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Drivers of rural household poverty in Sayed Abad district, Maidan Wardak Province, Afghanistan

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Abstract

Most of Afghanistan's population lives in rural areas where poverty remains a persistent challenge, shaped by conflict, environmental stress, and limited livelihood opportunities. This study examines the factors driving household poverty in two villages, Meli Khel and Tarakhel, in the Sayed Abad district of Maidan Wardak province. Data were collected through a structured questionnaire based on the Likert scale, which was administered to 105 household heads. These were selected using the Cochran formula and a cluster sampling approach to enhance representativeness. A total of 113 questionnaires were distributed to household heads, who were chosen because of their role as breadwinners and their involvement in agriculture. Data analysis was conducted using SPSS version 27. The findings show that prolonged warfare was the factor that exacerbated poverty the most (mean score 4.79), followed closely by climate change and drought (4.65), declining agricultural productivity (4.59), unemployment (4.57), the depletion of groundwater resources (4.51) and widespread illiteracy (4.50). These results highlight how conflict and environmental pressures, combined with limited economic diversification and low educational attainment, perpetuate rural poverty. Policy interventions should prioritise climate-resilient agricultural development, job creation, improved water management and stronger education systems in order to mitigate these interconnected challenges and support the development of sustainable rural livelihoods in Afghanistan.

Keywords: aggravate poverty, climate change, groundwater, illiteracy, rural poverty, unemployment

1 Introduction

Poverty remains one of humanity's most pressing challenges and is central to the global sustainable development agenda (Dong *et al*., 2023). In developing countries, rural poverty is especially severe due to high unemployment, limited income opportunities, and dependence on fragile agricultural systems (Weeks, 2018; Peng *et al*., 2023; Schulte *et al*., 2023). Climate change further compounds these vulnerabilities by reducing agricultural productivity, constraining household consumption, and aggravating food insecurity (Cui *et al*., 2023; Pérez-Uribe & Palacios, 2024). Since agriculture remains the primary livelihood for more than 70 % of the rural poor, improving agricultural productivity is widely regarded as essential for poverty alleviation, even though diversification into non-farm sectors is also necessary (Akpan & Zikos, 2023; Barua *et al*., 2024). In Afghanistan, the challenge is particularly acute. More than half of the population - around 16 million people - live below the absolute poverty line (World Bank, 2020). Agriculture employs 44 % of the labour force and provides income for 60 % of households, yet low agricultural returns, recurrent droughts, groundwater depletion, and conflict have left rural communities highly vulnerable (World Bank, 2021; Dehkordi & Miani, 2021; Miani *et al*, 2022; Miani *et al*., 2023). Welfare systems and rural policies often fail to address these realities, and focusing on agriculture alone has proven insufficient to reduce poverty (Miani & Darwish, 2022; Shucksmith *et al*., 2023; Miani and Dehkordi, 2024). In Maidan Wardak province, poverty rates reached 60.4 % in 2017, with more than 70 % of residents engaged in agriculture (NSIA, 2019). These figures highlight the urgency of understanding the multiple and interlinked drivers of rural

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poverty in Afghanistan. While international research has identified a wide range of poverty determinants – including illiteracy, limited access to water, climate shocks, disability-related expenses, and market fluctuations (Sekhri, 2014; Xia *et al*., 2021; Liao *et al*., 2022; Wibowo *et al*., 2023) – the specific dynamics in Afghan rural contexts remain underexplored. Addressing this gap, the present study investigates the key factors contributing to household poverty in Sayed Abad district of Maidan Wardak province. Specifically, it seeks to answer two questions:

1. What key drivers are worsening poverty among rural households in Sayed Abad district?
2. Which locally feasible strategies could help reduce poverty in these communities?

Fig. 1: *Maidan Wardak Province Map. Source: Afghanistan Analysts Network.*

2 Materials and methods

2.1 Study area

Maidan Wardak, one of Afghanistan's 34 provinces. Located in the central east of the country, it is centred on the city of Maidan Shar, which sits at an altitude of 2210 m a.s.l. The province encompasses a total area of 10,912 km^2, subdivided into eight districts. The majority of its residents, particularly those in rural areas, depend on agriculture for their livelihood. The province is renowned for its substantial agricultural production, including potatoes, beans, wheat, apples, apricots, and pears. It is the country's largest apple producer, exporting apples to Asian countries and several other Afghan provinces. The province experiences a cold, mountainous climate with cold winters and warm, moderate weather in spring and summer. The study was carried out between February and August 2024 in the villages of Meli Khel and Tarakhel in the Sayed Abad district of Maidan Wardak province (Fig. 1). Owing to limited financial resources and the wide geographic dispersion of settlements in the district, the research was restricted to these two villages rather than covering all communities.

2.2 Data collection and analysis

The study population consisted of household heads residing in the villages of Tarakhel and Meli Khel. Because no official population statistics were available, the number of households was estimated in consultation with local stakeholders, resulting in a total of 355 households across both villages. Based on this estimate, the sample size was calculated using Cochran's formula, yielding a minimum requirement of 105 respondents. To enhance robustness, 113 Likert-scale questionnaires were ultimately distributed.

A multi-stage cluster sampling procedure was applied. In the first stage, community leaders were consulted to obtain a household list and facilitate access to the study area. In the second stage, households were selected from this list using a cluster sampling approach. The final sample included both farmers and non-farmers, ensuring representativeness and minimising selection bias.

Because the questionnaire was not a standardized instrument, it underwent a validation process prior to data collection. Academic staff from the Department of Agricultural Economics and Extension at the University of Ghazni reviewed the instrument and provided feedback, which informed its refinement. Reliability was assessed using a pilot test with 32 respondents; the resulting Cronbach's alpha coefficient (0.812) indicated satisfactory internal consistency. The questionnaire covered key dimensions of household-level poverty, including livelihood assets, income and employment sources, access to basic services, exposure to economic and environmental shocks, and coping strategies.

Data were collected through a researcher-assisted questionnaire administration procedure. Respondents provided their own answers, while a researcher was present to read items aloud or clarify instructions when needed, particularly for participants with low literacy levels. No face-to-face interviewing, probing, or interviewer-led questioning took place.

Descriptive statistics and mean analysis were used to examine how the independent variables relate to the dependent variable. These methods allowed for both an overview of the data and a quantitative assessment of variable relationships. All analyses were conducted using SPSS version 27.

3 Results

The survey data indicated that the average age of respondents was 36.6 years, which is considerably higher than the national figure of 17.3 years reported for 2025 (Statbase, 2026). This difference may have reflected local demographic dynamics shaped by migration patterns and regional fertility trends. Household size was also notably large, with families averaging nearly eleven members, consistent with the extended family structures common in rural Afghanistan. Economic conditions appeared strained: average monthly household income was substantially lower than average monthly expenditures, and income levels varied widely across households, reflecting pronounced inequality. Table 1 summarises the demographic and occupational characteristics of the study population.

Table 1: *Sociodemographic and occupational characteristics of respondents (N = 113).*

Variable	*Category*	*Percentage (%)*
Gender	Male	97.3
	Female	2.7
Marital Status	Married	75.2
	Single	24.8
Education	Illiterate	44.2
	Diploma	24.8
	Associate Degree	8.8
	Bachelor	22.1
Job	Government employee	23.9
	Farmer	21.2
	Unemployed	17.7
	Self-employed and others	36.3

Descriptive statistics for age, household size, income, and expenditures are presented in Table 2. These figures showed that households operated under persistent financial pressure, with expenditures regularly exceeding income. The wide range in both income and expenses further illustrated the uneven economic landscape within the district.

Table 2: *Descriptive statistics of respondents' age, family size, income, and expenses (N = 113).*

			Income	*Expenses*
Validation	*Age*	*Family members*	*per month in $*	
Mean	36.61	10.94	242	303
Minimum	16	3	14	74
Maximum	74	28	1482	1333

3.1 Analysis of factors that exacerbate rural poverty

Respondents consistently attributed worsening poverty to a combination of conflict, environmental stressors, and structural socioeconomic challenges. Prolonged conflict and foreign occupation had disrupted livelihoods, reduced employment opportunities, and contributed to long-term socioeconomic instability. Many participants emphasised that the legacy of war continued to shape household vulnerability.

Agriculture remained the dominant livelihood source, yet it was increasingly undermined by climate-related pressures. Recurrent droughts, rising temperatures, and declining groundwater levels had reduced agricultural productivity and increased irrigation costs. These environmental constraints were widely perceived as major drivers of declining household income.

Unemployment also emerged as a critical concern. Limited economic diversification meant that most households depended on seasonal or informal agricultural work, leaving them exposed to fluctuations in labour demand and market prices. Price volatility for agricultural products further weakened household resilience, as farmers often lacked storage or processing facilities that would allow them to sell produce at favourable prices.

Social factors compounded these economic and environmental challenges. High levels of illiteracy restricted access to skilled employment and essential services. Disability – often linked to decades of conflict – further limited economic participation for affected individuals and their families. Rising prices of essential goods and limited access to quality healthcare services placed additional strain on household budgets, increasing reliance on out-of-pocket spending.

Demographic pressures also played a role. The large average household size intensified economic vulnerability, particularly when income growth failed to keep pace with population needs. Table 3 presents respondents' assessments of the severity of these poverty-aggravating factors.

3.2 Ranking of poverty aggravating factors

Thirteen variables were evaluated to determine their relative contribution to poverty in the study area. Past wars were ranked as the most severe factor, underscoring the enduring socio-economic consequences of prolonged conflict. Environmental stressors – particularly climate change, drought, and declining groundwater levels – followed closely, reflecting their direct impact on agricultural livelihoods. Economic pressures such as unemployment, reduced agricultural output, and rising prices of essential goods were also identified as major contributors to poverty.

Social determinants, including illiteracy, disability, and limited access to healthcare, further heightened household

Table 3: *Respondents' Likert-scale ratings of poverty-related factors.*

No	*Question*	*N*	*Very low*	*Low*	*Moderate*	*High*	*Very high*	*Mean*
1	How much have the last 20 years of conflict and war exacerbated poverty?	113	2.7	1.8	0.9	3.5	91.2	4.79
2	How has climate change and drought negatively affected agriculture?	113	3.5	0.9	1.8	15.0	78.8	4.65
3	How much has the reduction of agricultural products had an effect on the increase and aggravation of poverty?	111	0.9	0.0	5.3	26.5	65.5	4.59
4	How much has unemployment contributed to the worsening and expansion of poverty?	112	3.5	2.7	4.4	11.5	77.0	4.57
5	How much has reduced water resources and groundwater affected your quality of life?	113	0.9	1.8	8.0	23.9	65.5	4.51
6	How much has illiteracy impacted your living level and the spread of poverty?	110	4.4	4.4	2.7	12.4	73.5	4.50
7	How much has the increase in food and non-food prices affected your life?	112	0.9	2.7	7.1	27.4	61.1	4.46
8	How much has the fluctuation of prices of agricultural products affected the increase and aggravation of poverty?	111	0.0	1.8	14.2	23.9	58.4	4.41
9	How much has the disability of the head of the family or other family members due to war affected the increase in poverty?	110	10.6	6.2	3.5	17.7	59.3	4.12
10	How much did natural disasters damage your livelihood and how much did they affect the aggravation of poverty?	112	1.8	11.5	15.9	37.2	32.7	3.88
11	How much has limited access to quality health services affected your standard of living and poverty?	111	2.7	3.5	32.7	24.8	34.5	3.86
12	How much has over-reliance on agriculture endangered your life?	109	4.4	5.3	23.9	31.0	31.9	3.83
13	To what extent has the increase in family members led to an increase in poverty?	110	6.2	7.1	34.5	29.2	20.4	3.52

*N = number of respondents who answered the question. Likert scale coded as: 1 = Very low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high. Percentages are rounded to one decimal place; therefore, they may not sum to exactly 100 and may differ slightly from the mean scores computed from raw data.

vulnerability. Although natural disasters, dependence on agriculture, and increasing family size received lower severity scores, they nonetheless contributed to cumulative hardship. The mean value in table 3 summarises the ranking of these factors.

4 Discussion

The data collected for this study confirmed that poverty existed in the targeted communities and that conflicts over the past two decades had significantly worsened this situation. These wars had profoundly affected rural demographics, reducing income streams, limiting employment opportunities, and increasing unemployment rates. Extensive damage to agricultural infrastructure and residential properties had also triggered substantial domestic and international migration. These findings aligned with research by Obrizan (2022) and Kliuchnyk (2023), which emphasised the destructive effects of prolonged conflict on infrastructure and housing. Such damage contributed to job losses and declining livelihoods, pushing many rural residents deeper into poverty. The resulting rural exodus further intensified unemployment in these communities, illustrating the cyclical relationship between conflict, economic decline, and migration.

Climate change and increasing drought frequency had also exacerbated poverty, highlighting the heavy dependence of rural households on agriculture. Climatic variability and persistent drought conditions reduced agricultural productivity and farmer incomes. This decline in production contributed to rising food prices and heightened economic vulnerability, given that agriculture remained the primary livelihood source for most rural households. These findings were consistent with studies by Cheng (2023) and Hien *et al*. (2023),

which demonstrated that droughts severely affected agricultural output, particularly in rain-fed systems. With approximately 71 % of Afghanistan's population living in rural areas, the sensitivity of agriculture to climate shocks had significant implications for both household welfare and national food security.

The reduction in agricultural production had markedly increased poverty and lowered living standards in the surveyed villages. This underscored the urgent need to promote agricultural growth, especially in communities reliant on farming for subsistence. Previous studies (Ogundipe *et al*., 2016; Rehman *et al*., 2019) supported this conclusion, showing that agricultural development reduced poverty by improving income and market access. Unemployment—ranked fourth among poverty-aggravating factors—was closely linked to limited job creation. Villagers experienced absolute, seasonal, and hidden unemployment, often due to agricultural dependency and large household sizes. Supporting literature (Florica & Tünde-Ilona, 2023; Bžanová & Kováč, 2024) similarly noted that unemployment weakened household income and purchasing power, reinforcing poverty cycles.

Groundwater depletion, driven by drought and ineffective management, had severely affected agriculture and rural economies. The need for costly irrigation technologies—often unaffordable for smallholders—rendered otherwise fertile land unproductive. Research by Sekhri (2014) and Adewoyin *et al*. (2016) highlighted the link between falling groundwater levels and rising poverty, emphasising the importance of improved water governance to restore agricultural viability. High illiteracy rates in rural Afghanistan further hindered socio-economic progress, limiting access to employment and essential services. Literacy was identified as the sixth most critical factor exacerbating poverty in this study. Prior research (Etim, 2015; Bukhari *et al*., 2022; Firmansyah *et al*., 2023) similarly demonstrated a strong correlation between low literacy levels and persistent poverty.

Declining rural incomes, population growth, and rising prices of food and non-food commodities had further deteriorated living standards. The increasing cost of essential goods placed substantial financial strain on households, intensifying economic pressures and deepening poverty. This finding aligned with studies examining the impact of food prices on poverty (Cheema *et al*., 2018; Adebola *et al*., 2023; Shabnam *et al*., 2023; Iheonu & Oladipupo, 2024). Price volatility in agricultural products also contributed to rural poverty. During harvest seasons, increased supply often led to lower prices, reducing farmers' earnings. This volatility disproportionately affected households already operating with budget deficits, a pattern consistent with findings by Moncarz *et al*. (2017), Solaymani (2017), Arsyad (2020), and Wibowo *et al*. (2023).

War-induced disability, estimated at 15 % in Afghanistan in 2022, further worsened poverty levels by reducing employment opportunities and increasing living costs for affected individuals. Liao *et al*. (2022) reinforced this conclusion, noting that individuals with disabilities often faced additional expenses related to medical care, assistive technologies, and specialised support services, while experiencing high unemployment rates.

Natural disasters such as agricultural diseases and flooding also posed significant challenges to rural livelihoods. Studies by Lu *et al*. (2022) and Wu *et al*. (2022) demonstrated a strong correlation between natural disasters and increased poverty among rural households, further heightening their vulnerability and undermining economic stability. Afghanistan's rural economy also suffered from disparities in health infrastructure. Approximately 9.5 million Afghans lived in areas lacking essential health services. According to the World Health Organization (2023), high healthcare costs, economic instability, and limited access to quality services contributed to rural poverty and hindered economic development. These findings were consistent with research by Ahmed (2022) and Yang *et al*. (2022), which showed that high out-of-pocket health expenditures pushed many households deeper into poverty.

Overreliance on agriculture increased risks for rural households, exposing them to external shocks and undermining food security. Studies by Anakusara *et al*. (2019) and Eichsteller *et al*. (2022) highlighted that agricultural exclusivity did not necessarily alleviate poverty, as it left communities vulnerable to climatic, market, and environmental disruptions.

Finally, increases in household size without corresponding income growth intensified relative poverty levels. This finding aligned with research by Xia *et al*. (2021) and Mahajan *et al*. (2023), which showed that larger households – particularly those with members facing health challenges – experienced greater financial strain, increasing the likelihood of falling into poverty traps.

5 Conclusion

This study demonstrated that rural poverty in Afghanistan is driven by an intricate interplay of environmental, economic and social factors. Long-term armed conflict, climate change, declining agricultural productivity and unemployment were identified as key contributors to poverty in the surveyed villages. Structural challenges, including ground-

water depletion, illiteracy and limited access to healthcare, further intensified household vulnerability.

To address these issues, the study recommends enhancing agricultural productivity by improving cultivation techniques, educating farmers, and encouraging the adoption of scientific practices. Economic diversification and job creation are also essential in order to reduce dependency on agriculture and mitigate seasonal and hidden unemployment. Improving market infrastructure, such as storage and processing facilities, and access to financial services, can stabilise prices and boost rural incomes. Expanding educational opportunities and supporting individuals with disabilities through targeted programmes is also critical for inclusive and sustainable development.

While the study provided valuable insights, it was limited by respondents' unfamiliarity with the questionnaire process and the absence of precise demographic data, which required estimation by the researchers. Future research incorporating more robust demographic records and longitudinal data would deepen our understanding of the dynamics of rural poverty in Afghanistan.

Conflict of interest

The authors declare that they have no conflicts of interest relevant to the present research.

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