Geography of Poverty in Pakistan

Update

Multidimensional Poverty in Pakistan at the National, Provincial and District levels

2014-15

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Contents

Introduction

This statistical brief is a follow up of the recent study of the Pakistan Poverty Alleviation Fund (PPAF) titled Geography of Poverty in Pakistan 2008-09 to 2012-13: Distribution, trends and explanations published in 2016[1] . This study provided a detailed analysis of multidimensional poverty in Pakistan over the five years, and provided an analysis of the factors underlying the regional differences in the incidence and intensity of poverty. As the analysis for this stud y was completed before the survey data for the year 2014-15 data was released, the analysis presented here updates this earlier endeavour.

This brief provides the updated estimates of multidimensional poverty at various levels, national, provincial and district, by using the Pakistan Standards of Living Measurement Survey (PSLM) 2014-15 survey data. By using the methodological approach developed in the above cited report (reproducd in the Anex A in this paper), the analysis presented here is based on multiple deprivations faced by households over 27 indicators pertaining to the four dimensions of wellbeing: education; health; living conditions; and; asset owenrship. This update thus identifies the change on various measures of poverty at the national, provincial and districts level from 2012-13 to 2014-15. It also identifies the key drivers of poverty, the respective share of each dimension and indicator, in explaining deprivation levels at the national and provincial levels.

The statistical results presented in this paper are structured into six sections. The first section of introduction is followed by the second section, which presents the estimates of headcount ratio, first at the national and provincial levels followed by a district level analysis for each province. The third section presents the estimates of the intensity of poverty at these levels, followed by fourth section that presents the estimates of the adjusted headcount ratio, the index of multidimensional poverty at the three levels. The fifth section presents the estimates of the key drivers of poverty and is followed by the last section presenting poverty estimates by each of the five zones of poverty developed in Geography of Poverty.

[1]Naveed, A. Wood, G. and Ghaus, M. U. (2016). 'Geography of Poverty in Pakistan 2008-09 to 2012-13: Distribution, trends and explanations'. Pakistan Poverty Alleviation Fund and Sustainable Development Policy Institute, Islamabad.

Headcount Ratio 2014-15

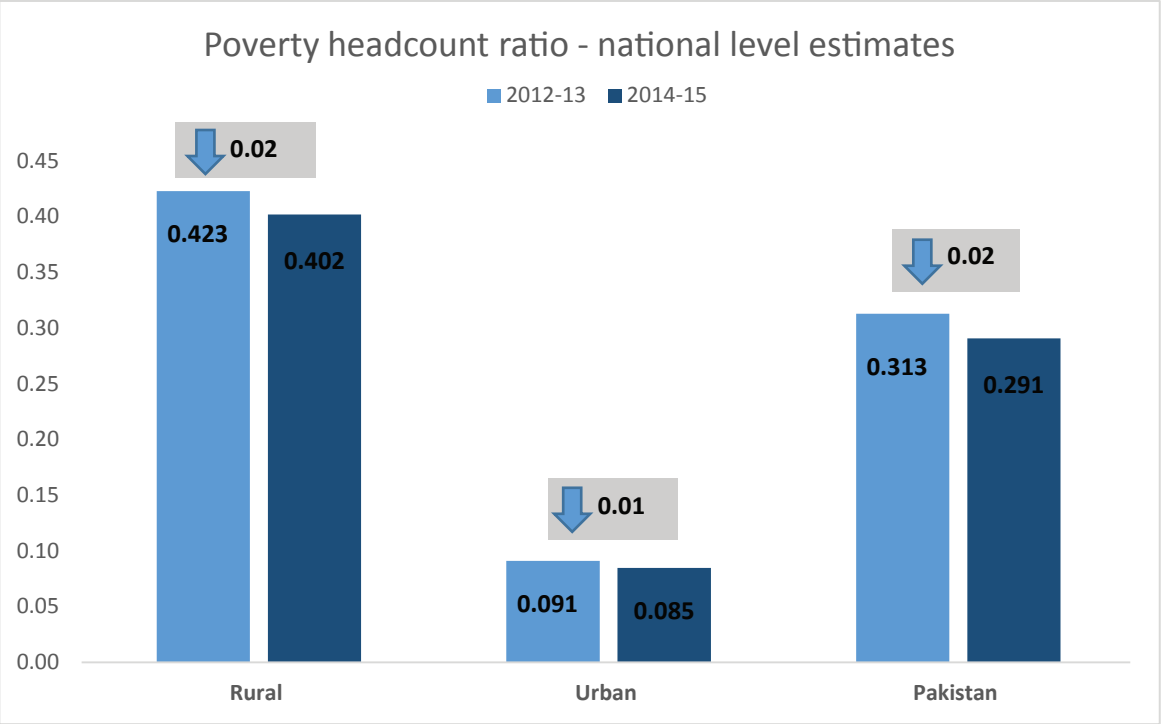
The Alkire and Foster[2] methodology adopted counts the deprivations each household experiences on the selected indicators which are further weighted. These weighted deprivations are then aggregated for each household and those scoring 40% or more are considered multidimensional poor (for details, please see the annex 1). Headcount ratio refers to the proportion of multidimensional poor households out of given population. This section reports the headcount ration in 2014-15 at the national, provincial and district levels.

a. Headcount ratio at the national level

Figure 1 shows the national level estimtes for poverty headcount ratio for the year 2014-15 comapring them with the estimates for the last period in the Geography of Poverty, 2012-13. Overall, poverty remained highly prevalent in the country in 2014-15 compared to the preceding year. With the 2.2 percentage points reduction in headcount ratio since 2012-13, more than 29% population was still poor in 2014-15.

In absolute terms, poverty reduction has been slightly higher in rural than urban from 2012-13 to 2014-15. Nonetheless, high rural urban disparity in the incidence of poverty persisted as rural populations were nearly 5 times poorer than urban population.

Figure 1: Headcount ratio 2014-15 at the national level



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

[2]Alkire, S., Foster, J.E., Seth, S., Santos, M.E., Roche, J. M. and Ballon, P. (2015). Multidimensional Poverty Measurement and Analysis. Oxford University Press.

b. Headcount ratio at the provincial level

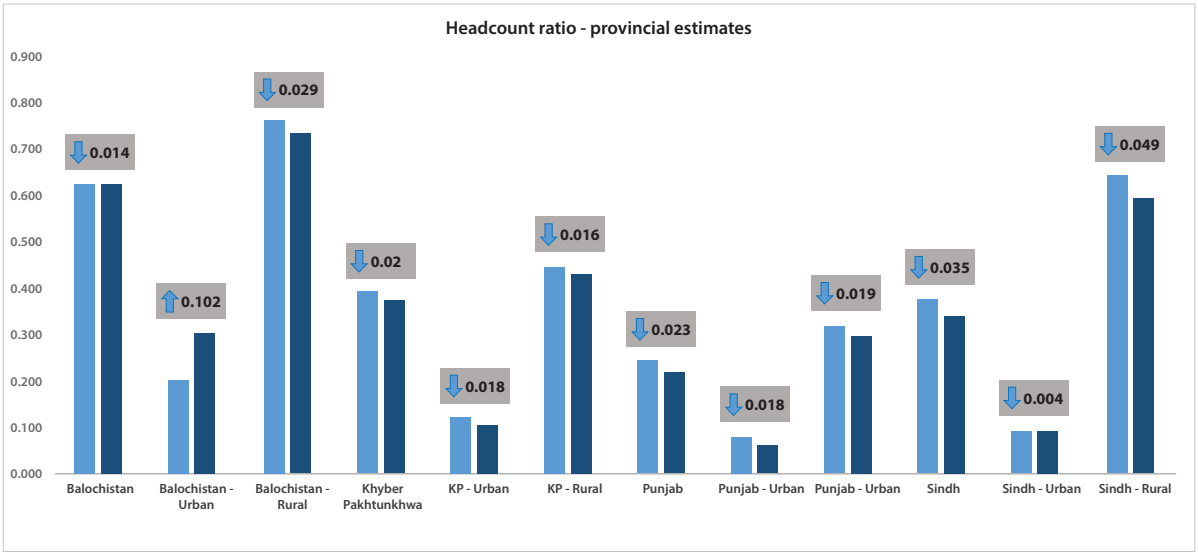
As in the previous years, disparities in poverty headcount remain stark, both among and within provinces in 2014-15.Table 1 presents the estimates of headcount ratio at the provincial and rural/urban levels within each province. Poverty headcount ratio was the highest in Balochistan, followed by Sindh and KP in 2014-15.

Table 1: Headcount ratio at provincial level 2014-15

Province	Total	Urban	Rural
Balochistan	0.611	0.304	0.733
Khyber Pakhtunkhwa	0.373	0.105	0.432
Punjab	0.220	0.062	0.298
Sindh	0.340	0.090	0.593

Figure 2 plots these headcount ratios for the four provinces for the years 2012-13 and 2014-15, separately for the rural, urban and total populations. With a slight reduction of 1.4 percentage points over the two years, a total of 61.1% population of Balochistan lived in multidimensional poverty in 2014-15. KP experienced a reduction of 1.9 percntage points over the two years, and

Figure 2: Headcount ratio 2014-15 at provincial level



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

had a headcount ratio 37.3% in 2014-15. In Sindh, with the the reduction of 3.4 percentage points, 34% population lived below poverty line. Unlike the high persistence of poverty in Sindh in the previous five years (2008-09 to 2012-13 as reported in Geography of Poverty), Sindh had a notable reduction in headcount ratio in 2014-15. Like in previous years, Punjab remained the least poor province and with the reduction of 2.3 percentage points over the two years, the headcount ratio was 22% in 2014-15.

The urban-rural split in poverty headcount ratio has pervaded across all four provinces. In 2014-15, this split was highest in Sindh as in previous years, where rural poverty was 6.5 times higher than urban poverty. Punjab also had a high rural-urban disparity in 2014-15 as rural poverty was nearly 5 times the urban poverty. In the same year, rural poverty was 4.1 times the urban poverty in KP.

Given overall high poverty in the province, rural-urban split was the lowest in Balochistan, where rural poverty was 2.4 times higher than urban poverty. This was also because of a significantce rise of 10 percentage points in urban poverty in Balochistan over the last two years. A further explanation of this rise in the estimates of urban poverty in Balochistan is provided in the Annex 2.

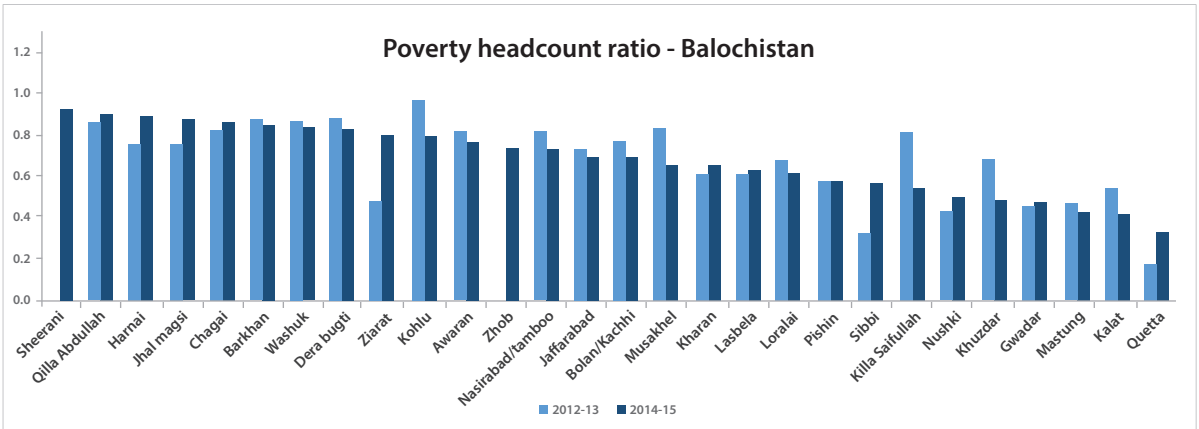
Poverty headcount ratio at the district level

District level analysis is presented in this section separately for each province.

Balochistan

Figure 3 plots the district-wise poverty headcount ratios for Balochistan for both 2012-13 and 2014-15[3]. It shows that 11 districts of the province witnessed an increase in the poverty headcount ratio over the two years. Sheerani was the poorest district in the province in 2014-15, whereas Quetta was the least poor.

Figure 3: Poverty headcount ratio at district level – Balochistan: 2012-13-2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Ziarat saw the highest increase in poverty, with the headcount ratio increasing by 31.5 percentage points. Other districts which witnessed an absolute increase in headcount ratio include Sibbi (24.4%), Quetta (14.8%), Harnai (13.2%), Nushki (7.2%), Jhal Magsi (19.9), Kharan (6.7%), Killa Abdullah (4.5%), Kharan (4.0%), Chagai (2.9%), Lasbela (1.8%), and Gwadar (1.1%). Among the districts where poverty declined, the highest decline was witnessed in Killa Saifullah (27.5%), followed by Khuzdar (19.4%) and Musakhel (18.0%).

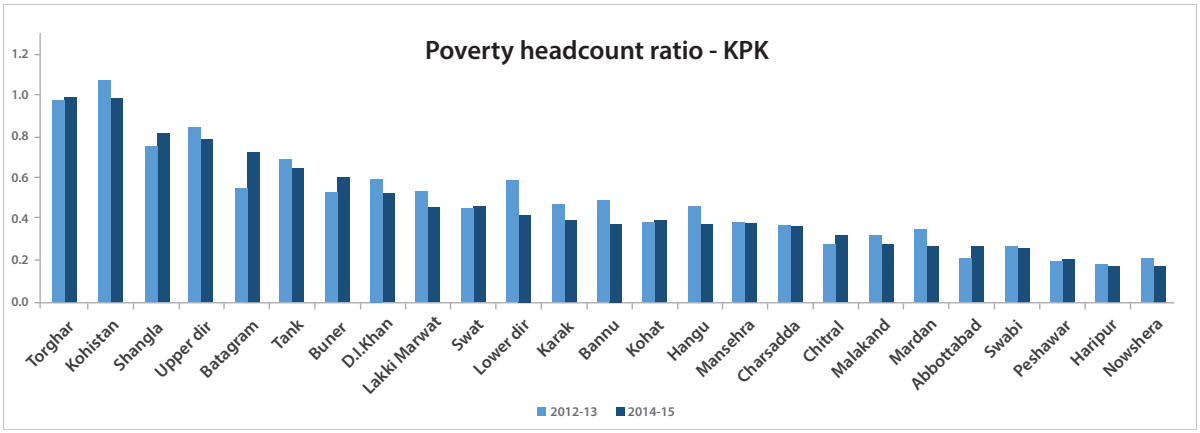
KP

We now look at the trends in headcount ratio for the districts in KP during 2012-13 to 2014-15. Figure 4 plots district-wise poverty headcount ratios for KP for the two time periods. In 2015-16, Torgarh was the poorest district of the province, whereas Nowshera was the least poor one.

In total, 9 out of 25 districts in the province saw an increase in the poverty headcount ratio during the period 2012-13 to 2015-16. Battagram saw the highest increase in poverty headcount ratio of 12.8 percentage points over two years. Other districts where poverty increased include Buner (5.2%), Abbottabad (4.76%), Shangla (4.6%), Chitral (4.0%), Torgarh (0.007), Swat (0.5%), Peshawar (0.4%), and Kohat (0.4%). In contrast, headcount ratio decreased in some of the high poverty districts. The highest decline of 11.6 percentage points was in Lower Dir followed by Bannu (7.6%), and Kohistan (6.7%).

[3] Due to lack of data, poverty estimates were unavailable for two districts, Sheerani and Zhob, in 2012-13.

Figure 4: Poverty headcount ratio at district level – KP: 2012-13-2014-15

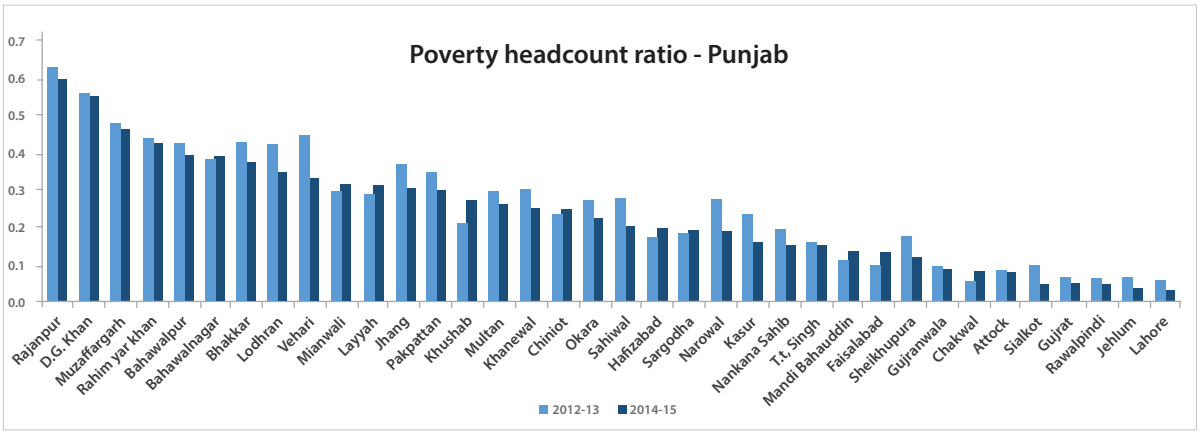


Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Punjab

Figure 5 plots district-wise poverty headcount ratios for Punjab for the two time periods. Rajanpur was the poorest district of the province in 2015-16, whereas Lahore was the least poor district. In total, 10 of the 36 districts of Punjab saw an increase in the poverty headcount ratio from 2012-13 to 2014-15.

Figure 5: Poverty headcount ratio at district level – Punjab: 2012-13-2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

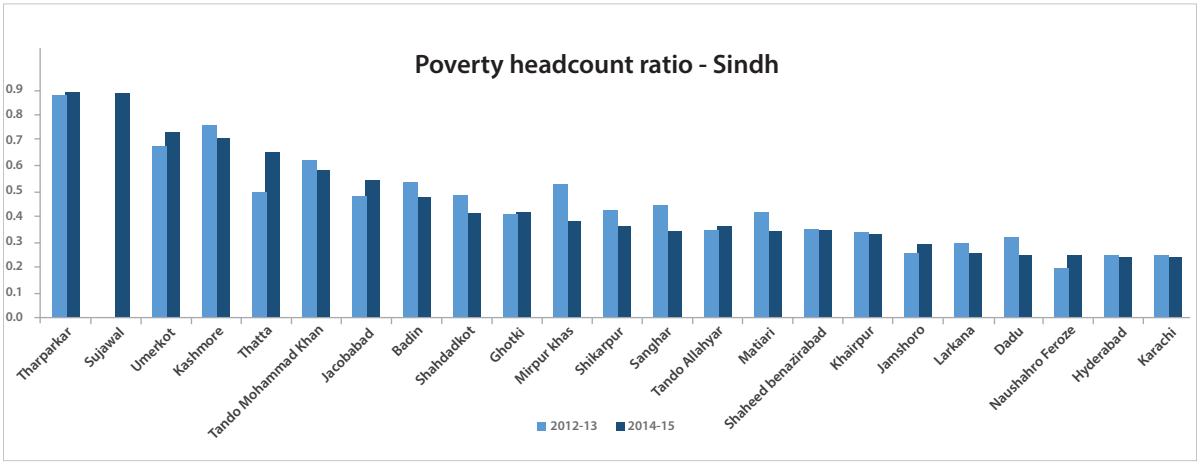
The highest increase was seen in Khushab, where the poverty headcount ratio rose by 5.9 percentage points. Other districts where poverty increased include: Faisalabad (3.5%), Chakwal (2.8%), Mandi Bahauddin (2.2%), Hafizabad (2.7%), Layyah (2.4%), Mianwali (1.5%), Chiniot (1.2%), Sargodha (0.6%), and Bahawalnagar (0.6%).

Districts that saw the highest decline in poverty included Vehari, where the headcount ratio reduced by 11.4 percentage points, followed by Narowal (8.9%), and Kasur (7.8%).

Sindh

Figure 6 plots district-wise poverty headcount ratios for Sindh for both time periods. In 2014-15, Tharparkar was the poorest district of the province, whereas Karachi was the least poor district. Ten out of Sindh's 23 districts saw an increase in poverty from 2012-13 to 2014-15. The highest increase in poverty was in Ghotki (7.3%) followed by Shahdadkot (6.8%), Tando Muhammad Khan (7.5%), Jacobabad (5.5%), Sanghar (4.3%), Kashmore (5.3%), Tharparkar (4.0%), Hyderabad (3.9%), Matiari (1.8%), and Shikarpur (1.8%). Among the districts where poverty declined, the largest decrease was seen in Naushahro Feroze by 26.3 percentage points, followed by a decline of 20.6 percentage points in Dadu, and of 12.1 percentage points in Shaheed Benazirabad.

Figure 6: Poverty headcount ratio at district level – Sindh: 2012-13-2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

[4] Due to unavailability of data, estimates for Sujawal for the year 2012-13 are not available.

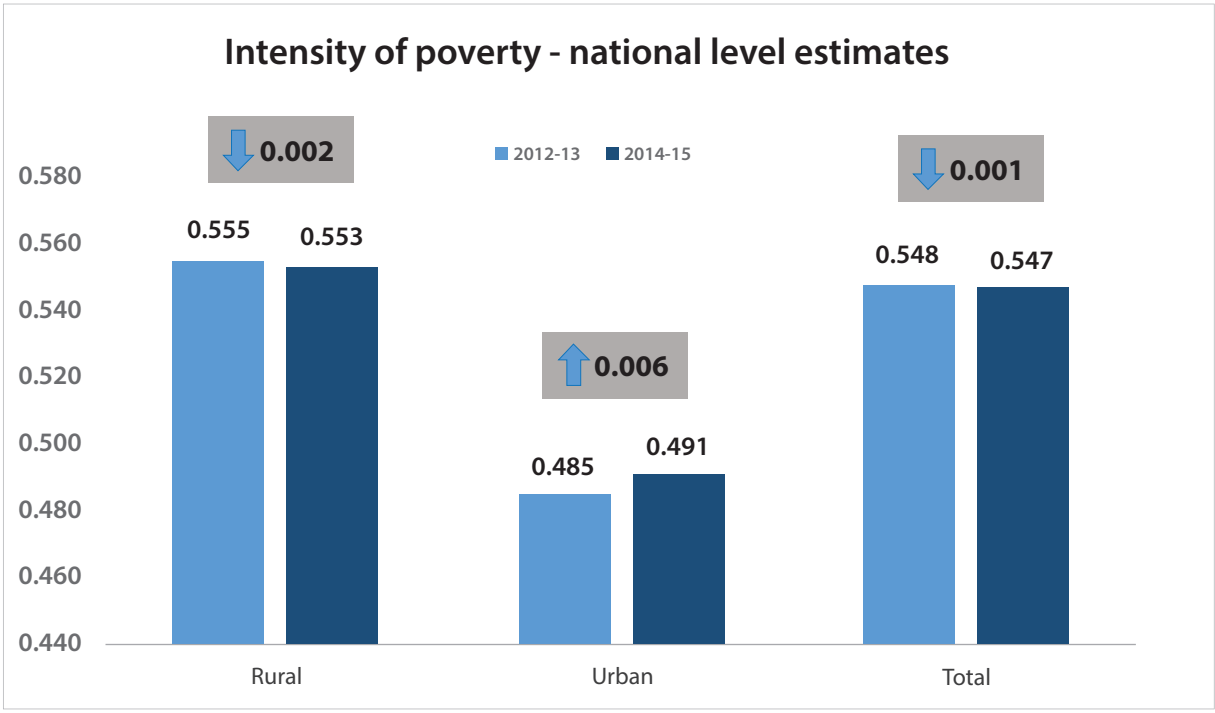
Intensity of poverty

Intensity of poverty measures the depth of deprivations faced by those living below poverty line. It refers to the average weighted deprivations faced by the multidimensionally poor households in the given population. Two populations may have similar headcount ratio but those below the poverty line in one population may experience higher levels of deprivation than the other thus requiring greater resources. The measure of intensity of poverty helps idenitfy such differences. This section presents the estimates of intensity of poverty at the national, provincial and district levels.

Intensity of poverty at the national level

Figure 7 shows the intensity of poverty (level of deprivations faced by those who fall below poverty line) in the country in 2014-15 and the change in it since 2012-13. In 2012-13, those below the poverty line faced on 54.8% which fell to 54.7% in 2014-15. There was a slight decline in the deprivations level faced by rural poor but an increase in that faced by the urban poor in the same

Figure 7: Intensity of poverty at the national level 2012-13 & 2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Overall, the intensity of poverty in the country stood at 0.547 in 2015-16, witnessing a decline of 0.001 points since 2012-13. At 0.553, the intensity of poverty was higher in rural Pakistan than in urban Pakistan, where the estimate for the same year was 0.491. Like the headcount ratio, the intesnty of poverty declined by more in urban Pakistan (0.006 points) than in rural Pakistan (0.001 points).

Intensity of poverty at the provincial level

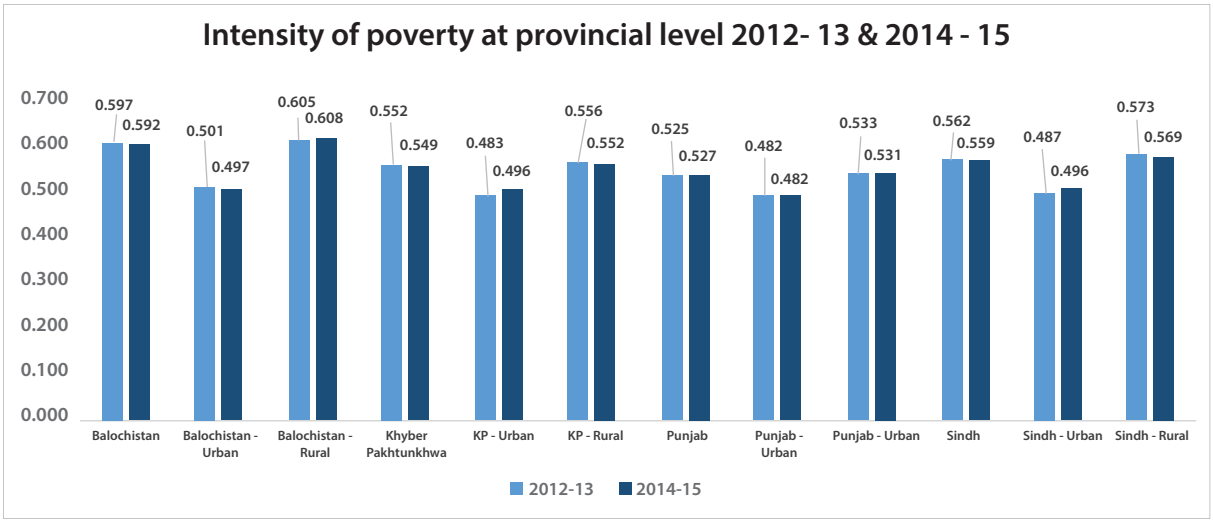
The distribution of intensity of poverty reveals stark disparities both across and within provinces. Table 2 presents the intensity of poverty at the provincial level for 2014-15 showing it to be the highest in Balochistan.

Table 2: Intensity of poverty at provincial level 2014-15

Province	Total	Urban	Rural
Balochistan	0.592	0.497	0.608
Khyber Pakhtunkhwa	0.549	0.496	0.552
Punjab	0.527	0.482	0.531
Sindh	0.559	0.569	0.496

Figure 8 shows the intensity of poverty across the four provinces with rural and urban differences. Within the province, the intensity of poverty was nearly 61% for the rural population group, compared with 50% for the urban population group. KP had the second high intensity level, with the intensity of poverty 55% for the rural population group, compared with 50% for the urban population group. In Sindh, the intensity of poverty was 57% for the rural population group and 50% for the urban population group, whereas in Punjab – the least intensely poor province – it was 53% for the rural population group and 48% for the urban population group.

Figure 8: Intensity of poverty at provincial level: 2012-13 and 2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Figure 8 also presents the estimates for intensity of poverty at each level for 2012-13 suggesting no drastic change over this period.

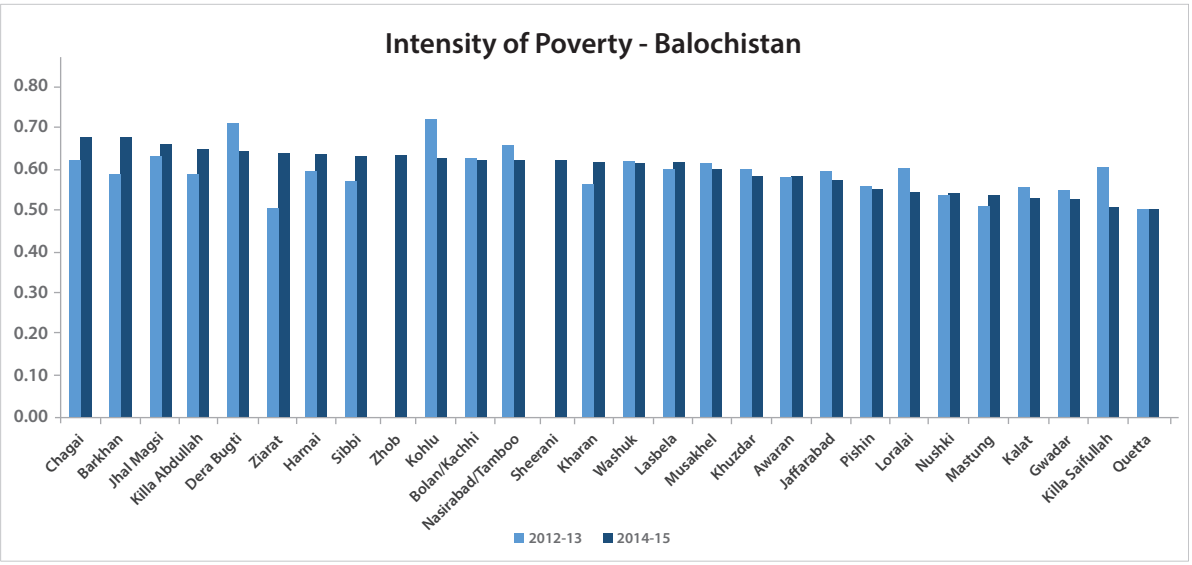
District level estimates of intensity of poverty

Trends in the intensity of poverty at the district level are discussed by each province.

Balochistan

Figure 9 shows the intensity of poverty in Balochistan for the years 2015-16 and 2012-13. In 2015-16, the intensity of poverty was highest in Chagai, and lowest in Quetta. During these 2 years, 12 out of the 26 districts of the province witnessed an increase in the intensity of poverty over the period. These include Ziarat, where intensity of poverty increased by 26.5% followed by Barkhan (15.1%), Sibbi (10.5%), Killa Abduallah (9.8%), Kharan (9.4%), Chagai (8.9%), Harnai (6.7%), Mastung (4.6%), Jhal Magsi (4%), Lasbela (2.4%), Nushki (0.3%).

Figure 9: Intensity of poverty at district level – Balochistan: 2012-13 and 2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

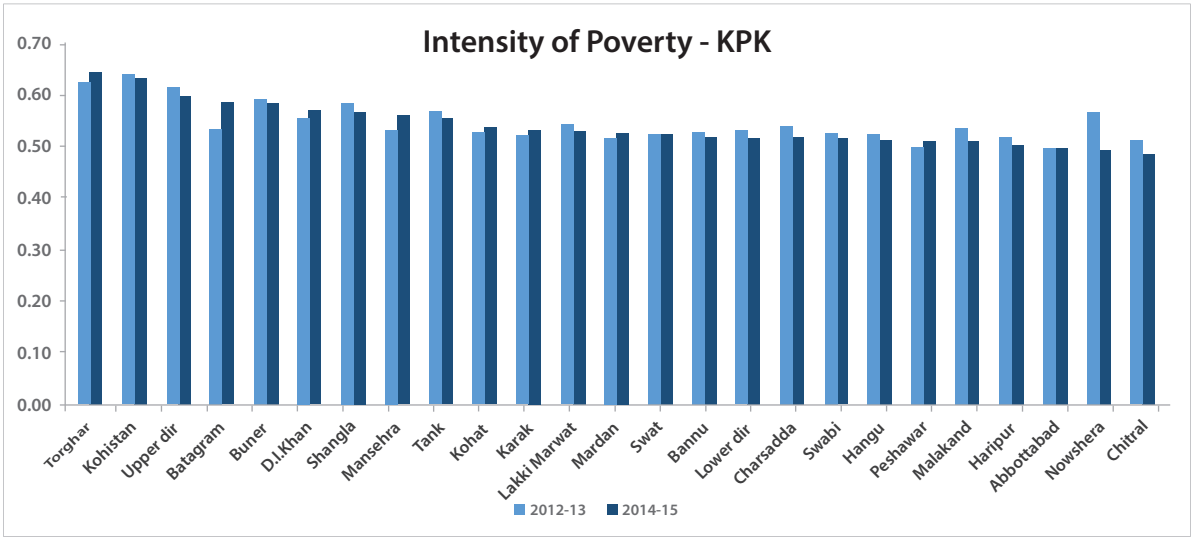
Districts that saw the largest decrease in intensity of poverty include Killa Saifullah, where the decline was 14.5% followed by Kohlu (12.6%) and Dera Bugti (9.8%).

KP

Figure 10 shows the intensity of poverty in KP for the years 2012-13 and 2014-15. Torgarh was the most intensely poor province in KP in 2015-16 and Chitral was the least intensely poor one. Over the given two years, 9 out of 25 districts in the province saw an increase in the intensity of poverty. The highest increase was in Battagram (9.5%), followed by Mansehra (5.4%), Torgarh (3.2%), D.I. Khan (2.9%), Peshawar (2.3%), Kohat (2.2%), Karak (1.9%), and Mardan (1.4%). There was also a negligible increase in Swat.

[5]Lack of data for 2012-13 prevented the estimation of the indicator for two districts – Zhob and Sheerani.

Figure 10: Intensity of poverty at district level – KP: 2012-13 and 2014-15



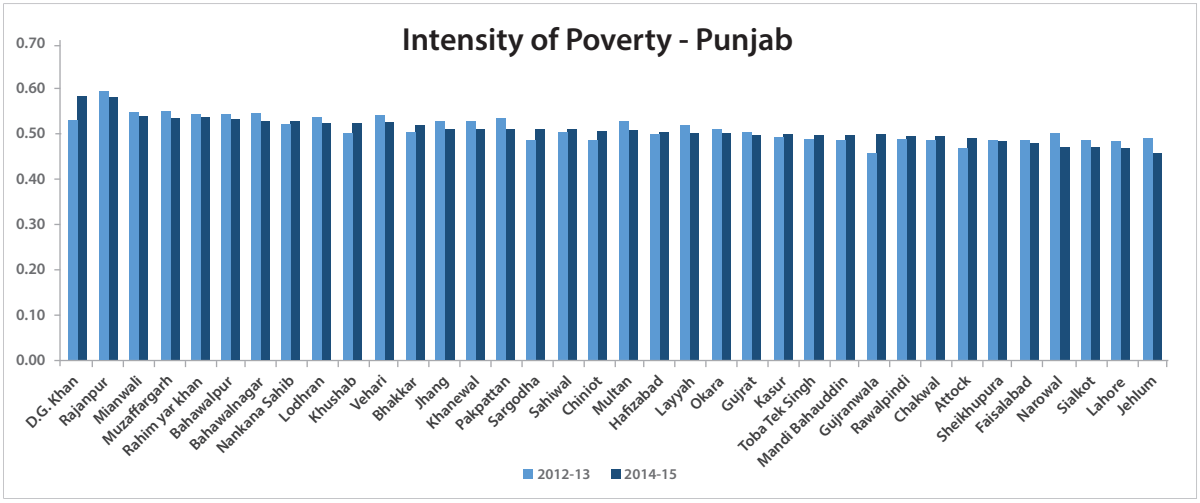
Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Districts that saw the largest decline in intensity of poverty include Nowshera (12.8%), Malakand (5%), and Chitral (4.5%).

Punjab

Figure 11 shows the intensity of poverty amongst the districts in Punjab. D.G. Khan had the highest intensity of poverty in Punjab in 2015-16 and Jhelum the lowest. 15 out of the 36 districts of Punjab saw an increase in the intensity of poverty. The highest increase was in D.G. Khan at 9.6%, followed by Gujranwala (7.8%), Sargodha (5.1%), Chiniot (5%), Khushab (4.6%), Attock (4.6%), Bhakkar (3.5%), Mandi Bahauddin (2.2%), T.T Singh (1.5%), Rawalpindi (1.2%), Nankana Sahib (1.1%), Hafizabad (0.9%), Kasur (0.8%), Sahiwal (0.8%), and Chakwal (0.8%).

Figure 11: Intensity of poverty at district level – Punjab: 2012-13 and 2014-15



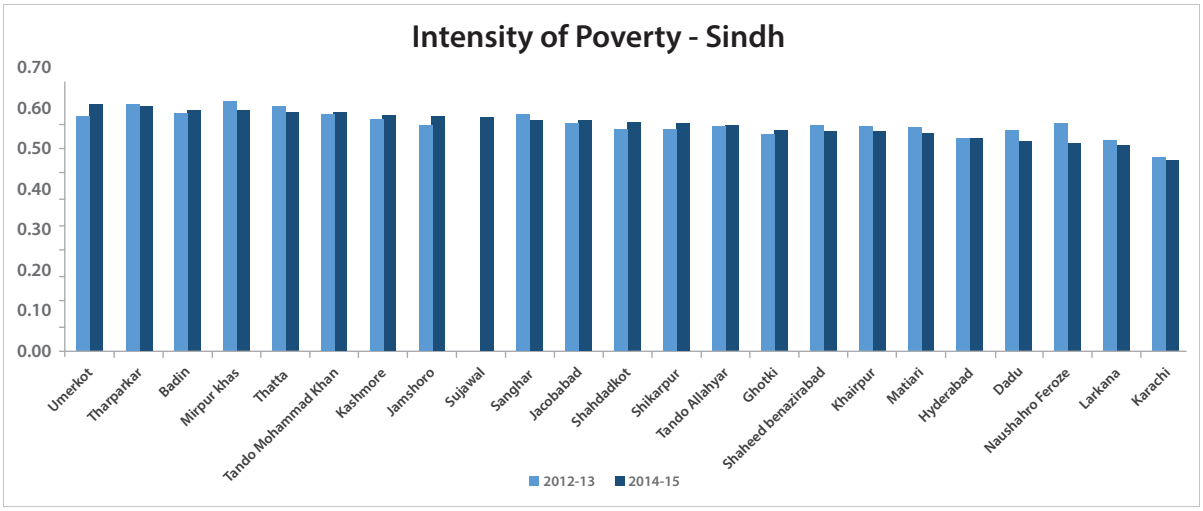
Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Districts that saw the largest decline include Jhelum (6.5%), Narowal (6.2%), and Pakpattan (4.8%).

Sindh

Figure 12 shows the intensity of poverty in Sindh. The highest intensity of poverty in the province was in Umerkot, whereas the least intensity of poverty was in Karachi. Ten of the twenty two districts saw an increase in the intensity of poverty. The highest increase was in Umerkot (4.6%), followed by Shahadadkot (3.4%), Jamshoro (3%), Shikarpur (2.4%), Kashmore (2%) Ghotki (1.5%), Badin (1.8%), Jacobabad (1.1%), and Tando Muhammad Khan (0.7%), and Tando Allahyar Khan (0.2%).

Figure 12: Intensity of poverty at district level – Sindh: 2012-13 and 2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

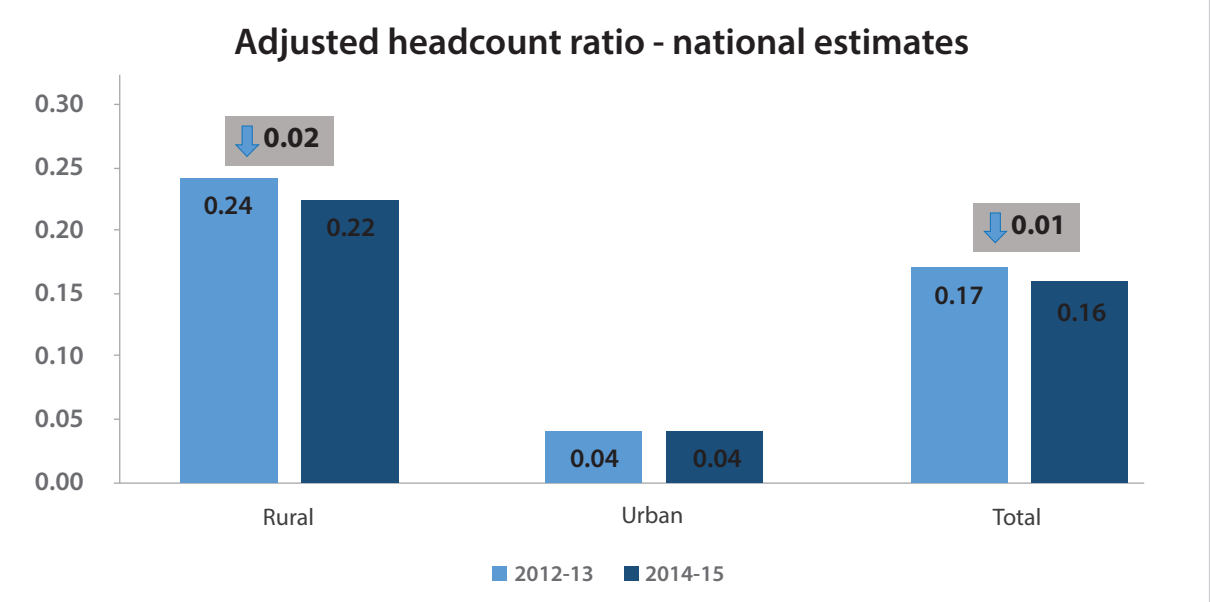
Districts that saw the largest decline in the intensity of poverty include Naushahro Feroze (8.8%), Dadu (5%), and Mirpurkhas (3.8%).

Adjusted headcount ratio – index of multidimensional poverty

While the headcount ratio measures proportion of population living below poverty line, and intensity of poverty measures the extent of deprivation of those below poverty line, the Adjusted headcount ratio or the index of multidimensional poverty is the product of both headcount ratio and the intensity of poverty. It is thus a singular measure that takes into account both the breadth and depth of deprivation.

Figure 13 shows estimates for adjusted headcount ratio, calculated as index of multidimensional poverty. There has been a small decline in the adjusted headcount ratio over the period 2012-13 to 2015-16. The adjusted headcount ratio stood at 0.159, witnessing a decline of 7.3 percent since 2012-13. At 0.22, the adjusted headcount ratio was much higher for rural Pakistan than for urban Pakistan, where the estimate was 0.042. The decline in adjusted headcount ratio has also been higher for urban Pakistan than for rural Pakistan.

Figure 13: Adjusted headcount ratio/index of multidimensional poverty 2012-13 & 2014-15



Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Adjusted headcount ratio at the provincial level

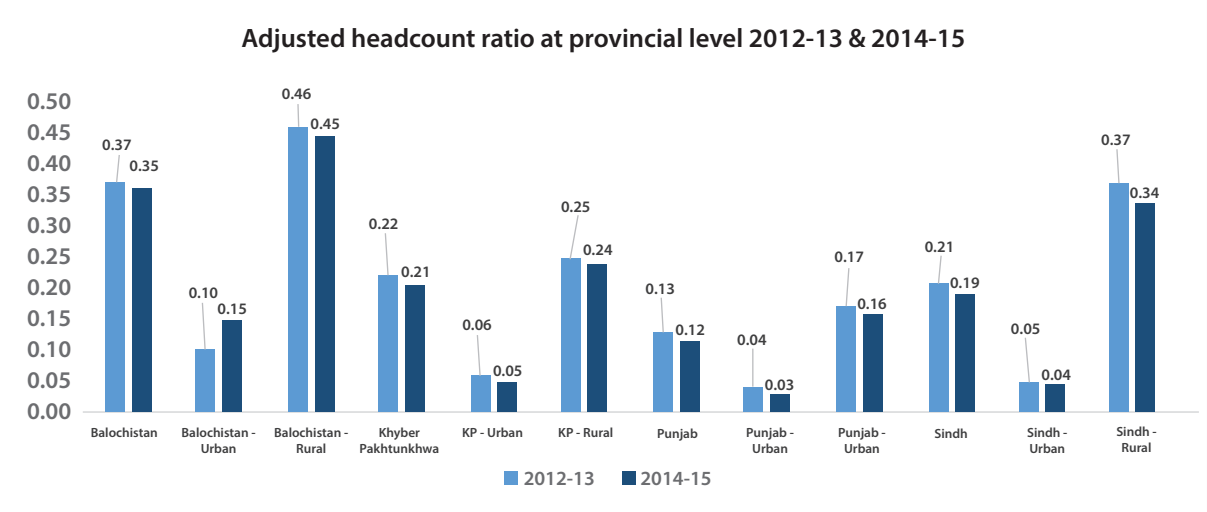
Table 3 presents the estimates of the adjusted headcount ratio at the provincial level with rural urban disaggregation for 2014-15. As on other measures, Balochistan was the most deprived province of the country on the multiple dimensions that constitute the adjusted headcount ratio. The ratio for the province was twice the national ratio, and over three times the ratio for the least deprived province – Punjab.

Table 3: Adjusted headcount ratio at provincial level 2014-15

Province	Total	Urban	Rural
Balochistan	0.362	0.151	0.446
Khyber Pakhtunkhwa	0.205	0.052	0.239
Punjab	0.116	0.030	0.158
Sindh	0.190	0.045	0.337

Figure 14 plots the adjusted headcount ratio for all the four provinces with rural/urban division and for the years 2012-3 and 2014-15. Across all four provinces, the ratio was much higher for the rural population group than for the urban population group. In Balochistan, rural adjusted headcount ratio was over 2 times higher than for urban headcount ratio. The highest urban-rural split was in Sindh, where the rural ratio was over 7 times higher than the urban ratio. In KP, the rural ratio was 4.5 times higher than the urban ratio, and in Punjab, the rural ratio was 5.3 times higher than the urban ratio.

Figure 14: Adjusted headcount ratio at provincial level 2012-13 and 2014-15



Over the 2 years, the highest reduction in adjusted headcount ratio was in Sindh, nonetheless, the rural urban disparities in the province stood high in 2014-15. There has been an increase in the adjusted headcount ratio for Balochistan urban during this period. KP and Punjab seem to have a similar reduction in the adjusted headcount ratio over 2 years.

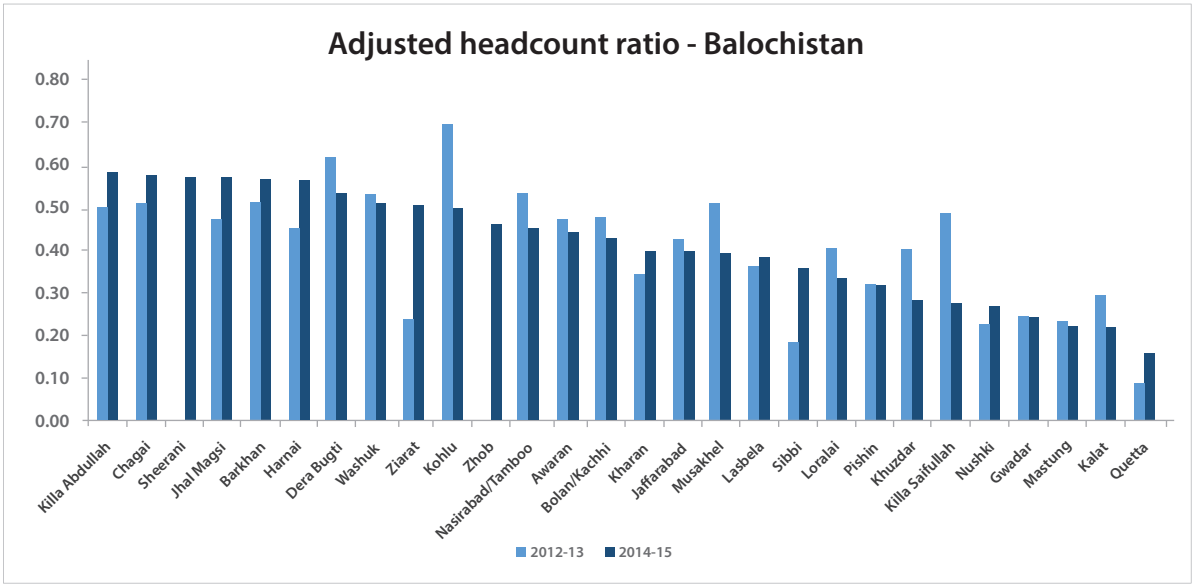
District level estimates of adjusted headcount ratio/index of multidimensional poverty

Trends in the intensity of poverty at the district level are discussed by each province.

Balochistan

Figure 15 plots the adjusted headcount ratio for Balochistan for the two years. Qilla Abdullah was the poorest district in the province on this indicator, whereas Quetta was the least poor. Over the two years, 11 districts saw an increase in the adjusted headcount ratio, including Ziarat (with an increase of 0.262), Sibbi (0.172), Harnai (0.113), Jhal Magsi (0.972), Killa Abdulla (0.078), Quetta (0.073), Chaghi (0.065), Barkhan (0.056), Kharan (0.055), Nushki (0.039), and Lasbella (0.020).

Figure 15: Adjusted headcount ratio at district level – Balochistan: 2012-13 and 2014-15

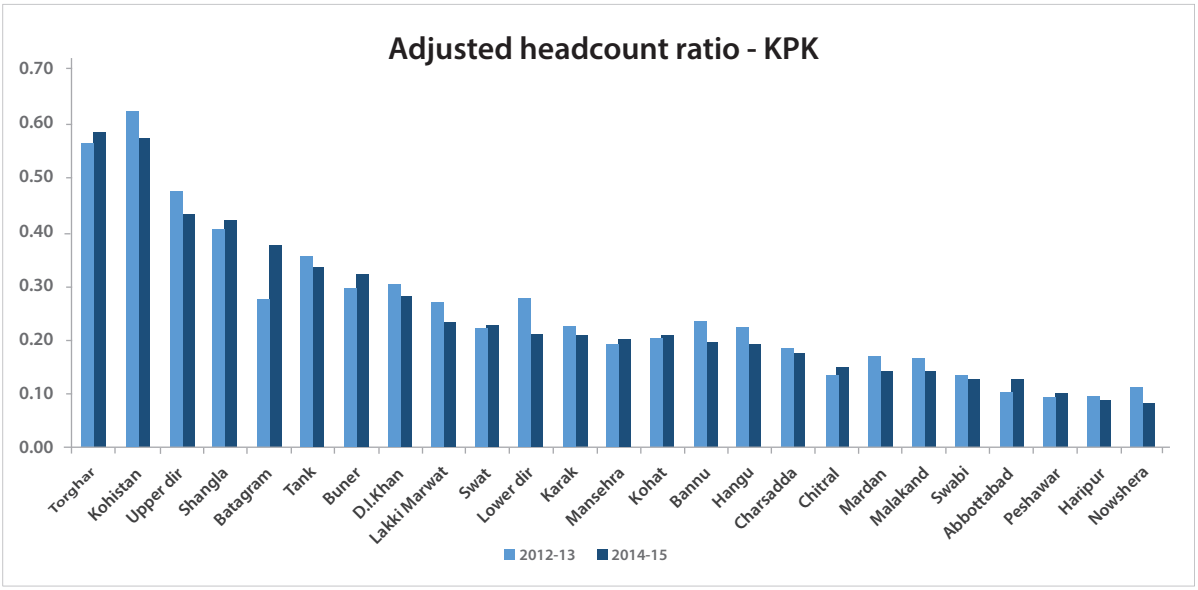


Districts that saw the highest decline in the adjusted headcount ratio include Qilla Saifullah (-0.211), Kohlu (-0.198), and Khuzdar (-0.121).

KP

Figure 16 plots adjusted headcount ratio for the province of KPK. Torgarh was the poorest district in the province in terms of adjusted headcount ratio, whereas Nowshera was the least poor in the year 2015-16. Over the 2 years, 10 districts saw an increase in the adjusted headcount ratio, including Battagram (with an increase of 0.1 points), Buner (0.027), Abbottabad (0.023), Torgarh (0.022), Shangla (0.014), Chitral (0.013), Mansehra (0.008), Kohat (0.006), Peshawar (0.003), and Swat (0.002).

Figure 16: Adjusted headcount ratio at district level – KP: 2012-13 and 2014-15



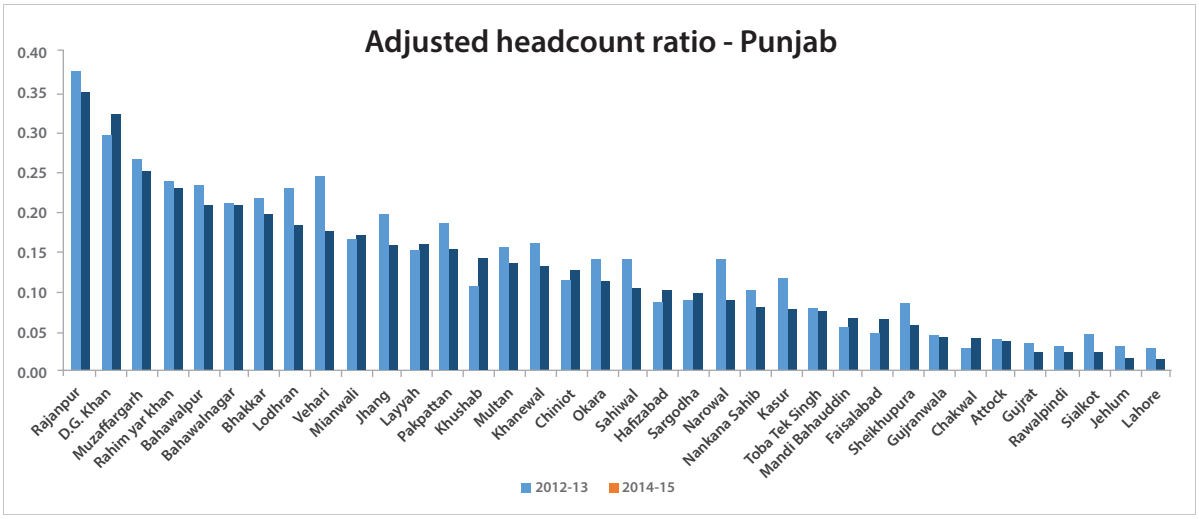
Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Districts that saw the highest decline in adjusted headcount ratio include Lower Dir (-0.066), Kohistan (-0.046), and Upper Dir (-0.043).

Punjab

Figure 17 plots adjusted headcount ratio for Punjab for the two years. In 2015-16, Rajanpur was the poorest district in the province in terms of adjusted headcount ratio whereas Lahore was the least poor. Over the two years, 10 districts saw an increase in adjusted headcount ratio, including Khushab (with an increase of 0.035 points), DG Khan (0.026), Faisalabad (0.016), Hafizabad (0.014), Chakwal (0.013), Mandi Bahauddin (0.012), Chiniot (0.011), Sargodha (0.008), Layyah (0.007), and Mianwali (0.005).

Figure 17: Adjusted headcount ratio at district level – Punjab: 2012-13 and 2014-15



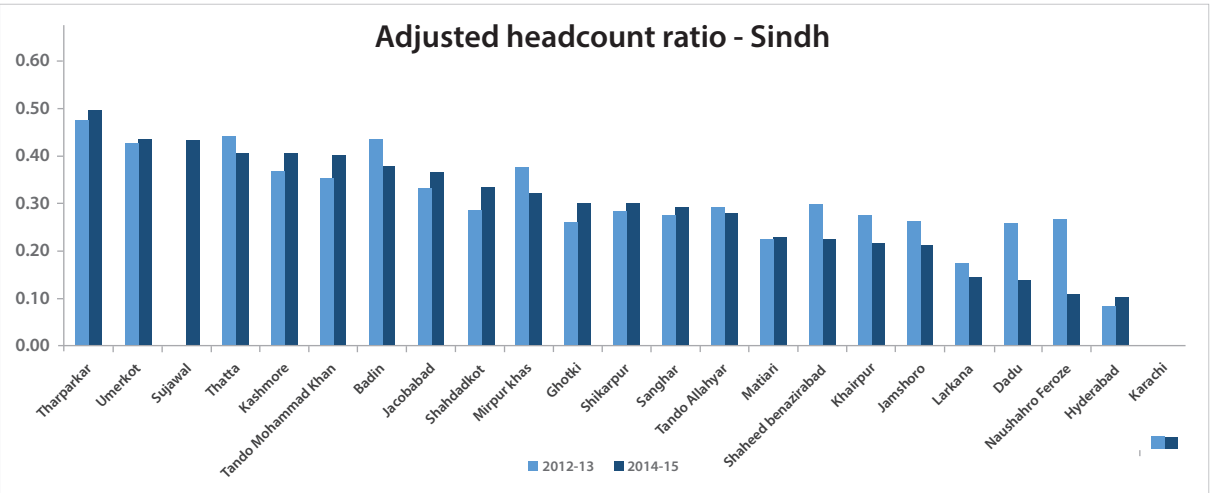
Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Districts that saw the highest decline in adjusted headcount ratio include Vehari (-0.069), Narowal (-0.051), and Lodhran (-0.046).

Sindh

Figure 18 plots adjusted headcount ratio for Sindh. In 2015-16, Tharparkar was the poorest district in terms of adjusted headcount ratio, and Karachi the least poor. During 2012-13 to 2014-15, 11 districts saw an increase in adjusted headcount ratio, including Shahdadkot (with an increase of 0.048 points), Tando Mohammad Khan (0.046), Ghotki (0.043), Kashmore (0.038), Jacobabad (0.034), Hyderabad (0.020), Tharparkar (0.020), Sanghar (0.018), Shikarpur (0.172), Umer Kot (0.009), and Matiari (0.004).

Figure 18: Adjusted headcount ratio at district level – Sindh: 2012-13 and 2014-15



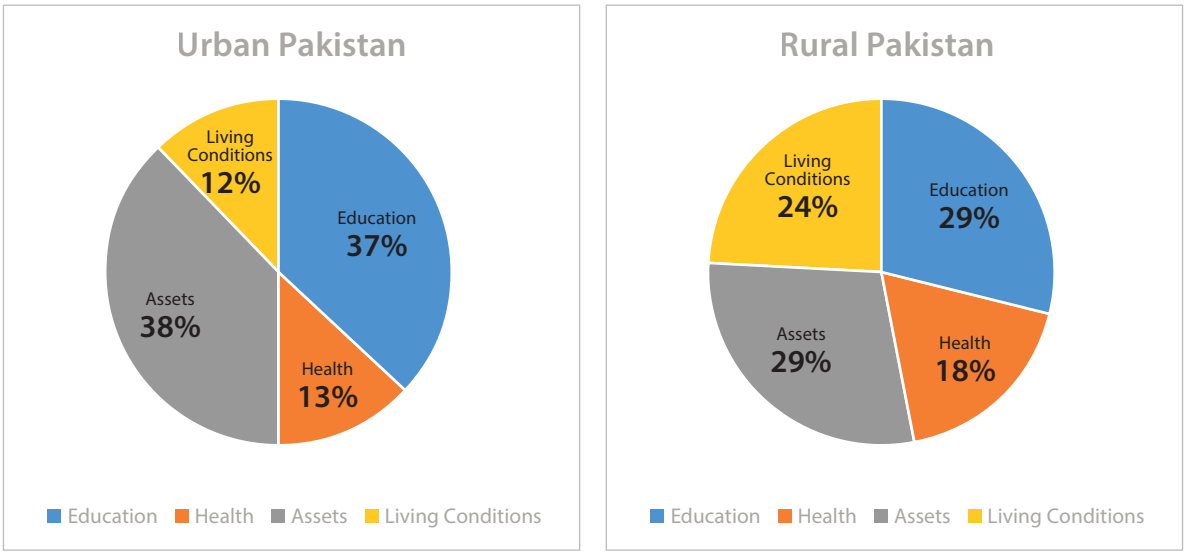
Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

Districts that saw the largest decline in adjusted headcount ratio include Naushahro Feroze (-0.157), Dadu (-0.119), and Nawabshah (-0.075).

Drivers of Poverty

After presenting the estimates of multidimensional poverty at various levels, we now explore its key contributors. The main idea is to see the relative share of each of the dimensions and indicators to the adjusted headcount ratio at each level. As shown in Figure 19, education and assets contribute the most to poverty in the country, both in rural and urban areas. Urban poverty is largely driven by deprivation on the indicators of education and living conditions – both explain 75% of the adjusted headcount ratio. The share of these two dimensions is relatively lower in rural poverty. The indicators of living conditions have two times higher contribution to rural than urban poverty. The contribution of health indicators to adjusted headcount ratio is the lowest amongst all dimensions but it is higher in rural than urban poverty.

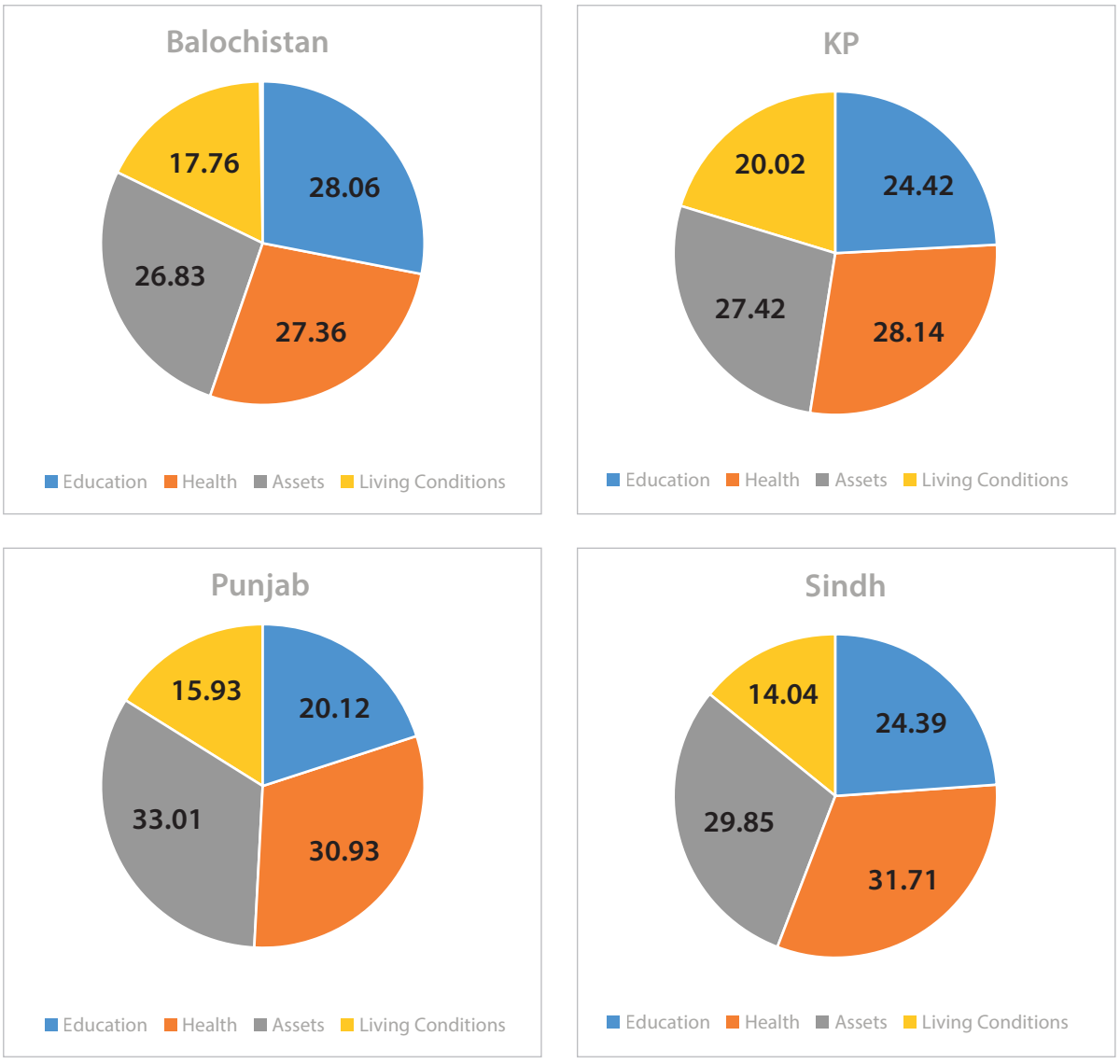
Figure 19: Drivers of multidimensional poverty 2014-15



Drivers of poverty at provincial level at provincial level 2014-15

Figure 20 shows the drivers of poverty across the urban-rural population groups in Balochistan for the year 2014-15. Living conditions were the highest contributors to poverty in Balochistan, whereas, Asset ownership was the highest contributor to poverty in KP and Sindh. In Punjab, education was the highest contributor to poverty. Overall, health had the lowest contribution to poverty in each province and its highest share was for KP.

Figure 20: Drivers of poverty at provincial level at provincial level 2014-15



Zone Level Analysis

Geography of Poverty classified the districts of Pakistan into five zones of poverty based on their headcount ratio in 2012-13: Extreme Poverty Zone-1; Extreme Poverty Zone-2; High Poverty Zone-1; High Poverty Zone-2; and, Low Poverty Zone. The list of districts in each zone is provided in Annex 3. Map 1 illustrates the distribution of poverty (headcount ratio) across districts in each poverty zones for the year 2014-15.

Map1: Headcount ratio across poverty zones

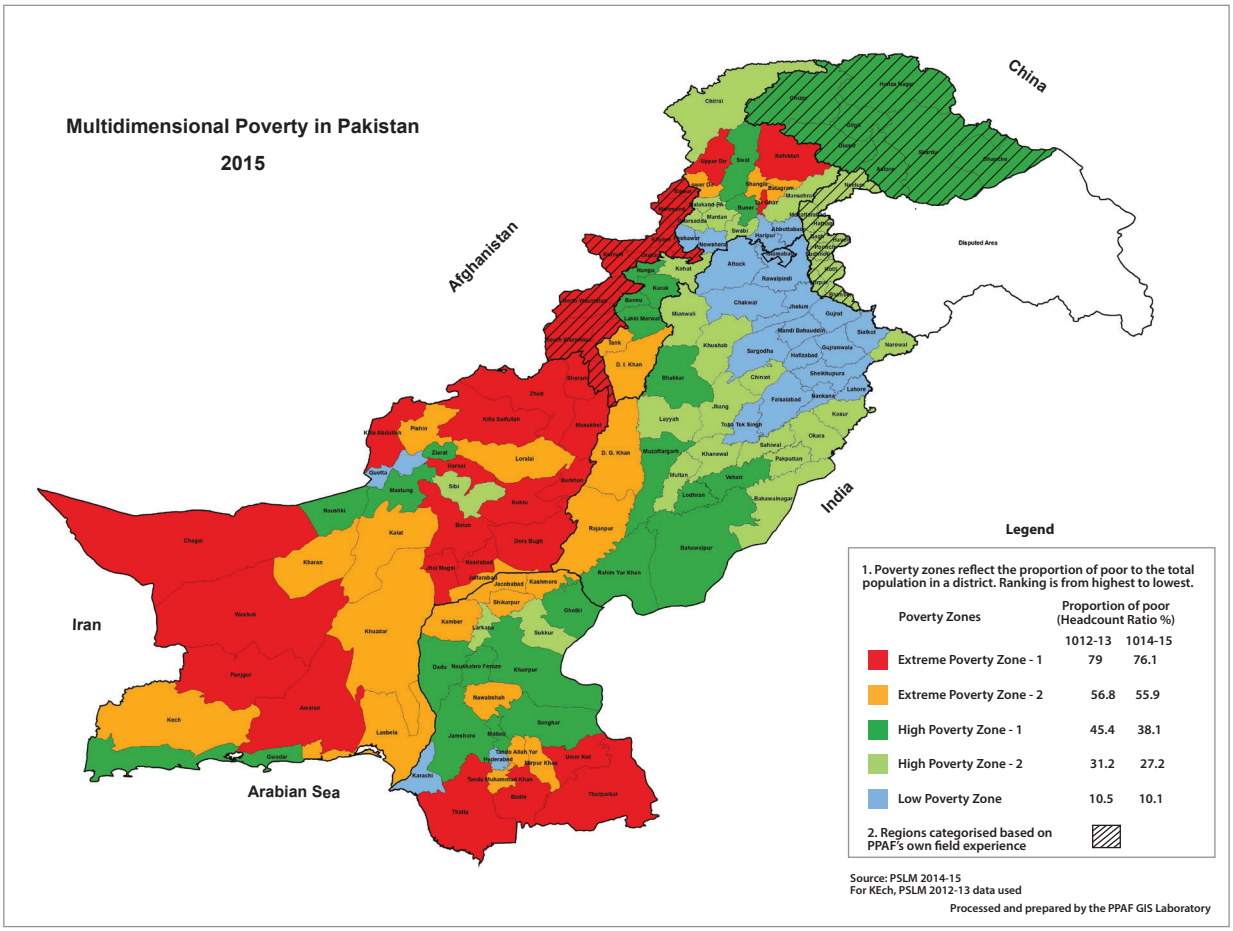


Table 1 presents the estimates of poverty headcount ratio for the 5 zones for 2012-13 and 2014-15, along with the contribution of each zone to the national headcount ration. The greatest reduction in poverty over the two years has occurred in the High Poverty Zone -1 followed by the High Poverty Zone-2. Under the perfectly equal conditions, the contribution of each zone to national headcount ratio would be equal to its population share. However, in the given unequal distribution of poverty, the zones with low population density have higher contribution to headcount ratio compared to the zone of high population density. While there has been a small decline in the headcount ratio in the Extreme Poverty Zones 1 & 2, their contribution to the national headcount ratio has rather increased over these two years.

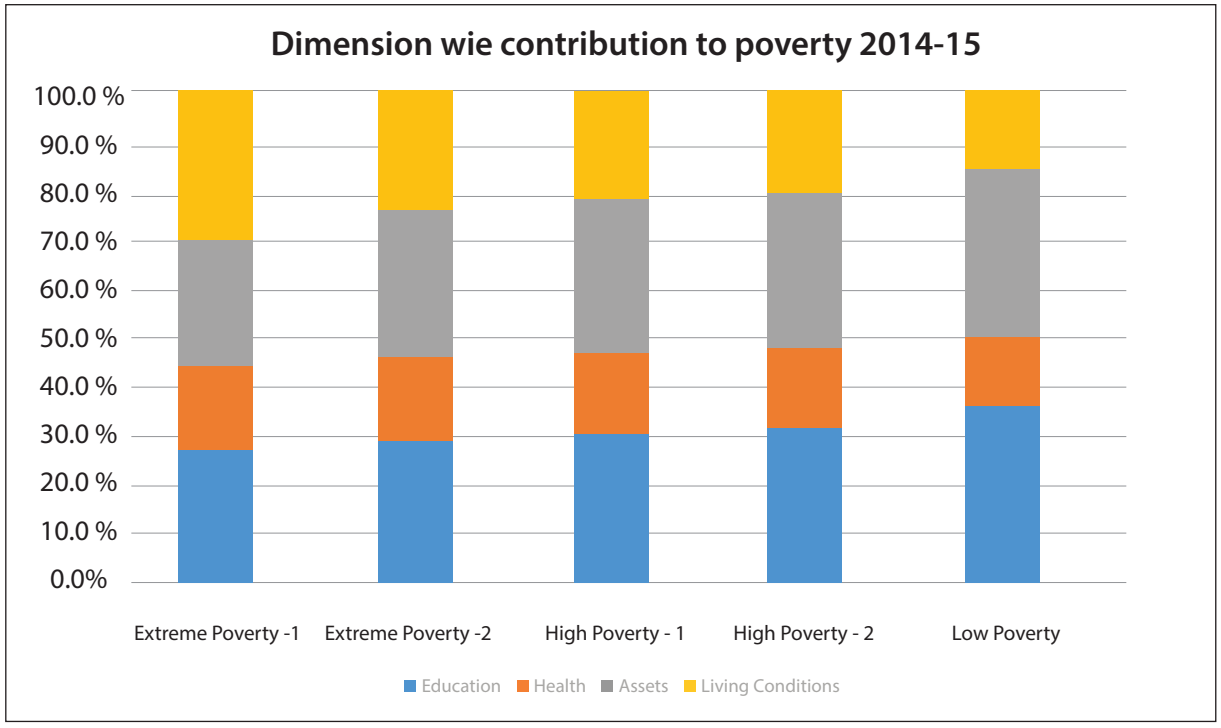
Table 1: Zone-wise headcount ratio and contribution to national headcount ratio 2012-13 and 2014-15

Zones of Poverty	Population share	Headcount Ratio 2012-13 and 2014-15		Contribution to headcount ratio 2012-13 and 2014-15	
		2012-13	2014-15	2012-13	2014-15
Extreme Poverty - 1	5.68	79	76.1	14.34	15.7
Extreme Poverty - 2	11.51	56.8	55.9	20.9	21.9
High Poverty - 1	19.25	45.4	38.1	27.9	28.4
High Poverty - 2	23.45	31.2	27.2	23.4	20.4
Low Poverty	40.12	10.5	10.1	13.5	13.6

Source: Authors for 2014-15 and Naveed et al. (2016) for 2012-13.

The composition of poverty varies across districts. Figure 21 presents the relative contribution of each dimension to the headcount ratio for each of the five zones in 2014-15.

Table 1: Zone-wise headcount ratio and contribution to national headcount ratio 2012-13 and 2014-15



The contribution of the living conditions is the highest in the Extreme Poverty Zones and declines gradually becoming the lowest in the Low Poverty Zone. Contribution of education dimension as well as asset ownership is the lowest for the Extreme Poverty Zones but gradually increases with decreasing poverty level, becoming the highest for the Low Poverty Zone. The contribution of health dimension increases with the increasing level of poverty in the zones.

Annexes

Annex 1: Methodology[6]

We adopt Alkire and Foster measure of poverty which allows for considering as many dimensions of wellbeing as relevant and allowed by data in estimating poverty. This methodological approach also enables us to reduce multiple deprivations into single number as in the case of conventional approach. Estimation of poverty, under any methodological approach, typically involves two steps:

Identification: who is poor in a given population; and,
Aggregation: how many people in a given population are poor.

After the selection of dimensions and indicators (which we explain later), Alkire and Foster methodology adopts a *dual cut-off points* approach for identification. In the first step, appropriate *first cut-off points* are determined for each of the indicator selected. Depending upon household's achievement and these cut-off points, each household is categorized as *'deprived'* or *'non-deprived'* on a particular indicator. Since different indicators contribute to welfare differently, the methodology allows for assigning various *weights* to each indicator. Household's (weighted) deprivations are then aggregated. This methodology is also called as *'counting approach'* as it counts the deprivations faced by each household.

In the next step, the second *cut-off point* is determined which functions as *poverty line*. If the (weighted) aggregate deprivations of the household are more than this *second cut-off point,* it is considered *multidimensional poor,* if below this cut-off point, it is *non-poor*. After identification of the multidimensional poor, their proportion is estimated in the population which provides the *poverty headcount ratio.* For clarity, this methodology can be explained step by step with simple notations.

Let d denote the number of dimensions one is taking into consideration and x_{ij} is the achievement of individual i in dimension j. The first task of this methodological approach is to sum up the information of all j using an identification function represented as $\rho(\cdot)$. The identification function $\rho(\cdot)$ uses the achievement vector $x_i=(x_{i1}, x_{i2}, x_{i3}\ldots, x_{id})$ and a cut-off vector $z=(z_1, z_2, z_3\ldots z_n)$. Thus achievements of all the agents can be summarized in the *achievement matrix* $\boldsymbol{X}$ which has n rows and d columns. The achievement entries for an individual are compared to the respective cut-offs to identify the deprivation on that indicator/dimension (for the sake of simplicity, we are using 'indicators' and 'dimensions' interchangeably until we clarify it further later in this chapter). In order to state it formally, we define a function g^0_{ij} which is the deprivation indicator variable of individual i and deprivation j. It takes a value of 1 when individual i is deprived in dimension/indicator j and is 0 otherwise. So, if $x_{ij} < z_j$ then $g^0_{ij}=1$ otherwise it will be zero. We can use this function to introduce the *deprivation matrix*, $g^0(\boldsymbol{X})$. Deprivation matrix has dimensions $n \times d$ and all its elements are either '0' or '1' indicating the deprivation status (also known as deprivation count) of the individual on an indicator/dimension.

[6] Sourced from: Naveed, A. Wood, G. and Ghaus, M. U. (2016). *'Geography of Poverty in Pakistan 2008-09 to 2012-13: Distribution, trends and explanations'.* Pakistan Poverty Alleviation Fund and Sustainable Development Policy Institute, Islamabad.

Each indicator/dimension j is allotted a weight $\omega j > 0$ where $\sum_{j=1}^{d} \omega j = 1$. The methodology is flexible to adopt any set of weights. In line with the conceptual framework, the magnitude of the weight is proportional to the importance of the indicator/dimension in determining wellbeing and this weighting scheme is used to aggregate the information of deprivation.

The deprivation statuses of individual i, g_{ij}^{o} is then used with the weighting scheme to construct a *deprivation score*. The deprivation score of individual i, represented as c_i is the weighted average of the deprivation statuses. The deprivation score can also be interpreted as the overall deprivation measure with the indicators/dimensions weighted according the weighting scheme.

After summarizing the information of deprivation through c_i, the poor are identified using an identification function $\rho(x_i;z)$. The function $\rho(x_i;z)$ takes a value of '1' if the deprivation score is above or equal to a threshold k (where $k \in \mathrm{R}_{+}$). It is important to keep in mind that k is *second cut-off point*. Each value of k will correspond to a particular deprivation vector given the weighting scheme, so using a threshold for c_i does not change the methodology. The two extreme cases are k=1 and k=0. The former is the case when the individuals are classified as deprived in *all* the dimensions, whereas in the latter case individuals that are deprived in *any* one dimension are considered to be deprived.

After the identification of the poor households, the information is aggregated into an index. According to Alkire et al. (2015), a poverty index is a function $P: \boldsymbol{X} \times \boldsymbol{z} \rightarrow \mathrm{R}$ that converts the information contained in achievement matrix $\boldsymbol{X}$ and deprivation vector $\boldsymbol{z}$ into a real number. One of the most common methods of aggregating information is to assume $P(X;z) = \mu(g(X))$ where μ represents the mean operator[7] . This is called as *headcount ratio (HC)* and gives the percentage of people in the population who are identified as multidimensional poor. *HC* is also called as the *incidence* or *breadth* of poverty.

Apart from the *headcount ratio*, another measure, the *intensity of poverty (I)*, is also estimated, which is the average deprivation score of those who are identified as multidimensional poor. If the number of poor people in the population is represented by n_p then we can write the formula of intensity of poverty as $I = \sum_{i=1}^{n_p} \frac{c_i}{n_p}$.

I is also known as *depth* of poverty and it differentiates between different poor based on the extent of deprivations they face.

Third measure in the family of Alkire and Foster measure is the *adjusted headcount ratio* (M_o) that is computed by multiplying intensity I and the headcount ratio *HC*. One specific form of the adjusted headcount ratio is the *Multidimensional Poverty Index (MPI)* which is annually computed for more than 100 countries by the Oxford Poverty and Human Development Initiative for the UNDP's Human Development Report. The adjusted headcount ratio or its specific example MPI captures both the incidence and intensity of poverty, or the *depth* and *breadth* of poverty, for any group of population. We use this measure as the Index of Multidimensional Poverty.

[7] Given we use the identification method in which we use the deprivation score, μ(g(X)) can be mathematically written as:

$$\mu(g(X)) = \sum_{i=1}^{n} \frac{g_i^o}{n}$$

Where $g_i^o = \rho(x_i;z)$

There are thus three key measures within this methodological framework: *headcount ratio; intensity of poverty;* and*, adjusted headcount ratio,* or*, index of multidimensional poverty*. All three measures depend upon a particular *second cut-off point, k,* which functions as *'poverty line'*. Given the socio-economic context of Pakistan, we use a poverty line of the 40 per cent of weighted sum of deprivations, thus k =0.40. So, $\rho(x_i;z)$=1 if $c_i \geq 0.4$ otherwise its value is '0'. In simple words, a household facing a weighted sum of deprivation of 40 per cent or more is considered multidimensional poor household.

In addition to these three key measures, the methodology provides some other descriptive measures by adjusting the value of the *second cut-off point, k*. We estimate *extreme poverty* by using a higher value of *k*. As the headcount ratio is estimated at *k*=0.40, *extreme poor* are naturally the ones who experience higher deprivations than the multidimensional poor. Thus *k*=0.50 is used estimating *extreme poverty* which implies a household deprived on half or more of the weighted sum of deprivations is *extreme poor*. The *extreme poor* are the subset of the *multidimensional poor*. It is important to acknowledge that the Alkire and Foster methodology itself allows for more nuanced approach to identify the extreme poor/destitute within the multidimensional poor group by choosing different indicators, cut-off points and weights (see Alkire and Seth 2015).

All these measures can be decomposed for sub-groups of population. Additionally, the methodology also allows us to determine the contribution of various indicators in the *adjusted headcount ratio*. The contribution of each dimension to overall poverty can be found using the **censored headcount ratio**. The censored headcount of a dimension j is the percentage of population that is both multidimensional poor and deprived in that dimension (Alkire et al. 2015). Let g^o_{ij} be a variable that takes the value of '1' if person i is multidimensional poor and deprived in dimension j. In that case, the censored headcount of dimension j can be found using the formula, [8]

$$h_j = \frac{1}{n}\sum_{i=1}^{n} g_{ij}^o$$

M_o can be expressed as a weighted sum of the censored headcounts of each dimension (note that $\sum_{j=1}^{d} \omega_j h_j$. This allows us to compute the contribution of dimension j towards M_o as follows:

$$\phi_j^o = \frac{\omega_j h_j}{\sum_{j=1}^{d} \omega_j h_j}$$

The decomposition of M_o by dimensions is important from policy perspective as it identifies the most significant dimension contributing to poverty. Another feature of these measures is that they can be decomposed for various sub-groups of population such as rural and urban, different provinces and districts within each province. For example, if the total number of people n is divided into two subgroups, i.e. n_1 and n_2, then poverty headcount (and the other statistics) can be computed at the level of this sub-group by using the following formula:

$$h_j^{n_t} = \frac{1}{n_t}\sum_{i=1}^{n_t} g_{ij}^o$$

[8] For simplicity, the threshold has not been mentioned in the formula. However, g_{ij}^o will itself depend on the choice of k

Where n_t stands for the total number of people in group t and $h_j^{n_t}$ is the censored headcount of dimension j for the t group. Other measures can similarly be computed at the sub-group level.

Adjusted headcount ratio M_o, can be compared over time for the particular population group. Time trends in poverty can help us in gauging the progress of poverty alleviation amongst the entire population or various sub-groups. It can help policy makers identify the regions with increasing, decreasing or stagnant levels of poverty.

Absolute change in a measure over time, such as M_o can be estimated using the formula:

$$\text{(I)} \qquad \Delta^a M_{o,t} = M_{o,t} - M_{o,t-1}$$

The relative change in M_o can be calculated using the formula:

$$\text{(II)} \qquad \Delta^r M_{o,t} = \frac{M_{o,t} - M_{o,t-1}}{M_{o,t-1}} \times 100$$

Where $\Delta^a M_{o,t}$ represents the absolute change in M_o from period t -1 to t and $\Delta^r M_{o,t}$ represents the relative change in M_o from period t -1 to t. The benefit of using relative changes instead of absolute changes is that it reports the progress of a particular group related to its position in the base year. Negative changes in M_o would mean that poverty of the group under consideration has decreased over the period of time considered.

Dimensions and Indicators

The most important feature in the multidimensional poverty approach is the selection of appropriate dimensions and indicators. These choices are value judgment as on what is important for the wellbeing of individuals and households in a society. Ideally, such decisions should be made in a democratic way with a greater representation of those whose lives are affected by such choices. The UNDP Human Development Report 2010, which introduced the Multidimensional Poverty Index for 104 countries for the first time, selected its indicators based on the following criteria:

a) insights from the participatory studies about what determines individuals' wellbeing;
b) global consensus on certain set of capabilities such as the Millennium Development Goals and human rights;
c) as justified by various theories of welfare and wellbeing;
d) availability of data.

The Global MPI adopts various indicators pertaining to three key dimensions, i.e. education, health, and living conditions. However, its choice of indicators is determined by the goal of global comparison. While our indicator selection is also informed by the Global MPI, it is also affected by the challenges and opportunities offered by Pakistan Social and Living Standards Measurement (PSLM) Survey. The Global MPI approach clubs the indicators of household assets and living conditions into single dimension, whereas we treat them as separate dimensions and include additional indicators as permitted by PSLM and relevant to Pakistani context. Additionally, our choice of indicators is also informed by the above mentioned Voices of the Poor study (GoP 2002) that reflects the value judgments of a large number of poor across the country. It, therefore, draws upon following four dimensions: (1) Education, (2) Health, (3) Household assets and (4) Living conditions. A total of 27 indicators pertaining to these broad dimensions are selected and analysed.

Education is one of the fundamental aspects of human wellbeing given its intrinsic as well as instrumental value. Individual's participation in social, economic and political spheres is inherently linked to education. Higher levels of education are associated with higher chances of households' breaking out of chronic poverty in Pakistan (Arif and Bilqees 2006, Hari 2009). Two indicators of education are included in the analysis. First indicator focuses on household members' schooling levels and identifies the households that have no member schooled to primary level or above. This indicator, therefore, identifies households with acute educational deprivation. The second indicator focuses on the enrolment of children at school. It identifies the households that have at least one child of school going age (5-14) who is out of school. In a way, this indicator indirectly assesses household's ability to invest in the human capital of its young members.

Health is another crucial indicator of wellbeing. Like education, it is also important intrinsically as well as instrumentally as individuals' life chances are associated with their health status. In many low and middle income countries, households' economic status is closely linked to the health status of their members (see Alam and Mahal 2014) for a survey of literature). As most of the health expenditures in Pakistan are out-of-pocket expenditures, health shocks can have devastating impact on economic status of households. Literature from other developing countries suggests they spend on their health using their incomes, savings, by borrowing, selling assets and livestock (ibid.). Poor health also affects household members' labour supply. Maternal and neonatal health particularly affects the life and wellbeing of women and children in the household. Our choice of indicators on health is restricted by the limited coverage of health in the survey data. Two indicators under this dimension focus on women's access to prenatal and postnatal healthcare. Households with female members who gave birth to a child in the last three years but did not have access to prenatal/postnatal care are considered deprived on these indicators. The third indicator focuses on household's access to basic health unit (BHU). A household that does not use BHU because it is far away or too costly is considered deprived on this indicator. Fourth indicator focuses on the overall availability of the healthcare facilities. A household is considered deprived if time taken by using the usual modes of transport to reach the nearest health facility is more than half hour.

Living conditions dimension provides indicators that measure the household's quality of life. It covers five indicators, which are also included in the Global MPI that capture the quality of housing, access to safe drinking water, improved sanitation facilities, source of lighting and the type of fuel used by the household for cooking. A household is considered deprived if the walls of the house are not made of bricks/blocks. Since Pakistan continues to have high incidence of infectious diseases, access to safe drinking water and improved sanitation facilities are important aspects of hous-hold's wellbeing. A household is considered deprived if it accesses drinking water through covered/uncovered well, river, stream, pond, and water tanker/water bearer. A household is deprived of sanitation facilities if it does not have access to flush toilet. Electrification is very important in modern day-to-day living which has significant dependence on electronic appliances. Households that do not have electricity as their main source of lighting are also considered deprived. Similarly, cooking fuel is an important aspect of wellbeing since the use of firewood/dung cake, crop residue, charcoal and coal are detrimental to health particularly of women who spend most of their time in cooking. A household with the above-mentioned sources of cooking fuel is also considered deprived.

Lastly, **Asset ownership** is an important component of wellbeing particularly in the absence of household income or consumption expenditures data. Durable assets serve as a proxy of long-term accumulation of material wealth and hence the economic status of the households. Assets ownership dimension consists of three components: expensive assets; less expensive assets; and

property (land/building) ownership. Expensive assets category includes refrigerator, AC, computer, car and livestock. Less expensive assets include TV, VCR, cooler, sewing-machine, chair, watch, bicycle, fan, and motorbike. Property ownership includes agricultural/residential/commercial land, and residential building. Household not owning any of these assets is considered deprived of that particular asset.

Assigning Weights

Like the selection of dimensions and indicators, assigning weights to various dimensions and indicators is a paramount step in measuring multidimensional poverty. Alkire and Foster methodology allows for assigning different weights to different dimensions and indicators as appropriate and justified. However, decisions on weights for various dimensions involve valuejudgment on behalf of the society, particularly the poor. In an ideal sense, and where resources allow, these weights (as well as the selection of dimensions and indicators in the first place) should be based on wider consultations particularly with the poor. In the absence of such a consultative process, we assign equal weights to four dimensions. These dimensional weights are then subdivided equally amongst the indicators within each dimension, i.e. education, health and living conditions. In assets dimension, the weight is further subdivided into three categories equally, and then distributed equally within the sub-category of assets. The only exception is the ownership of motorbike which is given twice weight compared to other indicators in the sub-category of assets for being an expensive asset.

Giving weights to various dimensions and indicators are value judgments and also influence poverty estimates. The Global MPI allocates equal weight to all dimensions which are further subdivided into respective indicators. We assign equal weights to four dimensions; 25% or 0.25 is allocated to each of the dimensions, education, health, assets ownership, and living conditions. These weights are equally divided amongst the indicators under each of these dimensions. As the value and significance of assets changes, there are different weights assigned to the indicators under assets dimension. Owing to difference in prevalence of these assets, a higher weight has been assigned to assets of Type I as compared to those in Type II. Land is very important in determining the lifestyle in the context of Pakistan; therefore, we give it highest weight among assets indicators. Table 2.1 provides these indicators and their respective cut-off points with a brief explanation of all the indicator variables that have been used in the estimation of multidimensional poverty in Pakistan. It also describes the cut-off point for each indicator. Table 2.1 also reports the respective weight for each dimension.

Dimensions	Indicators	Cut-off Points	Weights Assigned
Education	Schooling of family members	None of the adult members in the household have primary education (5 years of schooling)	0.125
	Enrolment status of children	If any of the children of schooling going age (5-14) in the household is not enrolled at school	0.125
Total weight for dimension of education			*0.25*
Health	Access to prenatal care	If a female member who gave birth to a child in the last three years, did not receive pre-natal care	0.063
	Access to postnatal care	If a female member who gave birth to a child in the last three years, did not receive post-natal care	0.063
	Access to hospital	If the time taken by the usual mode of transport to reach nearest hospital is more than 30 minutes	0.063
	Access to BHU	If the household does not use the BHU because it is far away or is too costly to reach	0.063
Total weight for dimension of health			*0.25*
Assets Holdings	Refrigerators	If the household does not possess a refrigerator	0.017
	Livestock	If the household does not possess any livestock	0.017
	Air Conditioner	If the household does not possess an air conditioner	0.017
	Computer	If the household does not possess a computer	0.017
	Car	If the household does not possess a car	0.017
	Total weight for assets category I		*0.083*
	TV	If the household does not possess a television set	0.008
	VCR	If the household does not possess a VCR	0.008
	Cooler	If the household does not possess a cooler	0.008
	Sewing Machine	If the household does not possess a sewing machine	0.008

	Chair	If the household does not possess a chair	0.008
	Watch	If the household does not possess a wrist watch	0.008
	Bicycle	If the household does not possess a bicycle	0.008
	Fan	If the household does not possess a fan	0.008
	Motorbike	If the household does not possess a motorbike	2x(0.008)
	Total weight for assets category II		*0.083*
	Land ownership	If the household owns none of the agricultural land/non-agricultural land (of any size) or a commercial property	0.042
	Ownership of residential building	If the family does not possess a residential building	0.042
	Total weight for assets category III		*0.083*
Total weight for dimension of health			*0.25*
Living Conditions	Walls material	If the walls of the house are made of material other than burnt bricks/blocks	0.05
	Access to safe drinking water	If the main source of drinking water is covered/uncovered well, river, stream, pond, water tanker/water bearer	0.05
	Sanitation/hygiene conditions	If the toilet facility is either not available or the household is using raised latrine, pit latrine or other but not flush toilet	0.05
	Source of light	If the main source of lightening is other than electricity	0.05
	Cooking fuel	If household is using firewood, dung cake, crop residue, charcoal, coal, other (gas, kerosene, and electricity are the only exceptions)	0.05
Total weight for dimension of health			*0.25*

Annex 2: Sampling related explanation of poverty increase in Balochistan

Inspection of the data reveals that the sampling proportions used in PSLM's 2014-15 round were very different from those used in 2012-13 round. For instance, in 2014-15 out of the total number of surveys carried out in Balochistan, only 12.79% were carried out in urban areas whereas in 2012-13 this number was 21.5%. This difference of 8.71% can result into the inflated poverty estimate that we observe for Balochistan.

In addition to this, there is a significant disparity in the sampling proportions of important districts such as Quetta. In 2012-13, Quetta had 4,120 extra households compared to the 2014-15 survey. The reduction of largely urban sample from Quetta in 2014-15 inflates the urban poverty compared to 2012-13

Annex 3: Zone wise classification of districts 2012-13

Zones	Districts
Extreme Poverty Zone -1 / 5th Quintile	**Districts in the northeast and southwest of Balochistan, south of Sindh and north of KP.** Awaran, Badin, Barkhan, Bolan/Kachhi, Chaghi, Dera Bugti, Harnai, Jhal Magsi, Kohistan, Kohlu, Musakhel, Nasirabad, Panjgur, Killa Abdullah, Killa Saifullah, Tharparkar, Thatta, Torgarh, Umer Kot, Upper Dir, Washuk, Sherani, Zhob.
Extreme Poverty Zone -2 / 4th Quintile	**Districts mainly in the centre but also in the north and south of Balochistan, east and northwest of Sindh, south of Punjab and KP and north of KP.** Batagram, D.G. Khan, D.I. Khan, Jaccobabad, Kalat, Kashmore, Kech/Turbat, Kharan, Khuzdar, Lasbella, Loralai, Lower Dir, Mirpur Khas, Nawabshah, Pishin, Rajanpur, Shahdadkot, Shangla, Shikarpur, Tando Allah Yar, Tando Mohammad Khan, Tank.
High Poverty Zone -1 /3rd Quintile	**Districts in the southwest and centre of Balochistan, west of Sindh, south of Punjab, centre- south and north of KP.** Bahawalpur, Bannu, Bhakar, Bunair, Dadu, Gwadar, Ghotki, Hangu, Jamshoro, Karak, Khairpur, Lakki Marwat, Lodhran, Mastung, Mitiari, Muzaffargarh, Naushki, Naushahro Feroze, Rahim Yar Kahn, sanghar, Swat, Vehari, Ziarat.
High Poverty Zone -2 / 2nd Quintile	**Districts in the centre of Balochistan, north of KP, centre-south of Punjab and centre and north of KP.** Bahawalnagar, Charsadda, Chiniot, Chitral, Jhang, Kasur, Khanewal, Khushab, Kohat, Larkana, Layyah, Mianwali, Malakand, Mansehra, Mardan, Multan, Narowal, Okara, Pakpatan, Sahiwal, Sibbi, Sukkur, Swabi.
Low Poverty Zone 1st Quintile	**Districts in the southwest of Sindh, north of Punjab and centre/centre east of KP.** Abbottabad, Attock, Chakwal, Chiniot, Faisalabad, Gujranwala, Gujrat, Hafizabad, Haripur, Hyderabad, Islamabad, Jhelum, Karachi, Lahore, Mandi Bahauddin, Nankana Sahab, Nowshera, Peshawar, Quetta, Rawalpindi, Sargodha, Sheikhupura, Sialkot, Toba Tek Singh.

Source: Naveed et al. (2016).

Annex 4: Estimates of multidimensional poverty at district level 2014-15 *(ranked by headcount ratio)*

National Ranking	District Name	Headcount ratio	Intensity	Adjusted headcount ratio
1	Sheerani	0.917	0.617	0.565
2	Torghar	0.898	0.645	0.579
3	Killa Abdullah	0.896	0.643	0.577
4	Kohistan	0.894	0.635	0.568
5	Harnai	0.884	0.633	0.559
6	Jhal Magsi	0.865	0.653	0.565
7	Chaghai	0.848	0.674	0.571
8	Barkhan	0.838	0.673	0.564
9	Washuk	0.830	0.613	0.509
10	Tharparkar	0.827	0.600	0.496
11	Dera Bugti	0.824	0.639	0.526
12	Ziarat	0.787	0.634	0.499
13	Kohlu	0.787	0.626	0.493
14	Awaran	0.760	0.579	0.440
15	Sujawal	0.748	0.574	0.429
16	Shangla	0.731	0.568	0.415
17	Zhob	0.728	0.629	0.458
18	Nasirabad/ Tamboo	0.726	0.617	0.448
19	Upper Dir	0.714	0.598	0.427
20	Umer Kot	0.713	0.605	0.431
21	Kashmore	0.692	0.580	0.401
22	Thatta	0.690	0.584	0.403
23	Jaffarabad	0.687	0.576	0.396
24	Bolan/ Kachhi	0.686	0.619	0.424
25	Tando Mohammad Khan	0.683	0.584	0.399
26	Musakhel	0.649	0.598	0.388
27	Kharan	0.645	0.614	0.396
28	Jacobabad	0.637	0.567	0.361
29	Battagram	0.631	0.587	0.370
30	Badin	0.630	0.592	0.373
31	Lasbela	0.621	0.611	0.379
32	Loralai	0.606	0.543	0.329
33	Rajanpur	0.598	0.586	0.351
34	Tank	0.593	0.555	0.329
35	Shahdadkot	0.590	0.561	0.331
36	Pishin	0.570	0.551	0.314
37	Sibbi	0.563	0.629	0.354
38	Ghotki	0.554	0.541	0.300
39	D. G. Khan	0.554	0.587	0.325
40	Buner	0.546	0.585	0.320
41	Mirpur Khas	0.538	0.591	0.318

42	Killa Saifullah	0.533	0.510	0.272
43	Shikarpur	0.531	0.560	0.297
44	Sanghar	0.507	0.568	0.288
45	Tando Allah Yar	0.505	0.551	0.278
46	Nushki	0.493	0.537	0.265
47	D. I. Khan	0.484	0.574	0.277
48	Khuzdar	0.481	0.580	0.279
49	Muzaffargarh	0.465	0.542	0.252
50	Gwadar	0.463	0.522	0.242
51	Lakki Marwat	0.431	0.531	0.229
52	Rahim Yar Khan	0.427	0.541	0.231
53	Mastung	0.422	0.529	0.224
54	Swat	0.422	0.525	0.222
55	Matiari	0.420	0.536	0.225
56	Kalat	0.411	0.526	0.216
57	Shaheed Benazir Abad	0.407	0.540	0.220
58	Lower Dir	0.400	0.518	0.207
59	Khairpur	0.394	0.540	0.213
60	Bahawalpur	0.392	0.535	0.210
61	Bahawalnagar	0.392	0.533	0.209
62	Karak	0.380	0.533	0.202
63	Bhakkar	0.376	0.524	0.197
64	Bannu	0.365	0.519	0.189
65	Kohat	0.363	0.539	0.195
66	Hangu	0.360	0.513	0.185
67	Jamshoro	0.360	0.576	0.207
68	Mansehra	0.349	0.563	0.196
69	Lodhran	0.346	0.530	0.183
70	Vehari	0.335	0.528	0.177
71	Charsadda	0.334	0.517	0.173
72	Quetta	0.320	0.499	0.160
73	Mianwali	0.315	0.543	0.171
74	Layyah	0.313	0.506	0.158
75	Jhang	0.308	0.516	0.159
76	Pakpattan	0.301	0.513	0.155
77	Chitral	0.299	0.489	0.146
78	Sukkur	0.294	0.529	0.156
39	D. G. Khan	0.554	0.587	0.325
40	Buner	0.546	0.585	0.320
41	Mirpur Khas	0.538	0.591	0.318
42	Killa Saifullah	0.533	0.510	0.272
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74	Layyah	0.313	0.506	0.158
75	Jhang	0.308	0.516	0.159
76	Pakpattan	0.301	0.513	0.155
77	Chitral	0.299	0.489	0.146
78	Sukkur	0.294	0.529	0.156
79	Larkana	0.275	0.506	0.139
80	Khushab	0.270	0.529	0.143
81	Malakand	0.267	0.509	0.136
82	Multan	0.265	0.511	0.135
83	Dadu	0.263	0.516	0.136
84	Mardan	0.262	0.526	0.138
85	Khanewal	0.254	0.514	0.131
86	Chiniot	0.248	0.511	0.127
87	Abbottabad	0.247	0.498	0.123
88	Swabi	0.240	0.517	0.124
89	Okara	0.225	0.505	0.114
90	Naushahro Feroze	0.204	0.510	0.104
91	Sahiwal	0.203	0.513	0.104

92	Hafizabad	0.199	0.508	0.101
93	Hyderabad	0.193	0.524	0.101
94	Sargodha	0.191	0.513	0.098
95	Peshawar	0.189	0.511	0.097
96	Narowal	0.188	0.474	0.089
97	Haripur	0.166	0.505	0.084
98	Nowshera	0.165	0.493	0.081
99	Kasur	0.159	0.501	0.080
100	Nankana Sahib	0.153	0.531	0.081
101	T.T. Singh	0.153	0.501	0.077
102	Mandi Bahauddin	0.135	0.501	0.068
103	Faisalabad	0.135	0.483	0.065
104	Sheikhupura	0.118	0.487	0.057
105	Gujranwala	0.089	0.500	0.044
106	Chakwal	0.084	0.495	0.042
107	Attock	0.080	0.492	0.039
108	Karachi	0.049	0.469	0.023
109	Sialkot	0.049	0.474	0.023
110	Gujrat	0.048	0.501	0.024
111	Rawalpindi	0.047	0.497	0.023
112	Jhelum	0.037	0.459	0.017
113	Islamabad	0.032	0.472	0.015
114	Lahore	0.032	0.473	0.015

عشق، علم، عمل پی پی اے ایف کی بنیادی اقدار اور اس کے کام کی اصل روح ہیں۔

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