



Multidimensional Poverty Analysis of Small Growers in District Khairpur Mir's

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ABSTRACT

Poverty remains one of the major challenges to sustainable rural development in Pakistan, particularly among smallholder farming households. This study aimed to analyze the multidimensional poverty status of small growers in District Khairpur Mir's, Sindh, Pakistan, during the 2025 study period. The specific objectives were to examine the socio-economic characteristics of small growers, determine the level of multidimensional poverty in terms of health, education, and living standards, and provide policy recommendations for reducing rural poverty. Primary data collected from small growers through a structured questionnaire. Descriptive statistical techniques, including means and standard deviations, used to analyze the socio-economic characteristics and multidimensional poverty indicators. The analysis focused on three major dimensions of poverty: health, education, and living standards, together with household income, expenditure, food consumption, housing conditions, and asset ownership. The findings revealed that the average age of the respondents was 38 years, indicating that most respondents belonged to the economically active age group. However, the study found considerable deprivation in all three dimensions of multidimensional poverty. Health-related problems, including cough, hepatitis, and tuberculosis, reflected inadequate access to quality healthcare services. Educational attainment was generally low, with a high proportion of respondents being illiterate or having only primary-level education. Living standards were also poor, as many households lived in kacha houses and had limited ownership of essential household assets and basic amenities. Household expenditures on food, education, healthcare, transportation, and communication represented a substantial financial burden, while agriculture remained the principal source of household income. Limited livelihood diversification and inadequate infrastructure further increased the economic vulnerability of small growers. The study concludes that multidimensional poverty among small growers in District Khairpur Mir's driven by deficiencies in health, education, and living standards rather than income alone. Improving rural infrastructure, expanding access to quality healthcare and education, strengthening agricultural extension services, promoting income diversification, and implementing effective public-private partnership (PPP) programs are essential for reducing multidimensional poverty and improving the overall well-being of rural farming households. The findings provide useful evidence for policymakers, development agencies, and researchers in designing targeted interventions for sustainable rural development in Sindh, Pakistan.



Introduction

Poverty account as recognized as complex new phenomenon beyond deprivation in income and other multiple aspect of human wellbeing. The concept of multidimensional poverty analysis as measurement of poverty through different aspects of life and social welfare of human being. The multidimensional poverty we can access easily life style and living standards of peoples. There are some measures to calculate status of poverty and further improvement needed. Multidimensional Poverty Index (MPI) developed under the umbrella of United Nation Development Programme (UNDP) and Oxford Poverty and Human Initiative Development (OPHI) highlighted that millions of peoples they have lack of intuitional education, enrollment in school, health issues and social life weak. The sustainable development goals-1 aims to eradicate poverty through integrated initiatives all forms of life (UNDP, 2023).

Poverty means lack of necessities for life, it means basic need may not fulfilled that result instability of individuals and society to meet minimum social economic benefits of life (Suel et al., 2019). Poverty is a complex phenomenon that is characterized by uni-dimensional and multidimensional poverty. Therefore, the Uni-dimensional measurement of poverty is not possible and there is a need of multidimensional poverty approach in order to measure the deprivation among individuals in real sense (Unjum et al., 2021). Multidimensional measures provide an alternative lens through which poverty may viewed and understood deeply. It argued that monetary variables (such as income or expenditure) are unable to evaluate human well-being (Idrees & Baig, 2017).

A separate considered as deprived if he/she poor of multiple basic requisites of life, e.g., food, clothes, clear water, electricity, fresh air, quality education, quality working environment, good health and more other, all these included in SDG-1 set by UNO for 2030 (Colglazier, 2015); Energetically, different approaches developed for dimension of multidimensional poverty. In 1980s, the 'Displeased Basic Needs' technique used for Latin America (Turriago et al., 2020). This catalogue uses pointers in four parts of people's rudimentary requirements (good health, basic education facilities, housing and income). The United National Development Programme presented the Human Poverty Index (HPI), evaluates the condition of countries using a set of indicators that measure usual accomplishment in three basic scopes of human development (Krishnaji, 1997).

In Pakistan, poverty remains a significant development challenge, particularly in rural areas, where livelihoods are largely dependent on agriculture. According to national multidimensional poverty estimates, rural households experience higher levels of deprivation in education, health, and living standards compared to urban populations (UNDP, 2023). Sindh province face lot of problems especially in social life of peoples. Rural life as worst as compare to urban because they have not basic facilities of life, especially basic needs are not sufficient for living. Weak infrastructure, vulnerabilities, limited social life access, climate condition problems, low crop yield, low rate of wages, market barriers and access availability and institutional support and capacity building programmes (Naseer & Mahmood, 2020).

Khairpur Mir's. Small growers faced living standards issues, health related issues, and education related issues. They have lot of problems faced specially in socio-economics life of peoples and need to improve social wellbeing and other. (Zaidi et al. 2019).

Problem statement

Khairpur Mir's district have important value because it is more agriculture productive with many crops grown wheat , rice, sugarcane, dates and fruits crops sown and major contribution in province share in production. Farming communities face several issues related social life and wellbeing. Lack education intuitions, socio-economics life challenges, vulnerability, climate shocks and many more problems identified regarding social life of district Khairpur Mir's. Small growers faced living standards issues, health related issues, and education related issues. They have lot of problems faced specially in socio-economics life of peoples and need to improve social wellbeing and other.

Research Gap

Few research studies analyzed that poverty reduction how can implement through national and provincial policy makers among smallholder farmers and particularly Khairpur Mir's district and secondary data show that conditions are not good at all. These studies fill up gap and further pathways applying Alkire and Foster multidimensional poverty farm work to measure poverty level in study area.

Objectives of the study

- i. To find out the socio-economic characteristics of household in study area
- ii. To determine the multidimensional (Health, education and living standard) poverty level among the small growers in the study area
- iii. To suggest the recommendations for future policy making

Materials and methods

The present study conducted from district Khairpur Mir's Sindh province of Pakistan and research done year 2025, observed that multidimensional poverty analysis of smallholder's growers in study area.

Questionnaire Design and Data Collection

For this study primary data were collected through Google Form survey carried out and first pretested research questionnaire in field then analysis for data to meet research objectives then further data were collected through Google Form survey strategy adopted, all questions were close needed few suggestion are open ended to design.

Sampling Technique and Sample Size

The research purpose total sample size were 120 respondents and random sampling techniques adopted for this study, all data collected from small growers of study area. The sample size determined that statistically reliability 95 percent and confidence level approximately with 9.5 percent margin error.

Data Analysis Techniques

The collected data arranged in coding system through Microsoft Excel for data analysis. Father MPI indicator analyses from collected data.

Statistical Tools

SPSS statistics software used and MPI indicator analyzed, percentage, means, mode, median, standards errors, and MPI calculated.

Results

This research chapter finding, that which results, performed good, which side are weak to take step for improvement. In this chapter multidimensional poverty factor identified through given data and finding of socioeconomic status, health, education and living standards of respondents of study area.

Socio-economic characteristics of small growers

Socioeconomic characteristics of the sampled small growers in district Khairpur Mir's. The findings show that the average age of the respondents was 48 years, with ages ranging from 21 to 63 years (SD = 17.38). The average educational attainment was 8 years, ranging from 6 to 16 years (SD = 4.32). The respondents had an average occupational or employment experience of 25 years, with experience ranging from 19 to 32 years (SD = 5.31). Regarding housing or residence, the average duration of residence was 40 years, with a minimum of 18 years and a maximum of 47 years (SD = 12.36). The average farming experience of the respondents was 18 years, ranging from 12 to 26 years (SD = 5.73). The relatively low standard deviation suggests that the respondents had comparable levels of agricultural experience.

Table 1: Socioeconomic characteristics of small growers in study area

Particulars		Average	Min	Max	SD
Age	(years)	48	21	63	17.38
Education Level	(years)	8	6	16	4.32
Occupation/Employment working experience	(years)	25	19	32	5.31
Housing/Residence	(years)	40	18	47	12.36
Experience in agriculture	(years)	18	12	26	5.73

Health status of respondents

Health condition of small growers cough average was 50 and standard deviation were 33.29. Hepatitis average 35 and standard deviation were 17.55. TB average 20 and standards deviation were 13.52.

Table 2: Health conditions of small growers in study area

Particulars	Average	Min	Max	Standard Deviation
Cough	50	5	70	33.29
Hepatitis	35	15	50	17.55
TB	20	8	35	13.52

Educational status of household members

Education level of small growers in study area. Illiterate average were 33 and standards deviation 16.52. Primary level education average 35 and standard deviation 20.00. Secondary

class average were 12 years and standard deviation 10.59. Matriculation average 15 and standard deviation was 12.58. Intermediate average education.

Table 3: Educational level among small growers

Particulars	Average	Min	Max	Standard Deviation
Illiterate	30	12	45	16.52
Primary	35	15	55	20.00
Secondary	12	4	25	10.59
Matriculation	15	5	30	12.58
Intermediate	18	6	35	14.57
Graduation	10	3	22	9.61

Living standards of respondents

Living standard of small growers of district Khairpur Mir's. Pakka house average were 20 and standard deviation 15.00. Kacha house average 90 and standard deviation were 27.83. Own and rented house average 10 and standard deviation were 11.67. Refrigerator average 15 and standard deviation 18.02. Radio average 8, TV average 15, Solar average 120, watch average 60, Gas average 20, Cot average 75, hand pump average 60 and motorcycle average 55 and standard deviation 24.11. Living standard of household consider nit good on the bases of result need more improvement.

Table 4: Living Standards among small growers in study area

Particulars	Average	Min	Max	Standard Deviation
Paka House	20	5	35	15.00
Kacha House	90	55	110	27.83
Own/ Rented	10	2	25	11.67
Refrigerator	15	5	40	18.02
Radio	8	4	25	11.15
TV	15	6	35	14.84
Electricity/Solar	120	120	120	0.00
Clock Watch	60	35	90	27.53
Mobile/Phone	90	65	110	22.54
Gas	20	5	40	17.55
Cot	75	55	95	20.00
Hand Pump	60	35	85	25.00
Motor Cycle	55	27	75	24.11

Food consumption pattern of respondents

Household food consumption pattern and expenditure level of small growers in study area. wheat flour yearly average cost 28800 rupees, rice cost 7200 rupees, pulses yearly cost 2880 rupees, cooking oil yearly average cost 36000 rupees, sugar average cost 5440 rupees, salt cost 960 rupees, tea average year cost 21600, egg cost 17280, fruit average cost 12000, vegetables average cost 38400, meat average cost 43200, beef average cost 19200, chicken average cost 33600 rupees, milk average cost 67200 rupees and fish average cost 14400 rupees and standard deviation were 7893.66.

Table 5: Household food consumption pattern and expenditure of small growers in study area

Food Item	Unit	Qty	Price/Unit	Weekly	Monthly	Yearly	Standard Deviation
			PKR	Cost	Cost	Cost	PKR
Wheat Flour	Kg	7.5	80	600	2400	28800	15787.33
Rice	Kg	1	150	150	600	7200	3946.83
Pulses	Gram	250	60	60	240	2880	1578.73
Cooking Oil	Ltr	1.5	500	750	3000	36000	19734.17
Sugar	Kg	2	170	340	1360	5440	2698.66
Salt	Gram	250	20	20	80	960	526.24
Tea	Gram	250	450	450	1800	21600	11840.50
Eggs	Dozen	1	30	360	1440	17280	9472.40
Fruits	Kg	1	250	250	1000	12000	6578.05
Vegetables	Kg	4	200	800	3200	38400	21049.78
Meat	Gram	500	900	900	3600	43200	23681.00
Beef	Gram	500	400	400	1600	19200	10524.89
Chicken	Kg	1	700	700	2800	33600	18418.55
Milk	Ltr	7	200	1400	5600	67200	36837.11
Fish	Gram	500	300	300	1200	14400	7893.66

Household monthly expenditure

Household monthly expenditure of small growers in study area. Transport average cost were 5000 and standard deviation 2291.29. Education average cost 9000 rupees and standard deviation 3500.00. Cloths average cost 10000 rupees and standard deviation 3253.20. Medical average cost 6000 rupees and standard deviation 2783.88. Communication average cost 3300 rupees and standard deviation 1509.97. Household maintenance cost average was 5000 and standard deviation 2516.61 rupees on early based counted.

Table 6: Average monthly expenditure of household in study area

Particulars	Average	Min	Max	Standard Deviation
Transport	5000	2000	6500	2291.29
Education	9000	5500	12500	3500.00
Cloths	10000	6500	13000	3253.20
Medical	6000	2500	8000	2783.88
Communication	3300	1500	4500	1509.97
Household Maintenance	5000	2000	7000	2516.61

Household monthly income sources

Averagely income of households in study area and table 4.7 indicated that averagely income generated from agriculture were 70000 rupees and standard deviation 27838.82 rupees. Labour average income 35000 and standard deviation 45000 rupees. Wages average earning were 25000 and standard deviation 12767.15 rupees. Service average earning was 55000 rupees and standard deviation were 24556.06. Livestock average earning was 45000 rupees and standard deviation was 24556.06. Handcraft average earning 15000 and standard

deviation 11015.14. Business early earning were 5000 and standard deviation were 28571.55 rupees.

Table 7: Average monthly income of small growers in study area

Particulars	Average	Min	Max	Standard Deviation
Agriculture	70000	35000	90000	27838.82
Labour	35000	10000	45000	18027.76
Wages	25000	8000	33000	12767.15
Services	55000	22000	70000	24556.06
Live Stock	45000	12000	60000	24556.06
Hand Craft	15000	3000	25000	11015.14
Business	50000	18000	75000	28571.55

Discussion

Socio-economic characteristics and poverty dynamics

Socioeconomics characteristics of small grower's age average age were 38 years and maximum were 52 years, minimum were 28 years and standards deviation 12.05. (Ravallion, 2016) Education level of the respondent's average was 60 and standards deviation 15.00. Employment average were 25 and standards deviation 9.60. Residence were 40 and standard deviation were 9.60. Health status average 70 and standards deviation 10.00, and agriculture average 80 and standard deviation were 16.07 (Alkire and Foster 2011).

Health deprivation and its contribution to poverty

Health deprivation and health condition of small growers cough average was 50 and standard deviation were 33.29. Hepatitis average 35 and standard deviation were 17.55. TB average 20 and standards deviation were 13.52 (Anwar and Qureshi, 2017).

Educational deprivation and human capital constraints

Similarly education level of small growers in study area. Illiterate average were 33 and standards deviation 16.52. Primary level education average 35 and standard deviation 20.00 (Anwar & Qureshi, 2017). Secondary class average were 12 years and standard deviation 10.59. Matriculation average 15 and standard deviation was 12.58. (Shaikh et al. 2016) Intermediate average education was 18, standard deviation 14.57, graduation category education was 10, and standards deviation was 9.61 (Alkire and Santos, 2014).

Living standards, housing, and asset ownership

Living standard of small growers of district Khairpur Mir's. Pakka house average were 20 and standard deviation 15.00. Kacha house average 90 and standard deviation were 27.83. Own and rented house average 10 and standard deviation were 11.67. Refrigerator average 15 and standard deviation 18.02. Radio average 8, TV average 15, Solar average 120, watch average 60, Gas average 20, Cot average 75, hand pump average 60 and motorcycle average 55 and standard deviation 24.11. Living standard of household consider nit good on the bases of result need more improvement (Ahmed et al., 2020).

Food consumption patterns and nutritional implications

Household food consumption and expenditure level of small growers in study area. wheat flour yearly average cost 28800 rupees, rice cost 7200 rupees, pulses yearly cost 2880 rupees, cooking oil yearly average cost 36000 rupees, sugar average cost 5440 rupees, salt cost 960 rupees (Ahmed et al. 2020). Tea average year cost 21600, egg cost 17280, fruit average cost 12000, vegetables average cost 38400, meat average cost 43200, beef average cost 19200, chicken average cost 33600 rupees, milk average cost 67200 rupees and fish average cost 14400 rupees and standard deviation were 7893.66 (Hussain et al. 2019)

Income, expenditure, and economic vulnerability

Monthly expenditure of household of small growers in study area. Transport average cost were 5000 and standard deviation 2291.29. Education average cost 9000 rupees and standard deviation 3500.00 (Farooqi et al. 2023). Cloths average cost 10000 rupees and standard deviation 3253.20. Medical average cost 6000 rupees and standard deviation 2783.88. Communication average cost 3300 rupees and standard deviation 1509.97. Household maintenance cost average was 5000 and standard deviation 2516.61 rupees on early based counted (Malik, 2014)

Gender dimensions and policy implications

Averagely income of households in study area and table 4.7 indicated that averagely income generated from agriculture were 70000 rupees and standard deviation 27838.82 rupees (Mehmood et al. 2023). Labour average income 35000 and standard deviation 45000 rupees. Wages average earning were 25000 and standard deviation 12767.15 rupees. Service average earning was 55000 rupees and standard deviation were 24556.06. Livestock average earning was 45000 rupees and standard deviation was 24556.06. Handcraft average earning 15000 and standard deviation 11015.14. Business early earning were 5000 and standard deviation were 28571.55 rupees (Rashid and Qureshi, 2022).

Conclusion

- Farmers socioeconomics conditions are not good special in rural area
- Proper nutrients peoples are not tacking in study area
- Lack of awareness seen and need to more work on living standards
- Education status not good in study area
- Lack of sanitation awareness observed in study area

Recommendation/ suggestion for future pathway

- More efforts needed to improve the living standards of people through public–private partnership (PPP) programs.
- Healthcare facilities should be provide in a timely manner in the study area.
- The Multidimensional Poverty Index (MPI) needs further improvement in the study area, as basic facilities are not available to many residents.

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