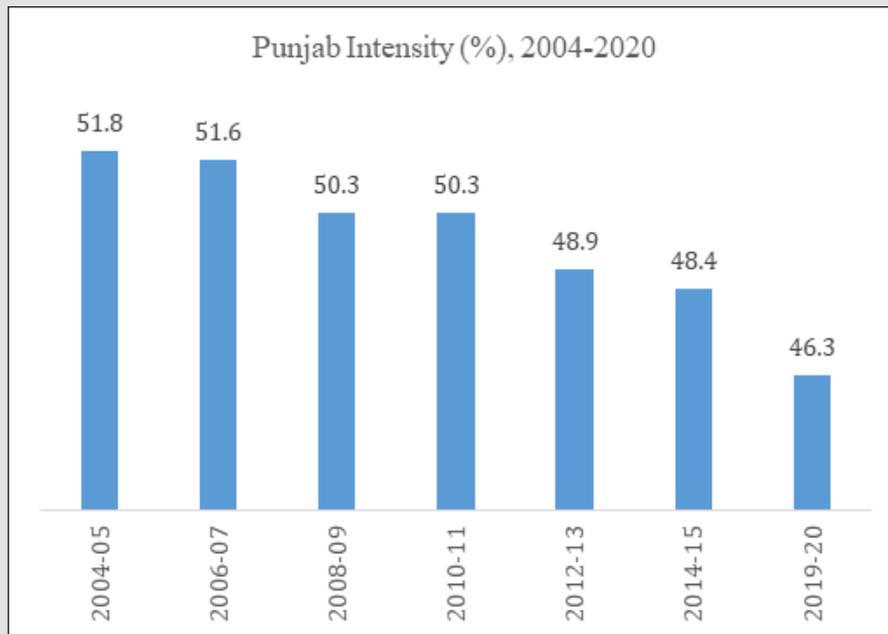
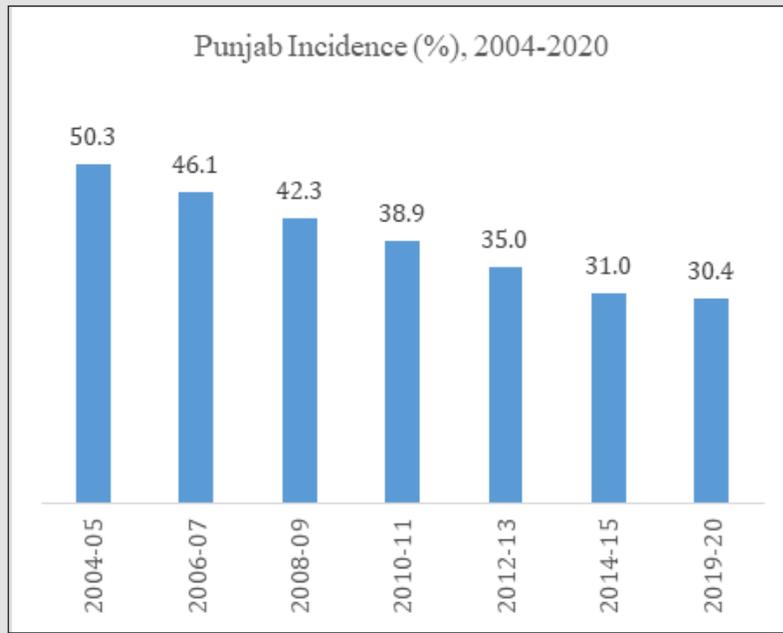
Source: Author's calculation based on 2019\20 PSLM survey

## Provincial MPI Trends

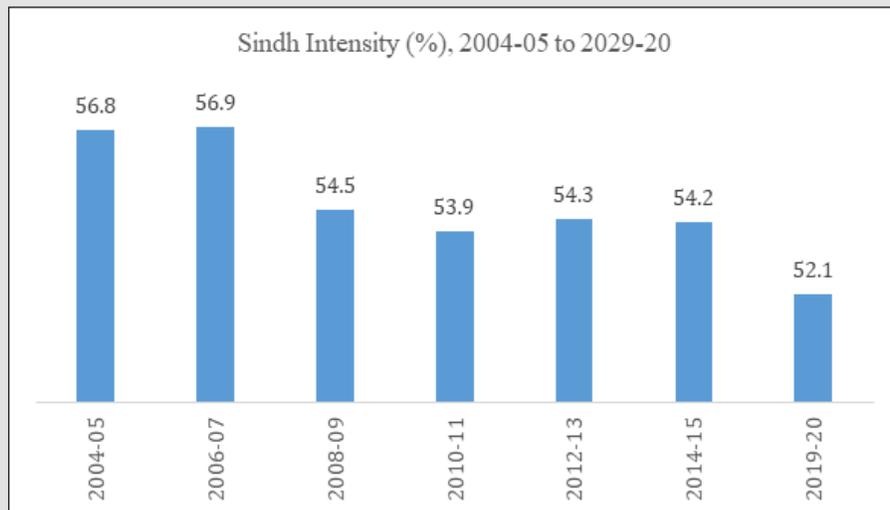
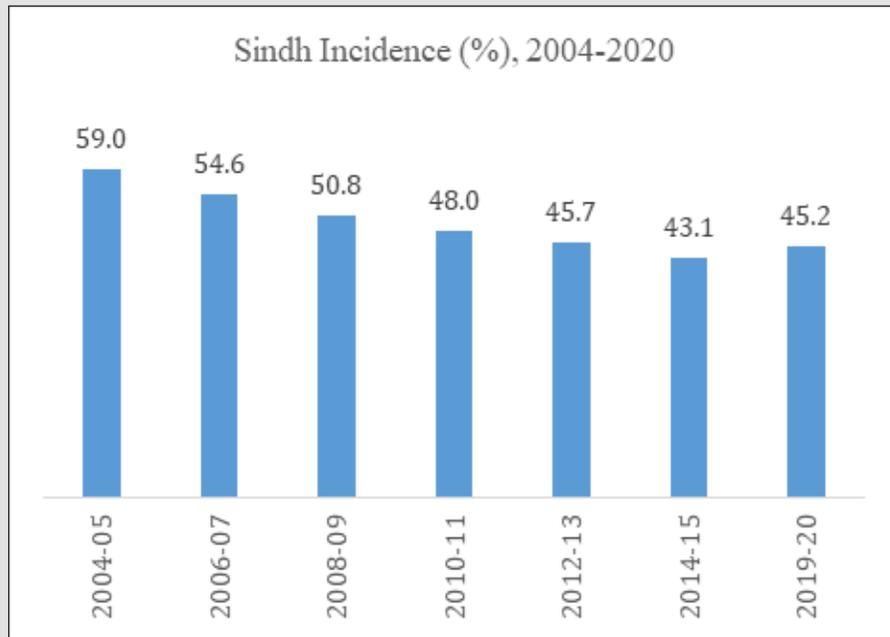
### Khyber Pakhtunkhwa



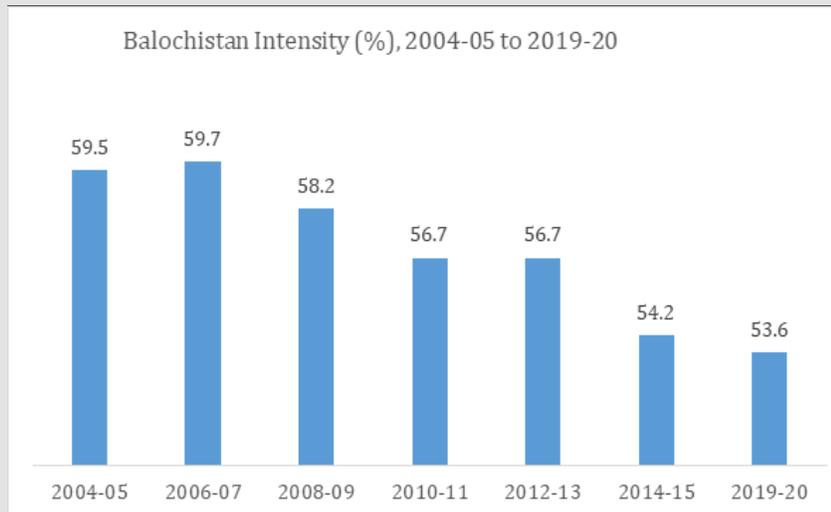
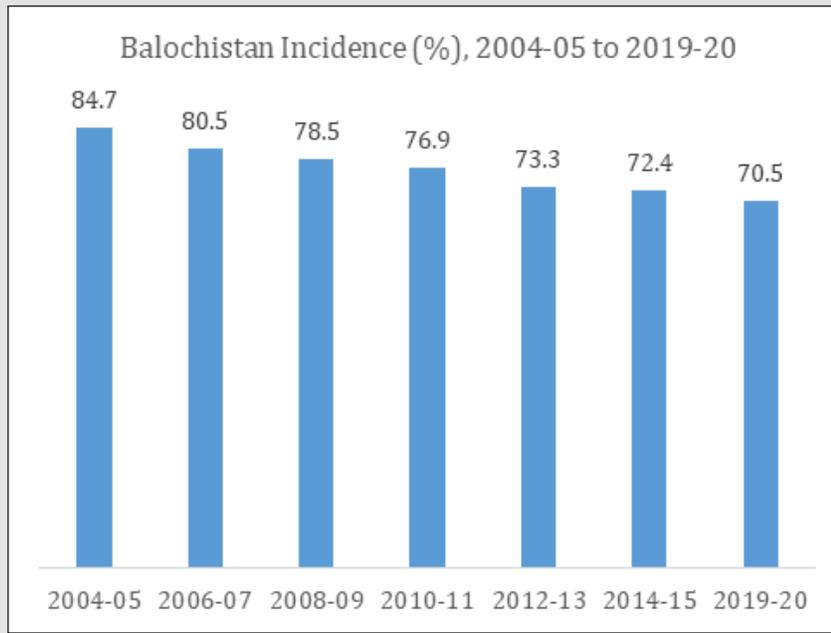
## Punjab



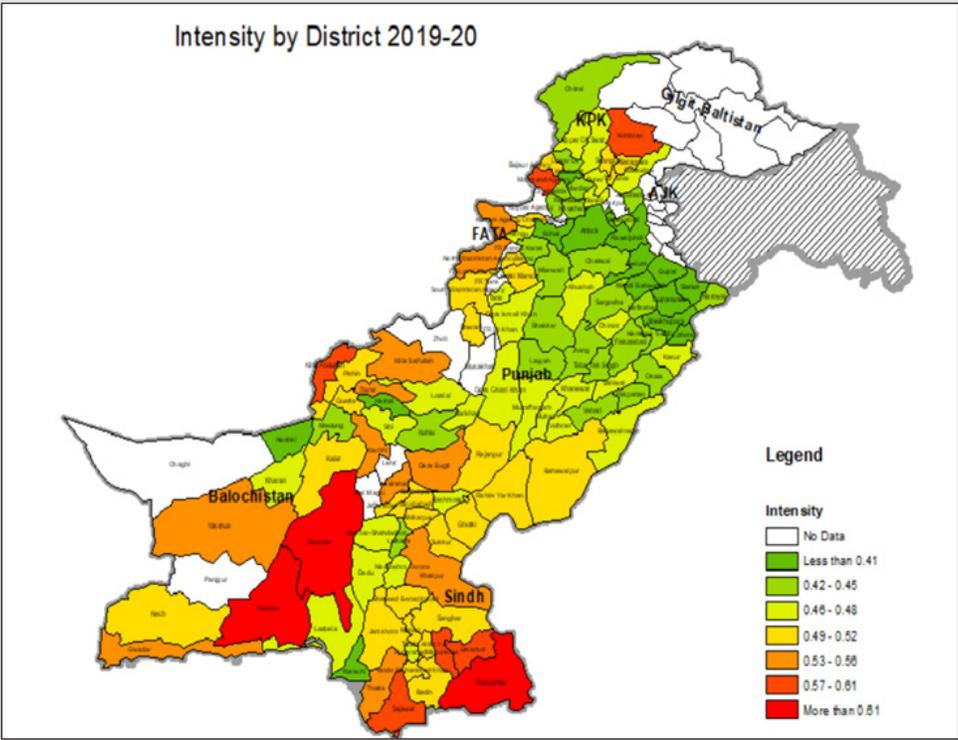
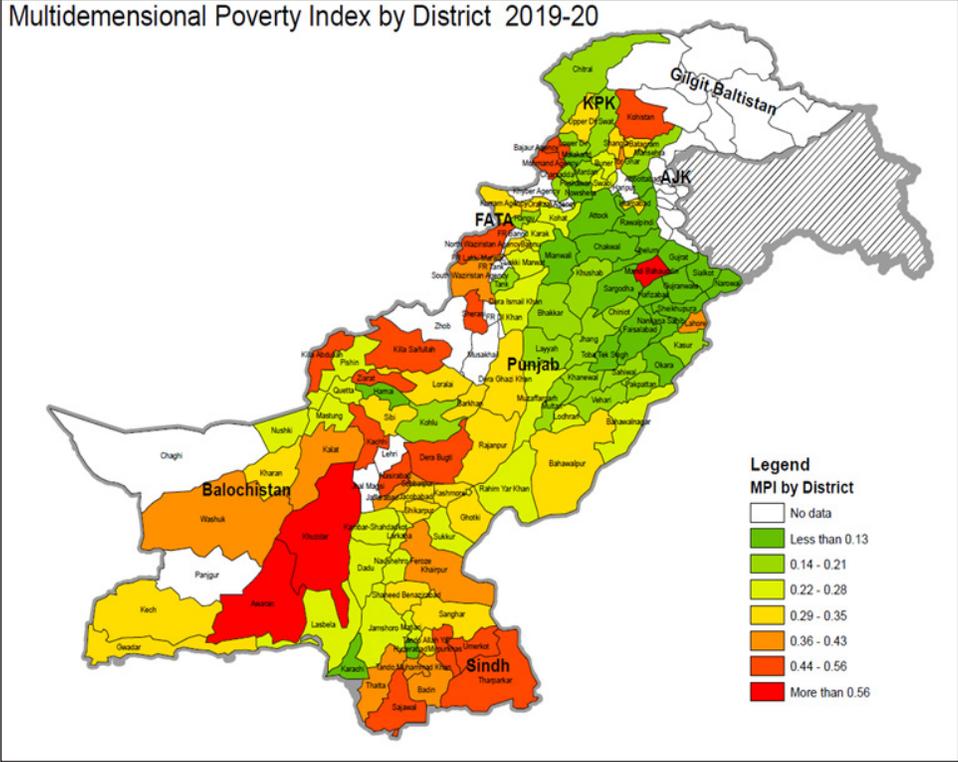
## Sindh



## Balochistan



### Multidimensional Poverty Index: District Maps



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