

Multi-Dimensional Poverty in the Newly Merged Tribal Districts of Khyber Pakhtunkhwa: Identifying The Key Areas of Priority

Nafees Ahmad¹, Muhammad Fawad Khan², Rabia Attas³ and Muhammad Israr⁴

<https://doi.org/10.62345/jads.2024.13.3.126>

Abstract

Poverty measurement is a complex global challenge and a key target within the Sustainable Development Goals. Poverty is not a unidimensional issue tied solely to income or consumption but is instead a multidimensional phenomenon. This study investigates multidimensional poverty in the economically disadvantaged province of Khyber Pakhtunkhwa, Pakistan, with a specific focus on the newly merged tribal districts. Utilizing a nationally representative dataset, PSLM/HIES 2018-19, from the Pakistan Bureau of Statistics, the analysis is based on a sample size of 4464 households from Khyber Pakhtunkhwa. The study employs the Alkire-Foster methodology to measure multidimensional poverty, using dual cutoff points and constructing an index that incorporates nine dimensions: economic activity, living standards, environment, assets, education, health, food security, ICT access and women empowerment. The findings reveal a severe imbalance in poverty distribution across the province, with the seven recently merged tribal districts emerging as the poorest. Rural areas exhibit significantly higher multidimensional poverty compared to urban regions. Key covariates of poverty include remittances, the number of working household members, urban or rural location, and access to government canals for irrigation, all of which play a significant role in shaping household poverty status.

Keywords: Multidimensional Poverty, Alkire-Foster Method, Khyber Pakhtunkhwa.

Introduction

Poverty is a global issue and a root cause of many challenges worldwide. Measuring poverty and implementing effective alleviation strategies remain complex tasks for researchers and policymakers. Traditionally, poverty is measured through income or consumption pattern; however, these measures alone do not capture their full scope. Poverty is a multidimensional phenomenon that includes various forms of deprivation affecting households across different aspects of life. The United Nations (UN) has emphasized poverty alleviation as the first of its 17 Sustainable Development Goals (SDGs) to be achieved by 2030.

As the world's fifth most populous country, Pakistan faces a significant poverty challenge, with roughly one-fourth of its population living below the poverty line. Reducing poverty in Pakistan

¹Department of Economics, University of Malakand, Pakistan.

Corresponding Author Email: nafeesahmad@uom.edu.pk

²National University of Sciences and Technology (NUST), Islamabad, Pakistan. Email: fawad.khan@nbs.nust.edu.pk

³Department of Economics, Pakhtunkhwa Economic Policy Research Institute (PEPRI), Abdul Wali Khan University, Mardan, Khyber Pakhtunkhwa, Pakistan. Email: rabiaattas@awkum.edu.pk

⁴Institute of Development Studies, Agricultural University Peshawar. Email: misrar@aup.edu.pk



would contribute substantially to global prosperity and development. However, before any poverty-related policy interventions are implemented, it is critical to identify the locations within the country where poverty is widespread and prevalent. Pakistan comprises four provinces, with the province of Khyber Pakhtunkhwa (KP) being of particular concern. While Punjab and Sindh benefit from strong industrial and agricultural output, KP, Pakistan's third-largest province by population, lags in these economic sectors. Consequently, both internal and external migration, especially to the Gulf countries, is common among residents of KP. This trend is reflected in KP's significant share of national remittances, accounting for over 30 percent of the total, despite the province comprising only 14 percent of the national population (Pakistan Bureau of Statistics, 2011). Additionally, one in four overseas Pakistani workers hails from KP (Amjad & Arif, 2014). The province of KP has witnessed merger of seven tribal districts of the previously called Federally Administrated Tribal Areas (FATA) in 2018, namely Bajaur, Kurram, Mohmand, Khyber, Orakzai, North Waziristan and South Waziristan. These districts bordering Afghanistan have been drastically affected by the war against terrorism in Afghanistan. As far as the economic indicators of these areas are concerned, according to economic data for these districts, only 7% of the land in the newly merged tribal districts is suitable for agriculture. The literacy rate of 21% is the lowest in the country, particularly among females it is only 7.5% (Wazir, 2014). The militant attacks in the region targeted the region's already fragile education sector (till 2013, 485 schools were damaged because of militant attacks, depriving approximately 500,000 children in the region of education and schooling (Pulse, 2013). As far as the health facilities are concerned, the population per doctor in the newly merged districts is 6,728 people, whereas in the rest of the country the ratio is 1,206 (ADB, 2014). These indicators depict a gloomy picture of the overall development in the region and call for special policy attention towards these areas.

Poverty is a multidimensional phenomenon, encompassing not only the lack of money or income but also other key indicators of quality of life such as health, education, food security, the environment, political empowerment, and access to water and sanitation (Alkire et al., 2017; Misturelli & Heffernan, 2010). Sen's capabilities approach also defines poverty as not being able to do a broad spectrum of things such as good nutrition, marriage, education, health, traveling, etc. (Sen, 1976). Thus, poverty should be measured on multiple dimensions of life. Alkire and Foster (2011) introduced a methodology to numerically measure multidimensional poverty by using household data. Prior to this, UN (2004) developed the Human Poverty Index by using three macro-level indicators, i.e., probability of surviving till the age of 40, literacy rate, and standard of living. Motivated by the UN's attention towards the multidimensional nature of poverty, a number of researchers have estimated multidimensional poverty indexes (MPI) for various countries, such as Bourguignon and Chakravarty (2003), Jenkins and Micklewright (2007), Alkire and Santos (2010), and Antony and Rao (2007).

In the case of Pakistan, there have been numerous studies calculating the MPI. Khan et al. (2014), for example, investigate the prevalence of MPI in the Rawalpindi region and incorporate three dimensions (housing, health, and education) into the MPI. They find that overall poverty in Rawalpindi has been declining over time, despite rising educational deprivation. Likewise, Javed and Awan (2020) use three-year PSLM data and ten different indicators of poverty. They conclude that rural poverty is more severe as compared to urban poverty, and that Baluchistan is the poorest province in the country, while Punjab is the least poor. Khan and Shah (202) use PSLM data from 1998 to 2013 and take expenditure, education, health, and housing into the MPI. They find that across the various sub-regions of Punjab, multidimensional poverty has been reducing gradually with time as access to basic facilities has been improving.

This study calculates the multidimensional poverty index as per the methodology suggested by Alkire and Foster (2011) to estimate the poverty rate for each district. It is observed that poverty is not uniformly distributed in the province; rather, some districts are particularly poor, whereas others are comparatively doing better. The newly merged districts of ex-FATA are especially ranked high on the poverty index. Some key elements of deprivation were access to water and gas, sanitation, and houses made of mud. Moreover, almost 94 percent of the households are poor on the indicator of female education. Likewise, ICT access and women's empowerment are also much lower in the ex-FATA districts as compared to the settled districts of Khyber Pakhtunkhwa.

This study has the following main objectives:

- a) To measure and compare multi-dimensional poverty index across the settled and newly merged districts in Khyber Pakhtunkhwa
- b) To identify the key determinants of multidimensional poverty, focusing on the role of education, health care, women empowerment, remittances, and ICT access
- c) To evaluate the spatial distribution of multi-dimensional poverty in the region
- d) To suggest policy interventions for reducing multidimensional poverty in the most affected districts of Khyber Pakhtunkhwa

Methodology

This study uses secondary data from the Household Integrated Economic Survey (HIES) 2018-19. HIES is a detailed survey containing information such as demographics of each household, income and employment, education, health, water and sanitation, and consumption pattern of households. The survey is conducted nationwide; however, this study only uses the part of the sample related to the province of Khyber Pakhtunkhwa (KP). Table 1 below shows the rural/urban wise distribution of the sample in KP. It can be seen that, as per the distribution of actual population, the sample contains more rural households as compared to urban households. From the province of KP, the data comprises a total of 319 primary sampling units (enumeration blocks) and 4485 secondary sampling units (households).

Table 1: Primary and Secondary Sampling Units of the HIES 2018-19

Province	Rural/Urban	Primary Sampling Units	Secondary Sampling Units
Khyber Pakhtunkhwa	Rural	194	3035
	Urban	125	1450
Total		319	4485

Table 2 shows the division and district-wise distribution of the sample. It should be noted that the urban sample is collected from the entire administrative division, whereas the rural sample is collected from each district within the division. The sample size in the division and district is proportionate to its population size. 21 households in the sample were lacking information on some variables, and thus they were dropped from the sample, resulting in a total sample size of 4464 households.

Table 2: Division and district-wise distribution of the households

Administrative Division	Urban Sample Size	District-wise rural sample size		Total	Administrative Division	Urban Sample Size	District-wise rural sample size		Total	
		SSU	District				SSU	SSU		District
Malakand	196	Chitral	79	959	Peshawar	653	Charsadda	142	1225	
		Dir Upper	125				Peshawar	187		
		Dir Lower	170				Nowshera	123		
		Swat	92				Khyber	72		
		Shangla	63				Mohmand	48		
		Buner	80				Kohat	79		369
		Malakand	47				Hangu	30		
		Bajaur	107				Karak	61		
		Kurram	62							
Hazara	164	Kohistan	223	844	Bannu	46	Orakzai	32	265	
		Mansehra	126				Bannu	86		
		Batagram	48				Lakki	58		
		Abbottabad	126				Marwat			
							North Waziristan	75		
Mardan	174	Torghar	46	472	D.I.Khan	108	D.I.Khan	127	330	
		Mardan	157				Tank	31		
		Swabi	141				South Waziristan	64		
Total: 4464										

Note: SSU stands for Secondary Sampling Unit i.e. household.

Dimensions and Indicators of Poverty

This study uses the nine dimensions of poverty given in Table 3. Each of these dimensions is then measured with one or more indicators, which are also listed in Table 3. The table also contains the weights assigned to each indicator of the dimension. To ensure equal representation of a dimension in the poverty index, if a dimension has a single indicator, then it is given a weight of 1/9, whereas if it has two indicators, then the weight is 1/18 on each of the two indicators. The last column of Table 3 also contains the deprivation cutoff for each indicator, which indicates how a household is deemed poor or non-poor in each indicator. For instance, if the monthly income of a household is less than Rs. 4500, then it is considered poor on the income indicator.

The dimension of economic activity is measured through two indicators, i.e., income and employment. Likewise, the dimension of living standards is measured through five indicators, i.e., crowding in the house, access to utilities, safe drinking water, toilet facility in the house, and house material type. Other dimensions that are part of the multi-dimensional poverty index are household assets, environment, health, education, food security, access to information and communication technologies (ICT), and women's empowerment.

Table 3: Dimensions and their indicators

S. No.	Dimension	w_j	Indicators	Measures	Indicator Weights	Deprivation Cutoff
1	Economic activity	1/9	Income	Monthly income per capita	1/18	< 4500
			Employment	At least one member working	1/18	No member working
2	Living standards	1/9	Crowding	Number of persons per room	1/45	> 3
			Utilities	Access to either electricity or gas or both	1/45	Neither
			Safe drinking water	Access to piped water	1/45	= 0
			Toilet facility	Availability of toilet facility at home	1/45	= 0
			House material	House made of mud or bricks	1/45	Mud
3	Environment	1/9	Air quality	Type of cooking fuel used	1/9	Fire-wood, dung cake, crop residue, coal
4	Assets	1/9	Durable assets	Ownership of either TV, washing machine, iron, motorcycle, or car	1/18	None of these owned
			House, agricultural land or shop	Ownership of either house, agricultural land or shop	1/18	None of these owned
5	Education	1/9	Adult male's education	Low average adult male education	1/18	< 5 years
			Adult female's education	Low average adult female education	1/18	< 5 years
6	Health	1/9	Disease prevalence in the household	Occurrence of either malaria, hepatitis B or C, or TB in past year	1/27	Either disease occurred in household
			Child mortality	Whether experienced child mortality previously or not	1/27	Experience of child mortality in household
			Bad health habit	Tobacco user in household	1/27	At least one user in household
7	Food security	1/9	Skipped a meal	Skipped a meal due to lack of money in last one year	1/18	Yes
			Without food for a whole day	Went without eating for a whole day in last one year	1/18	Yes
8	ICT access	1/9	Internet access	Internet user in home	1/27	No user
			Smartphone ownership	Smartphone user in home	1/27	No user
			Computer ownership	Computer user in home	1/27	No user
9	Women empowerment	1/9	Women take part in decision-making	Women take part in deciding about education, employment, marriage, contraception and more children	1/9	Does not take part in any of these

Methodology

Index Generation

This research uses the methodology proposed by Alkire and Foster (2011) to prepare the multi-dimensional poverty index. Let n represent the number of households whose poverty is to be measured on the basis of d dimensions. Let X be a $n \times d$ matrix of achievements whose elements are x_{ij} which measures the achievement of the household i on indicator j . Similarly, let z be a vector of deprivation cutoffs for each indicator j . A household is deprived on an indicator if $x_{ij} < z_j$, and then assigned a deprivation status (S_{ij}) equal to 1 in that indicator and zero otherwise. The values assigned to the elements of vector z are shown in the last column of table 3. The deprivation matrix g^0 contains deprivation status of all households on all the j indicators. In the Alkire and Foster (2011) methodology of calculating multi-dimensional poverty index, poverty is calculated in two stages i.e., firstly identifying the indicators on which households are poor and then designating a household as poor if total number of deprivations are greater than 33 percent. Thus, the Alkire and Foster (2011) technique involves dual cutoffs.

In converting deprivation matrix into poverty index weights $w_j > 0$ are assigned to each indicator such that $\sum_{j=1}^9 w_j = 1$. Table 3 indicates the weights assigned to each dimension and indicator.

This means that each dimension is given equal importance in determining poverty.

Summing the weighted deprivation scores over all dimensions produces the MPI. Mathematically the $MPI = c_i = \sum_{j=1}^9 w_j s_{ij}$. The calculated values of the index range from 0 to 1. An aggregate cutoff of 0.33 then differentiates between poor and non-poor. The imputed index can be used to construct poverty head count ratio (H), average deprivation (A) which is also called poverty intensity, and M_0 as:

$$H = \frac{q}{n}; \quad A = \frac{\sum_{i=1}^q c_i}{q}; \quad M_0 = H * A$$

In which q is the total number of poor in the district, n is the total number of households in the district, and c_i is the total number of dimensions on which a household is poor.

Identification of Key Determinants

In the next step, after estimating the multidimensional poverty index for each household in the sample, the main drivers or determinants of poverty in the province are estimated. Some of the potential determinants of poverty, for instance, include age and gender of the household head, employment status of the household head, number of family members, urban/rural, Benazir Income Support Program (BISP) and zakat beneficiary status, belonging to ex-FATA districts, and the percentage of land in the district irrigated through government canals.

The key determinants of poverty are identified by taking the dummy variable of poor or non-poor as the dependent variable in regression. In this study, linear probability and probit models are used to estimate the relationship between poverty status and various potential determinants of poverty.

Results

District Wise Estimates of Poverty

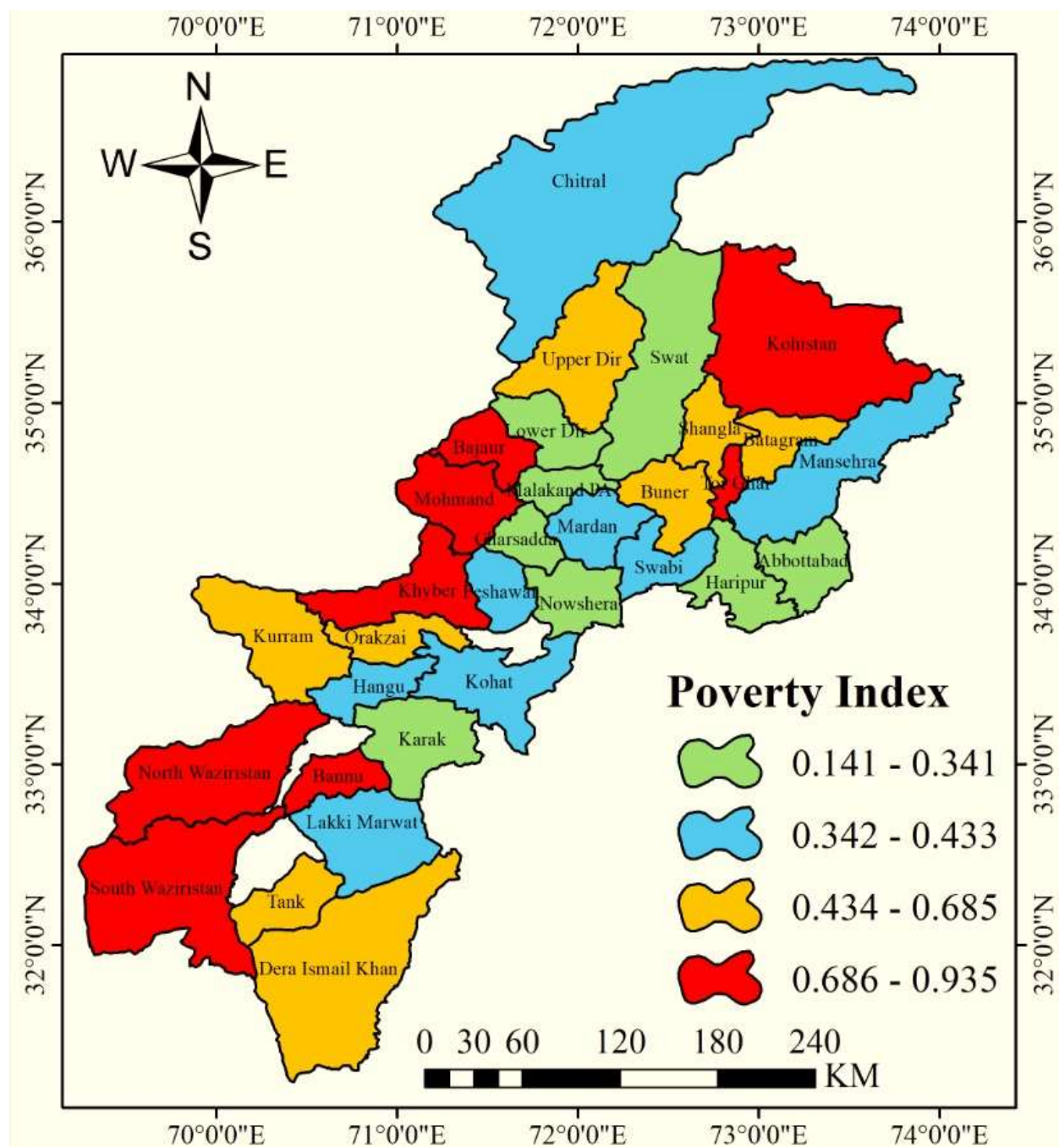
Table 4 contains the estimates of H , A and M_0 explained above. The rankings of the districts (and divisions in case of urban households) have been done according to H i.e. the head count ratio or poverty rate. It can be seen that the district level multidimensional poverty rate ranges from the low of 0.061 in Hazara division (urban households) to the high of 0.935 in Torghar district (rural households). It is a general observation from the table below that the urban areas of the province

are less poor as compared to the rural areas. Some of the major hubs of poverty in the province include Bajaur, Mohmand, South and North Waziristan, Kohistan, and Khyber Districts. The poverty rate in these districts exceeds 70%, which is highly alarming. Figure 1 shows a heat-map so as to understand the geographical distribution of poverty in the province.

Table 4: District-wise poverty scores

S. No	District/Division	Poverty Rate (H)	Average Deprivation (A)	Adjusted Head Count Index (M ₀)
1	Hazara Division (Urban Areas)	0.061	0.495	0.030
2	Peshawar Division (Urban Areas)	0.110	0.475	0.052
3	Bannu Division (Urban Areas)	0.130	0.381	0.050
4	Malakand District (Rural Areas)	0.149	0.497	0.074
5	Kohat Division (Urban Areas)	0.162	0.552	0.089
6	Mardan Division (Urban Areas)	0.167	0.438	0.073
7	Haripur District (Rural Areas)	0.171	0.388	0.066
8	Malakand Division (Urban Areas)	0.194	0.434	0.084
9	D I Khan Division (Urban Areas)	0.250	0.443	0.111
10	Nowshera District (Rural Areas)	0.260	0.445	0.116
11	Swat District (Rural Areas)	0.293	0.443	0.130
12	Abbottabad District (Rural Areas)	0.294	0.425	0.125
13	Karak District (Rural Areas)	0.311	0.459	0.143
14	Charsadda District (Rural Areas)	0.338	0.493	0.167
15	Lower Dir District (Rural Areas)	0.341	0.452	0.154
16	Chitral District (Rural Areas)	0.354	0.429	0.152
17	Swabi District (Rural Areas)	0.362	0.470	0.170
18	Peshawar District (Rural Areas)	0.364	0.492	0.179
19	Mansehra District (Rural Areas)	0.365	0.437	0.159
20	Kohat District (Rural Areas)	0.380	0.462	0.175
21	Lakki Marwat District (Rural Areas)	0.431	0.450	0.194
22	Mardan District (Rural Areas)	0.433	0.461	0.200
23	Hangu District (Rural Areas)	0.433	0.462	0.200
24	Shangla District (Rural Areas)	0.460	0.522	0.240
25	Tank District (Rural Areas)	0.484	0.492	0.238
26	Kurram (Rural Areas)	0.484	0.497	0.240
27	Buner District (Rural Areas)	0.600	0.521	0.313
28	Upper Dir District (Rural Areas)	0.624	0.473	0.295
29	Batagram District (Rural Areas)	0.625	0.460	0.288
30	Orakzai (Rural Areas)	0.656	0.499	0.327
31	D.I. Khan District (Rural Areas)	0.685	0.484	0.332
32	Bannu District (Rural Areas)	0.686	0.512	0.351
33	North Waziristan District (Rural Areas)	0.693	0.521	0.361
34	Khyber District (Rural Areas)	0.722	0.488	0.353
35	Kohistan District (Rural Areas)	0.726	0.477	0.346
36	South Waziristan (Rural Areas)	0.813	0.527	0.428
37	Mohmand District (Rural Areas)	0.854	0.520	0.444
38	Bajur District (Rural Areas)	0.888	0.531	0.471
39	Torghar District (Rural Areas)	0.935	0.442	0.413

Source: Authors' calculations from HIES 2018-19

Figure 1: Poverty heat-map of Khyber Pakhtunkhwa

It should be noted that the highly poor areas in table 4 as well as figure 1 are the newly merged tribal districts, which border with Afghanistan and where the lack of government institutions such as police, judiciary, universities, and hospitals have resulted in extreme poverty. These areas have also been bearing the brunt of the war against terrorism in the country, and most of the population in these areas have been internally displaced for years, having been resettled only recently after the end of the war against terrorism. In the remaining part of the analysis, we investigate whether

belonging to ex-FATA tribal districts is a significant determinant of poverty in Khyber Pakhtunkhwa.

Poverty Comparison between Ex-FATA and Settled Districts

Until recently, the economic and political systems of the tribal districts of the province have been much different from those of the settled districts. The former used to have a comparatively low presence of government institutions and, therefore, fewer developmental schemes and private investment have taken place in the area. Therefore, table 5 shows that the tribal districts are severely lagging in most of the development indicators. table 5 contains the means comparison of the settled districts and the ex-FATA districts along with a t-test for the significance of the mean difference. It can be observed that, as compared to settled districts, the ex-FATA tribal districts have a significantly higher proportion of income-poor households, and the proportion of people living in crowded spaces is also high. Most strikingly, access to electricity and natural gas is almost nonexistent in the newly merged districts. Other indicators such as clean drinking water and sanitation are also significantly lacking in the ex-FATA districts. Only one indicator, i.e., ownership of real estate property, is significantly better in the ex-FATA districts. Another striking observation is that almost 94 percent of the households in the tribal districts have low female education. Moreover, ICT access and women's empowerment are also significantly lower in the ex-FATA districts.

Table 5: Comparison of Ex-FATA and settled districts of KP

S. No	Dimension	Indicators	Settled Districts	Ex-FATA Districts	Difference	t-test p-value
1	Economic activity	No working members	0.134	0.148	-0.013	0.425
2		Income poor	0.343	0.433	-0.089	0.000
3	Living standards	Living in crowded space	0.429	0.476	-0.047	0.053
4		No access to electricity & gas	0.159	0.991	-0.832	0.000
5		Unsafe drinking water	0.242	0.413	-0.171	0.000
6		No toilet facility	0.127	0.374	-0.247	0.000
7		House made of mud	0.146	0.509	-0.363	0.000
8	Environment	Bad air quality	0.602	0.957	-0.354	0.000
9	Assets	No durable assets	0.056	0.137	-0.081	0.000
10		No real estate property	0.148	0.083	0.065	0.000
11	Education	Low male's education	0.301	0.428	-0.128	0.000
12		Low female's education	0.714	0.937	-0.223	0.000
13	Health	Disease prevalence	0.191	0.263	-0.072	0.000
14		Child mortality	0.175	0.137	0.038	0.039
15		Bad health habits	0.400	0.507	-0.106	0.000
16	Food security	Skipped meal	0.059	0.059	0.001	0.949
17		No food for whole day	0.024	0.043	-0.020	0.013
18	ICT access	No internet user	0.585	0.870	-0.284	0.000
19		No smartphone user	0.563	0.754	-0.191	0.000
20		No computer user	0.821	0.933	-0.111	0.000
21	Women empowerment	No women in decision-making	0.274	0.415	-0.141	0.000
	Observations		4004	460		

Note: All the variables in the table are dummy variables that have been used to calculate the MDP index, as detailed in section 3.1. The dummy variable equals 1 if deprived and zero if not deprived in that indicator.

The results in table 5 depict an alarming situation of poverty and deprivation in the tribal regions of Khyber Pakhtunkhwa. However, from a policy point of view, there is a need for more robust analysis in order to determine the impact of belonging to ex-FATA districts on poverty in the province. Besides, it is important to know other key drivers of poverty in the province besides the factor of settled and tribal districts. Therefore, the next section uses regression analysis to uncover the main determinants of poverty in the province.

Determinants of Multidimensional Poverty

Table 6 contains the results for the determinants of poverty. Columns 1 and 2 contain the estimation results for the linear probability model, whereas columns 3 and 4 contain results for the probit model. Regressions in column 1 and 2 use all the households in the sample while regressions in column 3 and 4 take only rural households. The dependent variable in the table is a dummy variable indicating whether a household is multidimensionally poor or not.

Some of the key findings of interest in these regressions are the impacts of variables such as BISP beneficiary, urban, ex-FATA, the percentage of irrigated land under government canals, number of earning members in a household, number of female working members, number of sewing machines in a household. It can be observed that belonging to urban areas is significantly related to a reduction in poverty. This may be due to the proximity of schools, hospitals, and other facilities in urban areas as compared to rural areas and thereby low probability of being multidimensionally poor in urban areas of the province. Likewise, as expected, the percentage of land in a district irrigated through government canals has a poverty-reducing impact, although the effect is significant only in the case of column 2. This points towards the importance of investing in canal irrigation in the province. As far as the impact of belonging to ex-FATA districts is concerned, it is significantly and positively associated with poverty. Magnitude wise, on the basis of column 1 and 2, a household belonging to the seven districts of ex-FATA region is about 30 percent more likely to be multidimensionally poor. This establishes the fact that tribal districts are home to most of the poor and deprived households in the province and thus need special attention in the public policy of the province.

Surprisingly, the impact of inclusion into the BISP social security payments scheme is positive on poverty. This is contrary to expectations, as social security schemes like BISP, that pays a considerable amount of social security payments to selected poor households on quarterly basis, should be poverty reducing rather than poverty enhancing. This, however, may be due to reporting bias among the BISP beneficiaries. However, it is not established in this study. Future research is encouraged to try to identify the causes due to which the BISP scheme is associated with an increase in poverty.

Among other important findings, the number of female workers in a household is associated with an increase rather than a decrease in poverty. This might be due to the local culture of the province, which discourages females from taking part in economic activities unless it is due to poverty that females members of the household are also needed to take up work. In such a situation, the positive impact of number of female workers would not be surprising. Relatedly, the number of workers (irrespective of gender) in a household is poverty reducing as per our expectations. Another important finding is that the number of sewing machines in a household is significantly reducing poverty in the province, which might be due to the females' earning income through tailoring services while remaining inside their homes.

Table 6: Determinants of multidimensional poverty

	(1)	(2)	(3)	(4)
	LPM		Probit	
Age of HH head (years)	0.000864 (1.26)	0.000425 (0.47)	0.00268 (1.17)	0.00110 (0.43)
Average age of HH members (years)	0.000516 (0.44)	0.00136 (0.85)	0.00225 (0.57)	0.00395 (0.87)
Marital status (Married=1, otherwise 0)	-0.0386 (-1.51)	-0.0259 (-0.75)	-0.118 (-1.36)	-0.0708 (-0.72)
Gender of head (male = 1, female = 0)	-0.00835 (-0.32)	-0.0107 (-0.32)	-0.0686 (-0.81)	-0.0343 (-0.36)
Adult members in household	-0.0366*** (-5.43)	-0.0399*** (-4.34)	-0.128*** (-5.58)	-0.114*** (-4.33)
Male members in household	0.0120* (2.42)	0.0126 (1.87)	0.0405* (2.44)	0.0362 (1.89)
Female members	0.0256*** (5.57)	0.0272*** (4.37)	0.0873*** (5.61)	0.0780*** (4.34)
HH head employment (dummy)	-0.0821*** (-4.03)	-0.116*** (-4.15)	-0.278*** (-4.07)	-0.328*** (-4.11)
Number of earning members	-0.0486*** (-3.98)	-0.0472** (-2.76)	-0.135** (-3.24)	-0.126** (-2.59)
Agri. land area (acres)	-0.00289 (-1.40)	-0.00295 (-1.23)	-0.00868 (-1.21)	-0.00835 (-1.14)
Own residence (dummy)	-0.151*** (-7.70)	-0.229*** (-7.25)	-0.535*** (-8.03)	-0.647*** (-6.95)
Shop owned (dummy)	-0.119** (-3.16)	-0.227*** (-3.84)	-0.510** (-3.27)	-0.777*** (-3.87)
Log remittances	-0.00530*** (-3.44)	-0.00916*** (-4.52)	-0.0154** (-2.97)	-0.0259*** (-4.43)
Zakat beneficiary (dummy)	0.138** (2.89)	0.0869 (1.34)	0.423** (2.73)	0.236 (1.24)
BISP beneficiary (dummy)	0.118*** (6.32)	0.123*** (5.23)	0.352*** (5.89)	0.342*** (5.09)
Log loan amount	0.000839 (0.72)	0.000913 (0.58)	0.00360 (0.92)	0.00284 (0.63)
Number of sewing machines	-0.0677*** (-5.39)	-0.0653*** (-3.99)	-0.223*** (-5.28)	-0.189*** (-3.96)
Total days worked	0.000947* (1.99)	0.000852 (1.31)	0.00241 (1.50)	0.00229 (1.24)
Urban	-0.261*** (-17.20)		-0.941*** (-16.74)	
Ex-FATA	0.313*** (13.28)	0.310*** (11.85)	0.868*** (11.43)	0.862*** (11.24)
Govt. canal percentage	-0.0260 (-1.19)	-0.0569* (-2.15)	-0.0484 (-0.69)	-0.144 (-1.92)
Constant	0.688*** (9.52)	0.785*** (7.83)	0.743** (3.06)	0.814** (2.86)
Observations	4222	2818	4222	2818
Only rural	No	Yes	No	Yes

Note: t-statistics in parenthesis. * p<0.05, ** p<0.01, *** p<0.001

Conclusion

Poverty reduction in Pakistan has implications for the status of poverty across the world. One of the poorest regions in South-Asia is the tribal region of ex-FATA, which has been affected severely by the war against terrorism in adjacent Afghanistan. Historically, the region has been lacking in economic development and security as it was administered from the center and lacked modern state apparatus. In 2018, the tribal districts comprising ex-FATA were merged with the province of KP, as it was geographically adjacent to the province, so that systems of law and security, education, public health, and communications could be brought on par with the rest of the country. This study establishes that the indicators of development and prosperity are severely lagging behind in the newly merged districts as compared to the other settled districts of Khyber Pakhtunkhwa. Some key areas of deprivation were the low standards of living, as indicated by access to water and gas, sanitation, and houses made of mud. Moreover, almost 94 percent of the households in the newly merged districts have low level of female education. Likewise, ICT access and women's empowerment are also significantly lower in the ex-FATA districts.

This situation calls for not only the national organizations but also international development organizations to prioritize the newly merged districts of KP in poverty reduction schemes in the country. The study highlights the fields that need immediate attention, such as female education, ICT access, and access to water and sanitation. Improving these indicators would not only have spillover effects for the security and development of the rest of the country and would also show up in the global poverty rate.

References

- ADB. (2014). *Islamic Republic of Pakistan: FATA Water Resources Development Project*. Asian Development Bank. Project Number: 47021-002
- Alkire, S., & Foster, J. (2011). Counting and multidimensional poverty measurement. *Journal of Public Economics*, 95(7-8), 476-487.
- Alkire, S., & Santos, M. E. (2010). Acute multidimensional poverty: A new index for developing countries. *United Nations development programme human development report office background paper*, (2010/11).
- Alkire, S., Roche, J. M., & Vaz, A. (2017). Changes over time in multidimensional poverty: Methodology and results for 34 countries. *World Development*, 94, 232-249.
- Amjad, R., & Arif, G. M. (2014). Analyzing the impact of overseas migration and workers' remittances in Khyber Pakhtunkhwa: Suggested measures for maximizing development benefits. *London School of Economics, International Growth Centre*.
- Antony, G.M., & K.V. Rao (2007). A composite index to explain variations in poverty, health, nutritional status and standard of living: use of multivariate statistical methods. *Public Health* 121(8), 578–587.
- Bourguignon, F., & Chakravarty, S. R. (2003). The measurement of multidimensional poverty. *The Journal of Economic Inequality*, 1(1), 25–49.
- Government of Pakistan. 2006. *FATA Sustainable Development Plan (2006-15)*. Planning and Development Department.
- Javed, K., & Awan, M. S. (2020). Spatial and Gender Based Comparison of Multidimensional Poverty: Household Level Analysis from Pakistan. *European Online Journal of Natural and Social Sciences*, 9(1), pp-121.

- Jenkins, S. P., & Micklewright, J. (2007). New directions in the analysis of inequality and poverty. *Inequality and Poverty Re-examined*, 3–33. Discussion Papers of DIW Berlin 700, DIW Berlin, German Institute for Economic Research.
- Khan, A. U., & Shah, A. H. (2020). Reflections of multidimensional poverty across agro-climatic zones: evidence from the Punjab Province of Pakistan. *Journal of Poverty*, 24(2), 130-146.
- Khan, A. U., Saboor, A., Hussain, A., Sadiq, S., & Mohsin, A. Q. (2014). Poverty assessment as a multidimensional socio-economic concept: the case of the Rawalpindi region in Pakistan. *Asia Pacific Journal of Social Work and Development*, 24(4), 238-250.
- Misturelli, F., & Heffernan, C. (2010). The concept of poverty: a synchronic perspective. *Progress in Development Studies*, 10(1), 35-58.
- Pakistan Bureau of Statistics, (2011). *Government of Pakistan. Pakistan Social and Living Standards Measurement Survey (PSLM-2010-11)*.
- *Pulse* (weekly). 2013. *FATA: a generation deprived of education*. July 5th.
- Sen, A. (1976). Poverty: an ordinal approach to measurement. *Econometrica: Journal of the Econometric Society*, 219-231.
- Wazir, A. K. (2014). FATA reforms: journey so far and the way forward. *Conflict and Peace Studies*, 6(1), 45-60.