The Correlates of Food Insecurity in Afghanistan

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Contents

Glossary

Food insecurity: When a household's Food Consumption Score is less than 43, they are considered to be facing food insecurity, i.e., their diversity and frequency of consumed food is unacceptable per the World Food Programme's guidelines (see Data subsection I.A in the Appendix for more information). 1

Hunger: When a household's score on the Household Hunger Scale is greater than 1, the household is considered to be facing hunger, a severe form of food insecurity. For instance, hunger experiences include skipping meals or going to bed hungry (see Data subsection I.A in the Appendix for more information). 1

Abstract

In this research, we use data from the 2022 Whole of Afghanistan Assessment to identify key sociodemographic factors related to food insecurity and hunger in Afghanistan. Our findings underscore the multifaceted nature of food insecurity, emphasizing the importance of addressing not only socioeconomic variables but also infrastructure and housing conditions. These identified factors provide crucial information for policymakers and practitioners who want to develop targeted interventions to combat food insecurity and hunger in Afghanistan. Significant factors associated with food insecurity and hunger include female-headed households, household size, presence of children under 12, debt, low income, rural residency, and shelter damage. For instance, female-headed households and those with shelter damage exhibit increased vulnerability. In addition, economic stability plays a vital role, as households with debt or low recent income are more susceptible to food insecurity and hunger. Although rural households demonstrate a lower prevalence, access to basic amenities and infrastructure is strongly associated with food security outcomes. Addressing these factors is essential to effectively mitigate food insecurity and hunger in Afghanistan.

1

Introduction

When writing this research report in the winter of 2023-24, Afghanistan faced unprecedented levels of food insecurity, with millions of Afghans living in precarious conditions. Approximately 13.1 million Afghans (29% of the total population) faced high levels of acute food insecurity in October 2023, with the projected acute food insecurity to increase to 15.8 million (36% of the total population) during the winter lean season, November 2023 through March 2024. [1] **Afghanistan is currently at the highest risk of famine in 25 years, and acute malnutrition has reached serious/critical thresholds in 25 out of 34 provinces.** [2,3] In 2023, two-thirds of Afghanistan's population (28.3 million people) have been in dire need of humanitarian assistance. [4]

Although estimates and projections of country-level food insecurity rates are crucial for timely intervention and aid distribution, understanding the underlying factors that are associated with food insecurity is equally important. **This research report aims to explore the associations between various sociodemographic factors and household food insecurity in Afghanistan, using the nationally representative Whole of Afghanistan Assessment (WoAA) 2022 data, collected during the fall of 2022.** The WoAA is a cross-sectional household-level data, initiated by REACH Afghanistan.[1] Alongside food insecurity, this report also explores the associations between sociodemographic factors and household hunger, a severe form of food insecurity.

As correlational studies allow for the exploratory analysis of multiple factors simultaneously, this research aims to capture the complexity of real-world context in Afghanistan and provide evidence-based information on various factors influencing food insecurity. Such research can inform policy development and intervention strategies, where tailored interventions could address the specific needs of vulnerable populations.

This research report is timely for two main reasons. First, without an understanding of the factors associated with food insecurity in Afghanistan, it is challenging to systematically investigate and address food insecurity. Second, this report should help anyone involved in combating food insecurity in Afghanistan to be more targeted in their efforts. Given funding shortfall, the World Food Programme (WFP) cannot reach everyone, where 10 million Afghans must survive without the support of the WFP from October 2023 onward. [5] In Afghanistan's

[1] Please see appendix for more details on WoAA 2022.

current dire circumstances, women and children face the highest risk of malnutrition. With limited funding, chronic drought, and high unemployment, it is crucial to be efficient in aid efforts, so aid may flow where it is needed the most.

When working on this research report, the WoAA 2022 provided the latest household-level data on food insecurity. Choosing to focus on 2022 data was deliberate as it provides insight into food insecurity during a period when Afghans were somewhat adjusted to the post-US withdrawal era.[2] In the early months after the US withdrawal from Afghanistan, the country went through an economic shock that affected businesses and jobs, exacerbating food insecurity.[6]

Table 1.1 presents the summary statistics of the outcome variables and sociodemographic variables (factors) that we consider in this research report. We group sociodemographic variables into four categories to facilitate the presentation of our results in the following sections of the report.

In our study of food insecurity in Afghanistan, we delved into a myriad of sociodemographic factors to paint a comprehensive picture of the challenges faced by households. Let's closely examine the summary statistics presented in Table 1.1.

Alarmingly, we find that **nearly 79% of Afghan households experienced some level of food insecurity in the fall of 2022**, highlighting the widespread nature of this issue. Furthermore, **approximately 36% of the households reported experiencing hunger**, underscoring the urgent need for interventions.

Among factors related to household composition, we find that the average age of household heads is around 45 years, approximately a quarter of households are led by females, the average household size is 6.59 members, and a staggering 76% of households have children below 12 years old. **These statistics indicate the pivotal role that older Afghans play in household decision-making, with gender dynamics being important in household decisions.** Many Afghan households are large and likely face challenges related to resource allocation, especially considering the presence of vulnerable groups like young children.

Among factors related to household residency and migration status, only a negligible percentage identified as refugees, 14% reported being internally displaced, and 3% identified as returnees. Most households (74%) reside in rural areas, where access to resources and services may be more limited compared to urban settings.

Among economic factors, **a substantial proportion of households reported lower-than-usual income in the past 30 days (71%) and having debt (72%), highlighting the financial strain faced by many Afghan families.** Nearly all households

[2]The United States completely withdrew from Afghanistan on August 20, 2021.

(92%) have at least someone engaged in outside employment. However, only 10% of households reported working at home, suggesting potential challenges in generating income within the household. **A significant share of households (64%) received humanitarian aid**, which could alleviate some of the financial burdens. Most households prefer receiving assistance in the form of cash (68%). About a quarter of households prefer receiving assistance in the form of in-kind food. **Only 36% of households know how to access humanitarian aid**, suggesting lower levels of aid-accessbility knowledge.

In terms of availability of resources, **23% of households do not have access to markets**. On average, it takes about 41 minutes (0.68 $\times$ 60 minutes) to get to a functional market. This highlights the importance of considering transportation and infrastructure development to ensure adequate access to markets in Afghanistan. It takes about 11 minutes and 52 minutes to get to a water and health facility, respectively. Most households have mobile coverage (86%). Furthermore, around one-fifth of households reported significantly damaged shelters, highlighting the precarious living conditions faced by many Afghans. On a positive note, **the majority of households have access to basic amenities** such as kitchen sets (83%), heating devices (46%), and water storage (60%), essential for food preparation and storage.

In the following four sections, we will discuss the associations of sociodemographic variables with food insecurity in Afghanistan. Furthermore, the first three sections will discuss households' experience of shocks, reduced-food coping mechanisms, priority needs, and access to resources. Each of these sections will conclude with specific policy recommendations.

Table 1.1: Summary Statistics

Category	Variable (Factor)	Mean
Outcomes	Household Food Insecure (Yes=1)	0.79
	Household Facing Hunger (Yes=1)	0.36
Household Composition	Age of Household Head	44.73
	Female Head of Household (Yes=1)	0.24
	Household Size	6.59
	Have Kids below 12 Years (Yes=1)	0.76
Residency and Migration	Refugee (Yes=1)	0.002
	Internally Displaced People (Yes=1)	0.14
	Returnee (Yes=1)	0.03
	Rural (Yes=1)	0.74
Economics	Lower than Usual Income (Yes=1)†	0.71
	Household has Debt (Yes=1)	0.72
	Household Members have Outside Employment (Yes=1)†	0.92
	Household has Home Employment (Yes=1)†	0.1
	Humanitarian Aid Received (Yes=1)†	0.64
	Cash as Preferred Method of Assistance (Yes=1)	0.68
	In-kind Food as Preferred Method of Assistance (Yes=1)	0.26
	Know How to Access Aid (Yes=1)	0.36
Availability of Resources	Have No Access to Market (Yes=1)	0.23
	Time to Market in Hours	0.68
	Time to Water Facility in Hours	0.19
	Time to Health Facility in Hours	0.87
	Household Has Mobile Coverage (Yes=1)	0.86
	Shelter Significantly Damaged (Yes=1)	0.19
	Household Has Kitchen Sets (Yes=1)	0.83
	Household Has Heating Devices (Yes=1)	0.46
	Household Has Water Storage (Yes=1)	0.6
	Male of Female Members Feeling Hopeless (Yes=1)	0.38

Note: Sample weights used to represent national-level estimates. The variables with the † sign refer to the variable status of the household in the last 30 days from the interview day. The binary variables are indicated by (Yes = 1) in front of them and their mean values represent percentages when multiplied by 100, i.e., food insecurity is at 79% (0.79×100).

2

Household Composition

In this section, we present results on household composition factors that are associated with food insecurity and hunger.[3][4] Our analysis reveals gender disparity in the prevalence of food insecurity and hunger, with female-headed households disproportionately affected. **Female-headed households exhibit an approximately 8 percentage points (p.p.) higher likelihood of experiencing food insecurity and a striking 20 p.p. higher likelihood of suffering from hunger compared to their male-headed counterparts** (see table I.1). The prevalence of food insecurity and hunger among male-headed households is at 77% and 32%, respectively (see figures 2.1 and 2.2).[5] These results suggest potential inequalities in terms of socioeconomic status and access to resources that can contribute to increased vulnerability among female-headed households. Addressing underlying disparities would require interventions that would promote women's empowerment through better access to resources and economic opportunities.

Regarding the size of the household and the presence of children under 12 years of age, our analysis finds that the structure of the household has a meaningful association with food security outcomes. While an increase in household size by one member is associated with a modest decrease in food insecurity of 1 p.p., **households with children below 12 years old exhibit a pronounced increase in both food insecurity and hunger**, with approximately 5.4 p.p. and 5.2 p.p. higher likelihoods, respectively, compared to households without young children. It should be noted that even households without kids have a higher prevalence of food insecurity and hunger at 75% and 32%, respectively. The increased vulnerability of households with children may stem from additional economic burdens associated with childcare and disruptions to household routines caused by caregiving responsibilities. Furthermore, larger households may face challenges in adequately meeting the nutritional needs of all members, particularly during periods of economic instability or resource scarcity. Policies targeting vulnerable households should take into account the unique challenges faced by families with children and provide targeted support to address their specific needs.

Additional analysis of household experiences with shocks highlights the prevalence of environmental, economic, and conflict-related challenges facing Afghan households (see table

[3]For estimates of marginal effects based on logit regression, please see table I.1 in the appendix subsection I.C.

[4]We do not find any association between age of household head and food security outcomes.

[5]The estimates in figures 2.1 and 2.2 are accompanied by a 95% confidence interval.

2.1). **Drought emerges as the most prevalent shock in 2022, affecting 64% of households, followed by economic instability, which affects 54% of households.** In particular, women-headed households exhibit a lower prevalence of drought experience (56%), but a higher prevalence of economic shock (57%) and conflict experience (6%) compared to male-headed households (67%, 53%, and 5%). These results suggest that female-headed households may have limited access to alternative sources of income or social support networks, making them more susceptible to economic shocks and conflict-related disruptions.

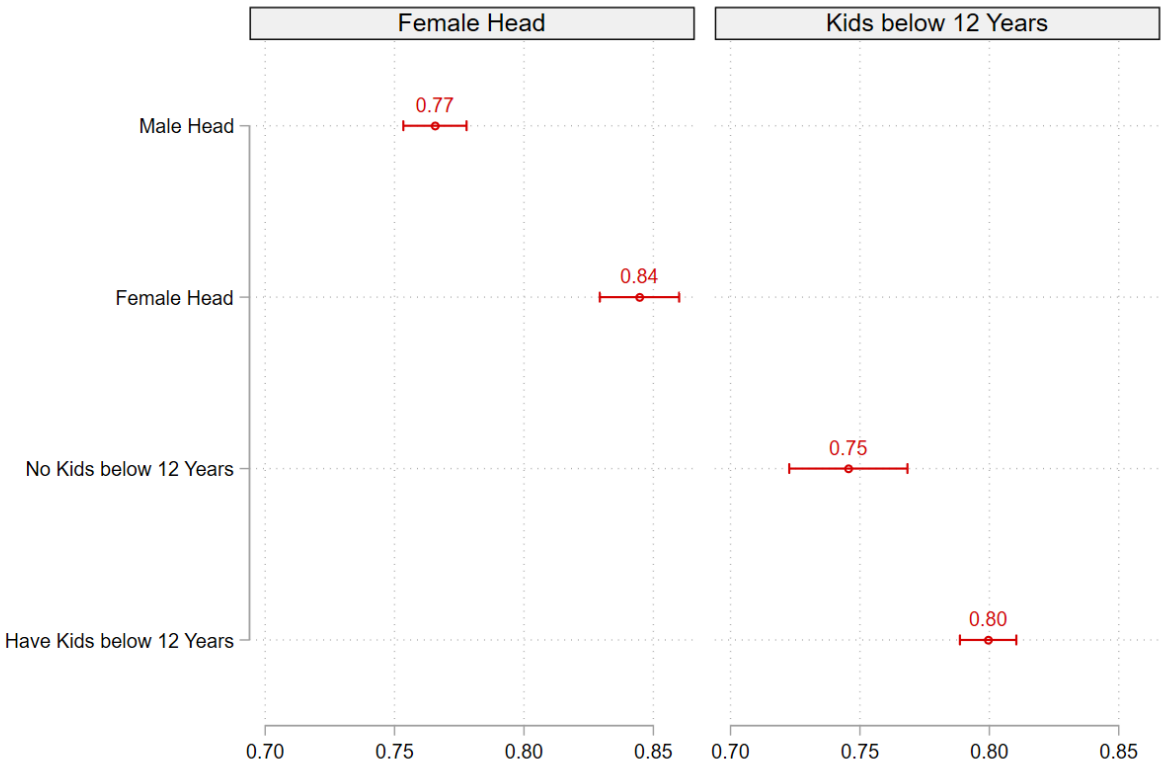

Figure 2.1: Prevalence of Food Insecurity by Household Head and Having Kids

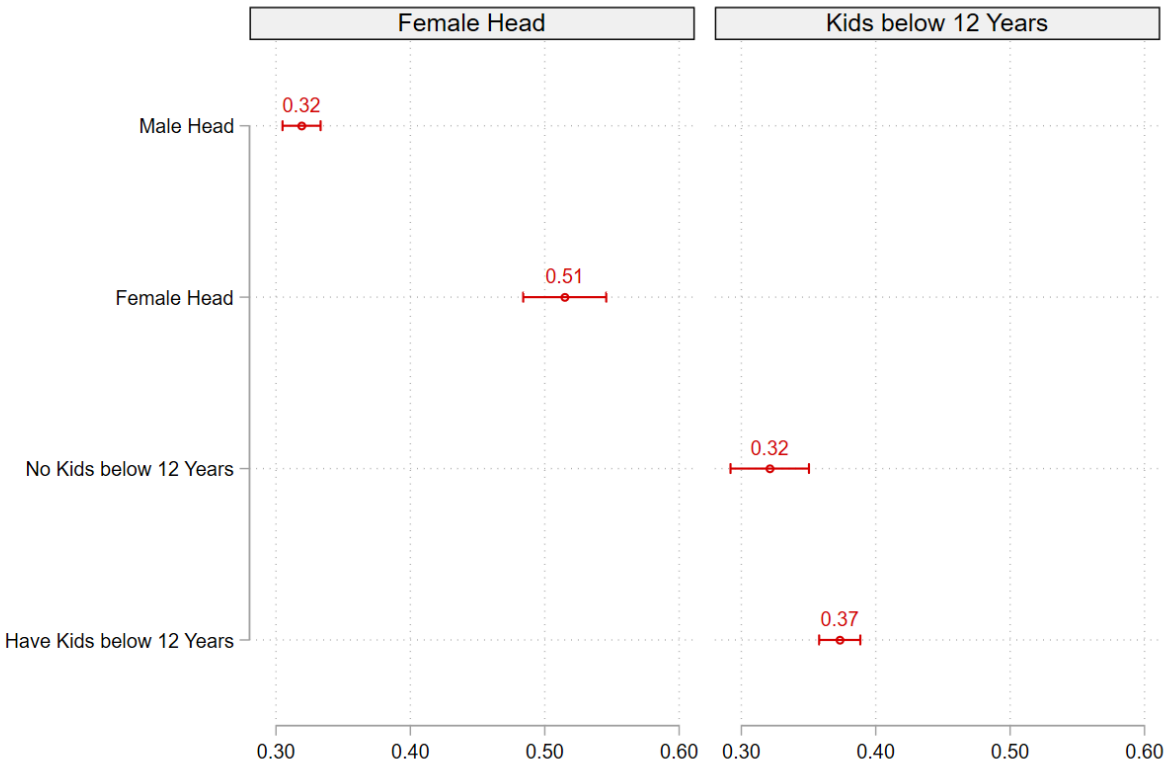

Figure 2.2: Prevalence of Hunger by Household Head and Having Kids

Among household needs, food emerges as the top priority need for most Afghan households, reflecting the urgent need for food assistance programs in the fall of 2022 (see table 2.2). Female-headed households and those with children exhibit a higher prevalence of food needs compared to male-headed households and households without children (see table 2.2). However, male-headed households and those without children prioritize healthcare and employment needs, indicating various household priorities that require targeted interventions. The different priorities between various types of households underscore the complexity of household needs. Female-headed households may prioritize immediate food security due to limited financial resources, while male-headed households may focus on longer-term health and employment-related concerns. Tailoring assistance programs to address the diverse needs of different types of households is essential to ensure that vulnerable populations receive appropriate support and resources.

Concerning reduced-food coping strategies, we observe that **female-headed households and those with children (under 12 years of age) employ a range of strategies at a higher prevalence relative to male-headed households and households without children** (see table 2.3). These strategies include consuming less preferred food, borrowing food, limiting meal portions, saving food for kids, and reducing the number of meals eaten in a day. The adoption of coping strategies reflects the adaptive responses of households to food insecurity and resource constraints. If female-headed households and those with children were

to face additional challenges in accessing resources and support networks, it could lead to the adoption of even more severe coping strategies. Addressing food insecurity necessitates not only immediate food assistance but also longer-term interventions aimed at building household resilience and enhancing livelihood opportunities.

Concerning access to resources, **the limitations in access to information and market barriers pose additional challenges for households in Afghanistan, thereby restricting their ability to access essential resources for livelihood management** (see table 2.4). While there is a demand for information on food assistance among most households (83%), barriers such as high prices for food and non-food items disproportionately affect households with children and larger family sizes. This suggests that limited access to information and price-based market barriers exacerbate the challenges faced by vulnerable households, particularly those with limited resources. **Female-headed households also face additional barriers relative to male-headed households, such as mobility constraints when accessing functional markets.** The lack of access to markets is concerning because it limits the ability of households to access affordable and nutritious food. Addressing information and market access barriers would require interventions aimed at improving information dissemination and improving market infrastructure.

Table 2.1: Prevalence of Shock Experiences (%)

	Drought	Conflict	Economic
Male-headed households	66.56	4.7	53.36
Female-headed households	55.89	5.8	56.87
Have no kids below 12 years	60.42	4.86	56.47
Have kids below 12 years	65.14	4.99	53.49
Total	64.01	4.96	54.2

Note: Sample weights used to represent national-level estimates.

Table 2.2: Prevalence of Priority Needs (%)

	Food	Healthcare	Employment
Male-headed households	90.44	48.25	56.46
Female-headed households	92.9	44.93	49.77
No Kids below 12 Years	89.5	51.85	56.81
Have Kids below 12 Years	91.51	46.08	54.26
Total	91.03	47.46	54.87

Note: Sample weights used to represent national-level estimates.

Table 2.3: Prevalence of Reduced-Food Coping Strategies (%)

	Eat Less Preferred Food	Borrow Food	Limit Meal Portions	Save Food for Kids	Reduce Number of Meals
Male-headed households	93.12	73.2	59.66	44.73	46.72
Female-headed households	96.7	79.02	73.06	59.02	60.24
No Kids below 12 Years	91.45	68.78	55.64	36.13	43.53
Have Kids below 12 Years	94.77	76.41	65.12	51.9	51.95
Total	93.98	74.59	62.86	48.14	49.94

Note: Sample weights used to represent national-level estimates.

Table 2.4: Prevalence of Access to Resources (%)

	Food-Livestock Price Information Needed	Food Aid Information Needed	Market Barrier: High Prices	Market Barrier: Mobility
Male-headed households	15.34	82.88	84.47	26.46
Female-headed households	10.34	81.51	85.11	31.05
No Kids below 12 Years	14.79	83.19	80.68	25.21
Have Kids below 12 Years	13.95	82.35	85.86	28.29
Total	14.15	82.55	84.62	27.55

Note: Sample weights used to represent national-level estimates.

Policy Recommendations:

1. Targeted Support for Female-Headed Households: Implement programs and initiatives specifically tailored to address the needs of female-headed households, including access to affordable food, livelihood support, and social protection measures.

2. Investment in Social Safety Programs: Design social safety programs to provide assistance to vulnerable households, particularly those with children and larger household sizes, to mitigate the impact of food insecurity and hunger.

3. Enhanced Information Dissemination: Improve communication channels to provide timely and accurate information on food assistance and market prices to households, with a focus on addressing the information needs of diverse household types.

4. Addressing Market Access Barriers: Reduce market access barriers, such as high prices for food and non-food items, by promoting market competition, enhancing transportation infrastructure, and supporting income-generating activities.

3

Residency and Migration

This section discusses the results regarding the association of residency and migration factors with food insecurity and hunger.[6] In figure 3.1, we illustrate that the prevalence of food insecurity is fairly high among refugees, internally displaced persons (IDPs), returnees, and rural households at 73%, 78%, 78%, and 76% respectively. The prevalence of hunger is 27%, 33%, 23%, and 32%, respectively (see figure 3.2). While there is no significant difference in overall food insecurity between refugee and non-refugee households, there is a notable difference in the prevalence of hunger. **Refugee households are 9.3 p.p. less likely to face hunger compared to non-refugee households, suggesting potential differences in coping mechanisms or access to resources.** Similarly, IDPs and returnee households are 3.4 p.p. and 13.1 p.p. less likely to face hunger compared to non-IDPs and non-returnee households. **The relatively lower prevalence of hunger among refugees, IDPs, and returnees compared to their counterparts, may be attributed to various factors such as access to humanitarian assistance or social support networks.** Refugee households, for instance, may benefit from aid programs aimed at addressing their specific needs, while returnee households may have access to support mechanisms upon reintegration. Understanding the drivers behind these disparities is essential for designing effective interventions and support mechanisms.

Our analysis reveals significant disparities in food insecurity and hunger between rural and urban households. **Rural households exhibit lower levels of food insecurity and hunger, with differences of approximately 11 and 15 percentage points, respectively, compared to urban households.** Disparities in food insecurity and hunger may arise from differences in livelihood strategies, access to agricultural resources, and exposure to environmental and economic shocks. The general understanding is that rural households are more vulnerable than urban households. However, the results of this investigation present a different picture of the vulnerability of rural households regarding food. Rural households, which may rely more heavily on subsistence agriculture and traditional coping mechanisms, may exhibit greater resilience to food insecurity risks compared to urban households, which are more dependent on market-based food access. However, it should be noted that rural areas may face challenges in other areas, for instance, limited access to healthcare, education, and infrastructure, which could exacerbate vulnerabilities in other aspects. **It is at least**

[6] For estimates of marginal effects based on logit regression, please see table I.1 in the appendix subsection I.C.

obvious that addressing rural-urban disparities in food security requires focusing on both agricultural and non-agricultural livelihood opportunities.

Our analysis also shows that the prevalence of environmental, economic, and conflict-related shocks varies depending on whether households are refugees, IDPs, or rural. **Refugee households, for instance, exhibit a higher prevalence of economic shocks and conflict experience**, highlighting their increased vulnerability to external shocks (74% and 6% relative to 54% and 5%, see table 4.1). Refugee households, which may lack access to stable employment opportunities and face social exclusion, are particularly susceptible to economic shocks. Economic shocks also hit IDP and returnee households unevenly compared to non-IDP and non-returnee households. Meanwhile, **rural households have a much higher prevalence of drought shock at 73% compared to 40% of urban households.** Rural households may face increased risks due to their dependence on rainfed agriculture and exposure to environmental hazards. On the contrary, urban households have a slightly higher prevalence of economic shock experience at 56% compared to 54% of rural households. **These results show that strengthening resilience to shocks requires targeted interventions, which should consider the residency and migration status of households.** The improved resilience of households could protect them against food insecurity episodes.

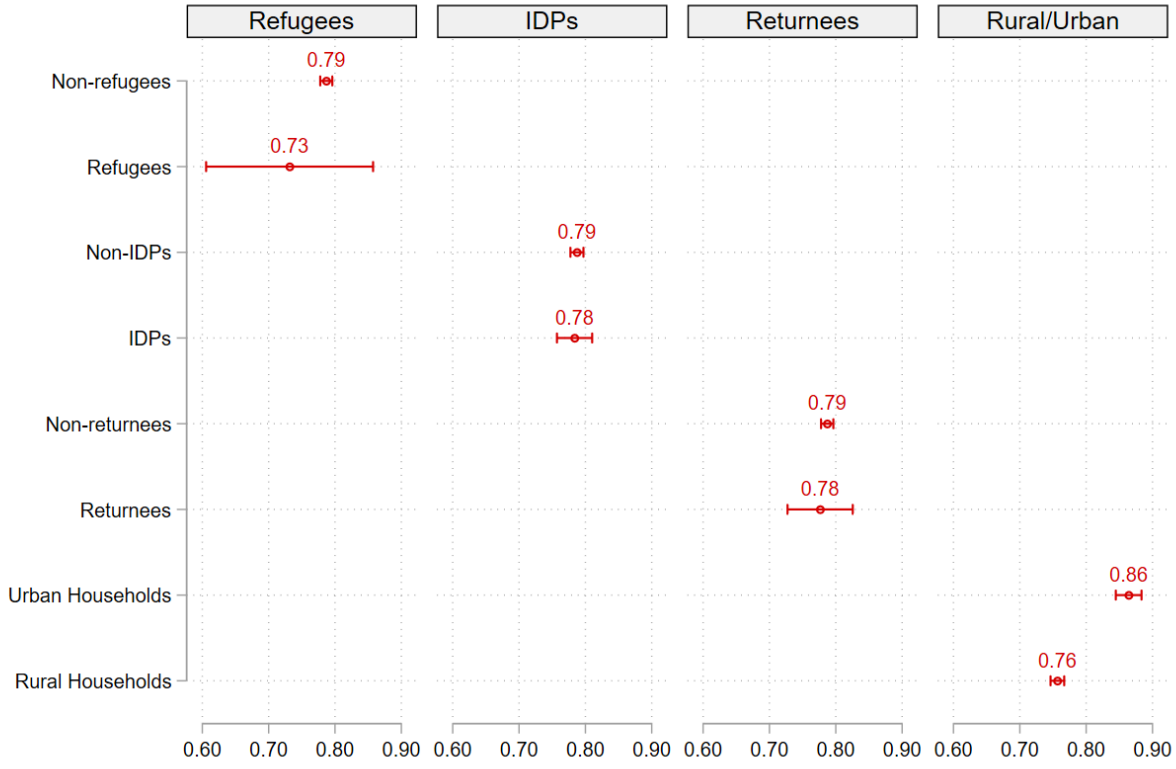

Figure 3.1: Prevalence of Food Insecurity by Residency and Migration

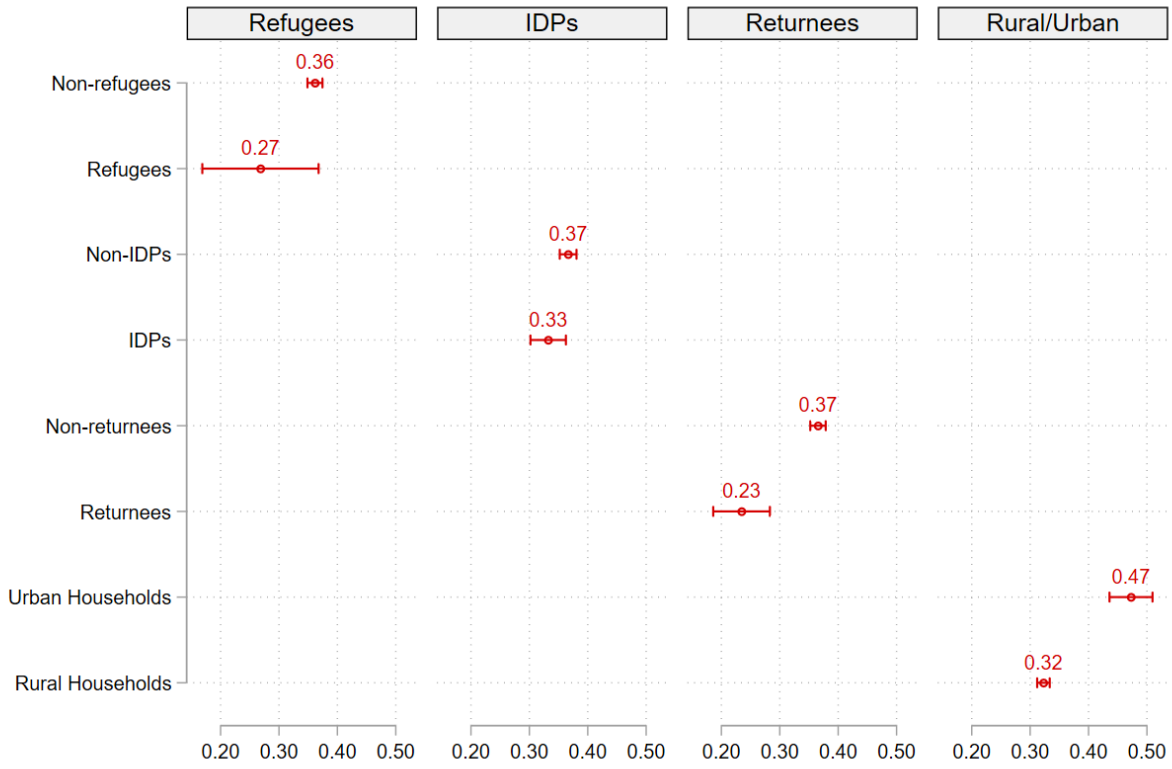

Figure 3.2: Prevalence of Hunger by Residency and Migration

The prevalence of food as a priority need remains consistently high around 91%, regardless of the displacement status of households or their rural-urban residency status (see table 4.2). However, in terms of healthcare as a priority need, there are notable differences between various household groups. Refugees, non-IDPs, and rural households exhibit a higher prevalence of healthcare as a priority need, ranging from 48% to 65%, compared to non-refugees, IDPs, and urban households, where the prevalence ranges from 36% to 47%. This suggests that accessibility and quality of healthcare might be more challenging for households in vulnerable settings, requiring targeted interventions by residency and migration status. Similarly, in terms of employment as a priority need, non-refugees, non-IDPs, non-returnees, and urban households demonstrate a higher prevalence of employment as a priority need, ranging from 55% to 75%, compared to refugees, IDPs, returnees, and rural households, where the prevalence ranges from 23% to 50%. These results highlight the importance of implementing policies and programs that could improve job opportunities and economic stability, particularly in urban and non-displaced communities.

In table 4.3, we present the five different reduced-food coping strategies by household residency and migration status. Interestingly, non-refugee households exhibit a higher prevalence (94%) of considering less preferred or less expensive food compared to refugee households (88%). In contrast, refugees are more inclined to borrow food (80%) than non-refugee households (75%). These findings suggest that refugee households, potentially

unfamiliar with the local food landscape and pricing dynamics in Afghanistan, might prefer the borrowing of food as a coping mechanism. Furthermore, non-refugee households demonstrate a higher prevalence of limiting meal portions (63%) compared to refugee households (49%), as well as non-returnee households compared to returnees (63% vs. 54%) and urban households relative to rural ones (67% vs. 61%). Non-refugee households (48%) are more likely to restrict food consumption by adults to save for children compared to refugee households (32%). Similarly, the prevalence of reducing the number of meals eaten in a day is substantially higher among non-refugee households (50%) compared to refugee households (21%). **More research is needed to explore why refugees and returnees have a lower prevalence of engaging in food coping strategies compared to their counterparts. It is possible that the availability of humanitarian aid for refugees and returnees, or possession of assets upon return, plays a role in protecting refugees and returnees against food insecurity.**

When examining the need for resources, it is evident that 83% of non-refugee households express a need for information on food assistance, compared with 67% of refugee households (see table 4.4). This provides evidence that refugee households already have access to food assistance programs to some extent. Meanwhile, both urban and rural households demonstrate a similar level of information need, with approximately 83% of households in both settings expressing a need for information on food assistance. Regarding market access barriers, **a higher proportion of refugee households (91%) perceive the prices of food and non-food items to be prohibitively high compared to 85% of non-refugee households.** However, non-refugee households are more likely to identify mobility as a barrier to market access, with 28% reporting this concern compared to 16% of refugee households. **Not surprisingly, rural households face greater mobility challenges, with 34% perceiving it as a market access barrier, in contrast to 8% of urban households**. Both information and market access are crucial for accessing food; therefore, food security programs should focus on the dissemination of food-related information and making market access feasible for every household.

Table 3.1: Prevalence of Shock Experiences (%)

	Drought	Conflict	Economic
Non-refugees	64.1	4.96	54.16
Refugees	24.35	6.36	74.33
Non-IDPs	64.21	4.88	53.14
IDPs	62.82	5.43	60.79
Non-returnees	63.88	4.97	53.79
Returnees	68.53	4.56	68.04
Urban Households	39.61	3.79	56.21
Rural Households	72.54	5.37	53.5
Total	64.01	4.96	54.2

Note: Sample weights used to represent national-level estimates.

Table 3.2: Prevalence of Priority Needs (%)

	Food	Healthcare	Employment
Non-refugees	91.03	47.42	54.93
Refugees	92.06	65.45	23.25
Non-IDPs	90.7	48.13	56.39
IDPs	93.09	43.3	45.43
Non-returnees	91.02	47.38	55.01
Returnees	91.42	49.98	50.04
Urban Households	93.03	35.71	75.19
Rural Households	90.33	51.57	47.76
Total	91.03	47.46	54.87

Note: Sample weights used to represent national-level estimates.

Table 3.3: Prevalence of Reduced-Food Coping Strategies (%)

	Eat Less Preferred Food	Borrow Food	Limit Meal Portions	Save Food for Kids	Reduce Number of Meals
Non-refugees	93.99	74.58	62.89	48.17	50
Refugees	87.72	79.6	49.14	31.55	20.97
Non-IDPs	94.15	74.28	62.51	47.82	49.48
IDPs	92.86	76.53	65	50.11	52.82
Non-returnees	94.14	74.65	63.11	48.25	50.16
Returnees	88.64	72.73	54.46	44.46	42.81
Urban Households	94.57	73.58	66.86	45.53	50.11
Rural Households	93.77	74.94	61.46	49.05	49.89
Total	93.98	74.59	62.86	48.14	49.94

Note: Sample weights used to represent national-level estimates.

Table 3.4: Prevalence of Access to Resources (%)

	Food-Livestock Price Information Needed	Food Aid Information Needed	Market Barrier: High Prices	Market Barrier: Mobility
Non-refugees	14.15	82.58	84.61	27.58
Refugees	12.41	66.65	91.09	16.38
Non-IDPs	14.55	82.28	84.23	27.51
IDPs	11.67	84.19	87.05	27.85
Non-returnees	14.26	82.56	84.52	27.46
Returnees	10.51	82.31	88.11	30.62
Urban Households	12.55	83.32	83.94	7.88
Rural Households	14.71	82.28	84.86	34.43
Total	14.15	82.55	84.62	27.55

Note: Sample weights used to represent national-level estimates.

Policy Recommendations:

1. Enhance Economic Opportunities: Implement programs aimed at providing economic opportunities, income generation, and diversification of livelihoods for vulnerable populations, particularly those in urban areas.

2. Strengthen Social Protection Mechanisms: Develop and expand social protection mechanisms, including cash transfer programs and food assistance initiatives, to support households at risk of food insecurity and hunger, with a focus on refugees, IDPs, and rural households.

3. Promote Sustainable Agriculture: Support sustainable agriculture practices, water management initiatives, and environmental conservation efforts to enhance resilience to environmental shocks and mitigate the impacts of drought for rural households.

4. Conduct More Research: Conduct further research to understand why reduced-food coping strategies are relatively less prevalent among rural households, refugees, and returnees compared to their counterparts.

4

Economic Factors

This section presents the results regarding the association of household economic factors with food insecurity and hunger.[7] In figure 4.1, we see that the prevalence of food insecurity is relatively higher among households with lower than usual income in the last 30 days (80%) compared to households with usual income in the last 30 days (74%). In figure 4.2, households with a lower than usual income also have a higher prevalence of hunger (38%) compared to households with usual income (32%). **Essentially, households that have had a lower than usual income in the last 30 days are significantly more vulnerable to food insecurity.** Specifically, these households are 6.2 p.p. (6 p.p.) more likely to experience food insecurity (hunger) compared to households with usual income. The underlying reason for the association between lower income and food insecurity could be attributed to limited purchasing power, restricting access to sufficient and nutritious food. As a solution, income support programs can provide direct relief to households facing economic hardship, enabling them to meet their basic needs, including food.

In our analysis, we find significant disparities in food insecurity and hunger between households with debt versus those without debt. **Debt-free households exhibit a lower prevalence of food insecurity (69%) and hunger (19%) when compared to households with debt at 82% and 43%, respectively.** Specifically, the prevalence of food insecurity was 13.1 p.p. higher among debt-bearing households. Similarly, the prevalence of hunger was substantially elevated, with households with debt 24.1 p.p. more likely to experience hunger. These results show a strong association between household debt and food insecurity. The high prevalence of food insecurity among households with debt suggests that debt obligations can divert scarce financial resources away from food expenditures. By releasing households of debt, they can allocate more resources toward purchasing food, reducing their vulnerability to food insecurity and hunger.

Our analysis shows that while home employment appears to offer some protection against food insecurity, it does not necessarily mitigate hunger. Households engaged in home employment are 3.2 p.p. less likely to be food insecure compared to those without home employment. Meanwhile, there is no significant difference in the prevalence of hunger between those with home employment versus those without home employment. We also find

[7] For estimates of marginal effects based on logit regression, please see table I.1 in the appendix subsection I.C.

that having outside employment has no significant association with food insecurity or hunger. **Home employment may offer a relatively stable source of income that protects against food insecurity. However, income from home employment is probably insufficient, which is why we see that home employment does not protect against hunger.** This calls for further investigation to check whether home employment could be supported with skills training, better market opportunities for trade, and access to credit.

Contrary to expectations, the aid received in the last 30 days is not associated with reduced food insecurity or hunger. This suggests that aid programs may not be enough to address food insecurity or hunger among vulnerable households. Given this finding, we also examined the association of household preferences for in-kind food aid with food insecurity or hunger. **Preference for in-kind food aid is positively associated with food insecurity, but not with hunger.** Specifically, households that prefer in-kind food aid are 6.8 p.p. more food insecure compared to those who do not prefer in-kind food aid. We also find that the preference for cash transfers is not associated with food insecurity or hunger. The preference for in-kind food aid among food-insecure households calls for a better match of the type of aid with household needs. These findings indicate that knowing the preferences of households for the type of aid can reveal their levels of food insecurity, where such information could be helpful to aid organizations.

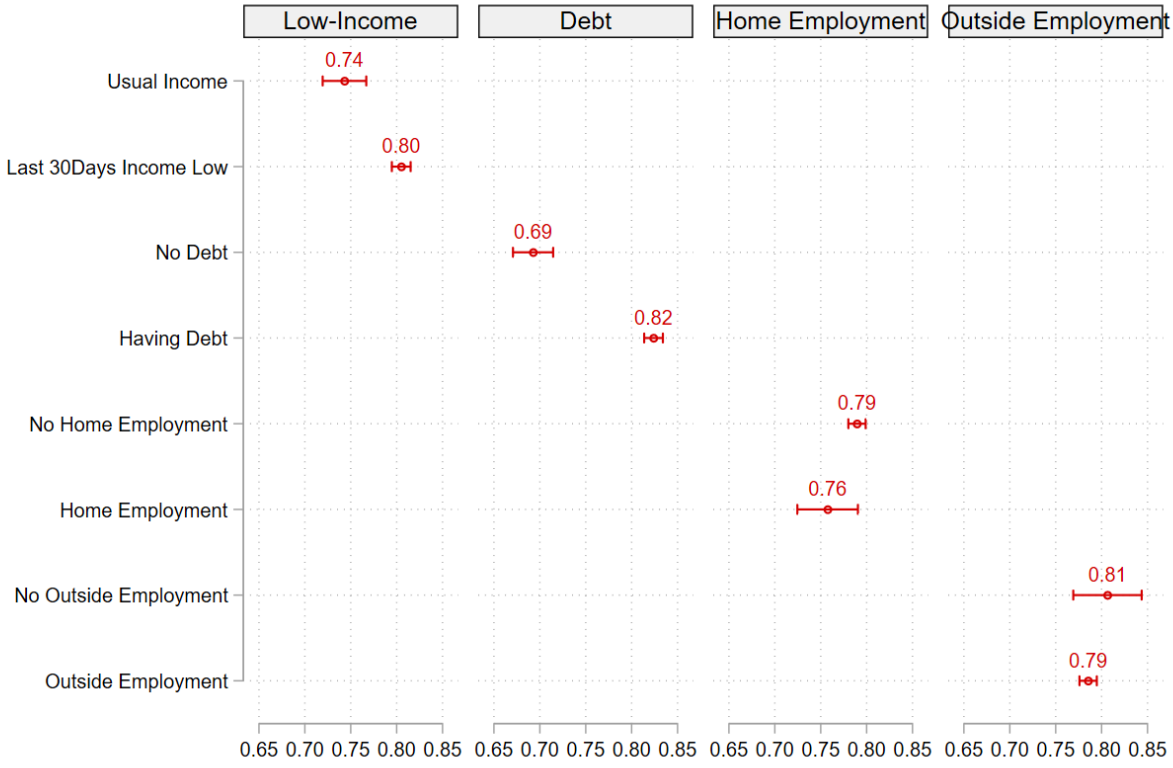

Figure 4.1: Prevalence of Food Insecurity by Economic Factors

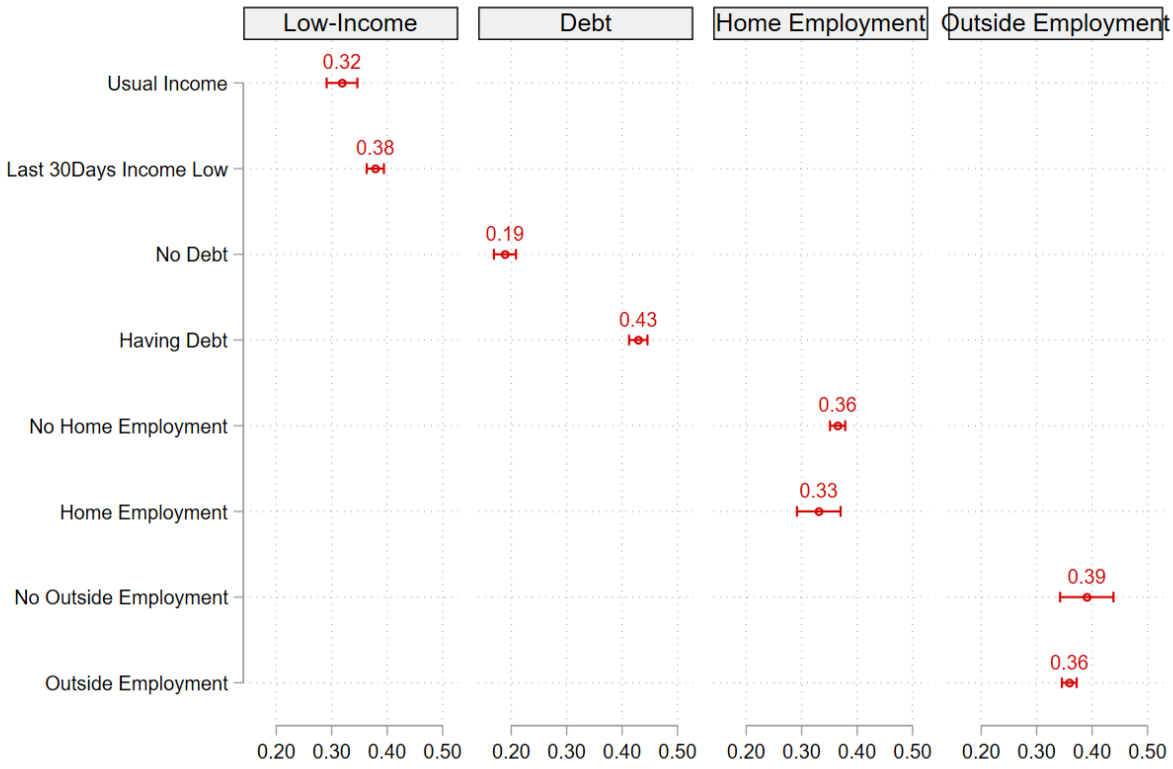

Figure 4.2: Prevalence of Hunger by Economic Factors

Regarding shock experiences, relative to households with usual income, those experiencing lower than usual income have a higher prevalence of drought and economic shock experiences at about 68% and 59%, respectively (see table 4.1). Similarly, **households with debt are more exposed to economic shocks at approximately 56% compared to households without debt (51%).** Households with employment opportunities are more exposed to drought and economic shocks (65% and 55%), relative to households with no outside employment (62% and 51%). However, households that have outside employment are less exposed to conflict shocks (4%) compared to households without outside employment (11%). These results suggest that there is an opportunity to invest in programs aimed at building economic resilience among vulnerable households. **Programs focused on skills training, entrepreneurship, and diversification of income sources can enhance households' resilience to economic and drought shocks, thereby reducing their reliance on external assistance.**

In table 4.2, we explore the prevalence of different priority needs in households by their income, debt, and employment status. **Households with debt have a higher prevalence of need for food (93%) compared to those without debt (87%).** Interestingly, households with debt have a lower prevalence of healthcare needs (46%) compared to households without debt (51%), suggesting that households with debt could be taking on debt for their healthcare needs. Furthermore, households without outside employment opportunities have a higher prevalence of need for healthcare (53%) compared to those who have outside employment (47%).

Based on these results, **an integrated approach that combines food aid, healthcare services, and employment support could be particularly effective for improving the quality of life for vulnerable populations.**

In table 4.3, we present the five different reduced-food coping strategies by household economic factors. Compared to households with usual income, households with less than usual income have a higher prevalence of borrowing food (77% vs. 68%), limiting meal portions (64% vs. 60%), restricting food consumption by adults to save for kids (50% vs. 43%), and reducing number of meals eaten in a day (51% vs. 48%). Meanwhile, compared to households without debt, households with debt engage in various food coping strategies at a higher rate: considering less preferred or less expensive food (97% vs. 87%), borrowing food (85% vs. 48%), limiting meal portions (67% vs. 53%), restricting food consumption by adults to save for kids (51% vs. 40%), and reducing number of meals eaten in a day (52% vs. 44%). Relative to households that do not have outside employment opportunities, households that have outside employment opportunities have a higher prevalence of considering less preferred or less expensive food (95% vs. 87%); lower prevalence of limiting meal portions (62% vs. 70%); lower prevalence of restricting food consumption by adults to save for kids (47% vs. 57%); and lower prevalence of reducing the number of meals eaten in a day (50% vs. 55%).

To alleviate severe food hardship among low-income, high-debt, and unemployed groups, targeted interventions could include expanding access to food aid, implementing debt relief and financial counseling programs, and employment opportunities with job training. Perhaps, fostering social support networks among vulnerable groups could contribute to their longer-term stability.

Regarding the need for resources, 84% of households with lower than usual income and those with debt express a need for information on food assistance (see table 4.4). In a similar vein, 16% of households with debt need information on prices of food and agricultural commodities relative to 10% of households with no debt. Households who do not have outside employment have a higher prevalence of need for information on food and agricultural commodities prices at 27% relative to 13% of households with outside employment opportunities. In terms of market access barriers, **a higher share of in-debt households (88%) find prices for food and non-food items too high compared to 75% of households without debt**. A higher share (91%) of households with no outside employment find prices for food and non-food items too high relative to households with outside employment opportunities (84%). As mentioned in previous sections, **providing households with accurate and timely information on available food assistance programs, market prices, and agricultural commodities can empower households to make more strategic choices to address their food needs.**

Table 4.1: Prevalence of Shock Experiences (%)

	Drought	Conflict	Economic
Usual Income	53.87	3.39	41.55
Less than Usual Income	68.22	5.61	59.45
No Debt	61.57	4.6	50.75
Carrying Debt	64.98	5.1	55.57
No Outside Employment	50.99	10.8	45.92
Have Outside Employment	65.1	4.47	54.89
Total	64.01	4.96	54.2

Note: Sample weights used to represent national-level estimates.

Table 4.2: Prevalence of Priority Needs (%)

	Food	Healthcare	Employment
Usual Income	89.06	48.46	52.68
Less than Usual Income	91.85	47.05	55.77
No Debt	87.14	50.65	55.82
Carrying Debt	92.58	46.19	54.49
No Outside Employment	93.02	53.11	51.9
Have Outside Employment	90.86	46.99	55.11
Total	91.03	47.46	54.87

Note: Sample weights used to represent national-level estimates.

Table 4.3: Prevalence of Reduced-Food Coping Strategies (%)

	Eat Less Preferred Food	Borrow Food	Limit Meal Portions	Save Food for Kids	Reduce Number of Meals
Usual Income	93.16	67.98	60.04	42.84	47.77
Less than Usual Income	94.31	77.33	64.03	50.34	50.85
No Debt	87.36	47.56	52.84	39.7	43.83
Carrying Debt	96.61	85.33	66.84	51.49	52.37
No Outside Employment	86.97	74.97	69.52	56.9	54.59
Have Outside Employment	94.56	74.56	62.3	47.41	49.56
Total	93.98	74.59	62.86	48.14	49.94

Note: Sample weights used to represent national-level estimates.

Table 4.4: Prevalence of Access to Resources (%)

	Food-Livestock Price Information Needed	Food Aid Information Needed	Market Barrier: High Prices	Market Barrier: Mobility
Usual Income	14.48	78.2	81.74	25.84
Less than Usual Income	14.01	84.35	85.82	28.26
No Debt	9.83	78.34	75.17	26.6
Carrying Debt	15.87	84.22	88.38	27.94
No Outside Employment	26.72	81.97	91.1	22.21
Have Outside Employment	13.1	82.6	84.08	28
Total	14.15	82.55	84.62	27.55

Note: Sample weights used to represent national-level estimates.

Policy Recommendations:

1. Income Support Programs: Implement targeted income support programs to alleviate financial pressure on vulnerable households, thus reducing their susceptibility to food insecurity.

2. Debt Relief Initiatives: Introduce debt relief initiatives to alleviate the burden of debt on households, allowing them to allocate more resources towards meeting their food needs.

3. Aid Delivery Management: Manage aid delivery mechanisms to better align with household preferences and needs, ensuring that assistance effectively targets food insecurity.

4. Conduct More Research: Investigate an integrated approach that combines food aid, access to food and agricultural information, healthcare services, and diversification of income sources, so households become more resilient against shocks.

5

Availability of Resources

Availability of and access to markets, mobile networks, safe shelters, heating devices, and water are all important resources for households to carry on with their livelihoods. In this section, we present results on the association of these resources with food insecurity and hunger.[8] In figure 5.1, we find that households without access to markets have 2.5 p.p. higher food insecurity than households with access to markets. However, in figure 5.2, we see that households without access to markets are 4.3 p.p. less hungry than households with access to markets. **The higher prevalence of food insecurity among households without access to markets, which probably indicates a rural setting, highlights the importance of proximity to markets in ensuring food security.** These households may face challenges in accessing diverse food options and may be more vulnerable to price fluctuations. However, having no access to markets does not mean that such households have a higher prevalence of hunger than otherwise, probably indicating that such households rely on non-market-based sources of food supply, such as their own agriculture and livestock.

For households that have access to markets, the distance to the markets comes into play. An increase in the distance to the market by one hour is associated with 3.8 p.p. decrease in food insecurity and 6.7 p.p. decrease in hunger. This association needs further research to understand the food access behavior of households farther from the markets. Probably, as households get farther from markets, they might have to rely on scheduled transport from home to market, with bulk buying that can help with grocery cost reduction, hence helping households manage food hardship efficiently.

Households farther from water facilities report significantly higher food insecurity and hunger, underlining the importance of water access in food security strategies. Households 1 hour farther from a water facility have 16 p.p. higher food insecurity and 12.5 p.p. higher hunger, relative to households that have a water facility by home. **The higher prevalence of food insecurity among households further from water facilities underscores the critical role of water access in household food security.** These households may face challenges in irrigation for agriculture and daily water consumption, leading to greater food insecurity. Policy efforts should prioritize investments in water infrastructure to expand access to clean water resources and reduce household food insecurity.

[8] For estimates of marginal effects based on logit regression, please see table I.1 in the appendix subsection I.C.

Regarding mobile coverage, households that have access to these services have a lower prevalence of food insecurity or hunger compared to households that do not have such services. Households with mobile coverage have 2.5 p.p. lower food insecurity compared to households without mobile coverage. Similarly, households with mobile coverage have 6 p.p. lower hunger compared to households with no mobile coverage. The prevalence rates of food insecurity and hunger by mobile coverage are presented in figures 5.1 and 5.2. Mobile coverage enables households to access market information, communicate with aid agencies, and seek assistance during times of crisis. Policymakers should prioritize investments in mobile coverage so that affordable mobile services are available in remote areas.

Households with a significantly damaged shelter are 3.4 p.p. more food insecure and 9 p.p. more hungry compared to households that do not have a significantly damaged shelter. These households may face challenges in food storage, preparation, and consumption, which can potentially exacerbate their food insecurity. Meanwhile, having appliances relevant to cooking are associated with lower food insecurity and hunger. For instance, households that have kitchen sets have 10.1 p.p lower hunger compared to households without kitchen sets. Households with heating devices have 6.4 p.p. lower food insecurity and 12.3 p.p. lower hunger relative to households without heating devices. Households with water storage have 2.3 p.p. lower food insecurity and 4.1 p.p. lower hunger compared to households without water storage. **The lower prevalence of food insecurity among households with kitchen sets, heating devices, and water storage highlights the importance of household infrastructure in ensuring food security.** Policy efforts should prioritize assistance programs and educational programs to improve access to household amenities, particularly in marginalized communities.

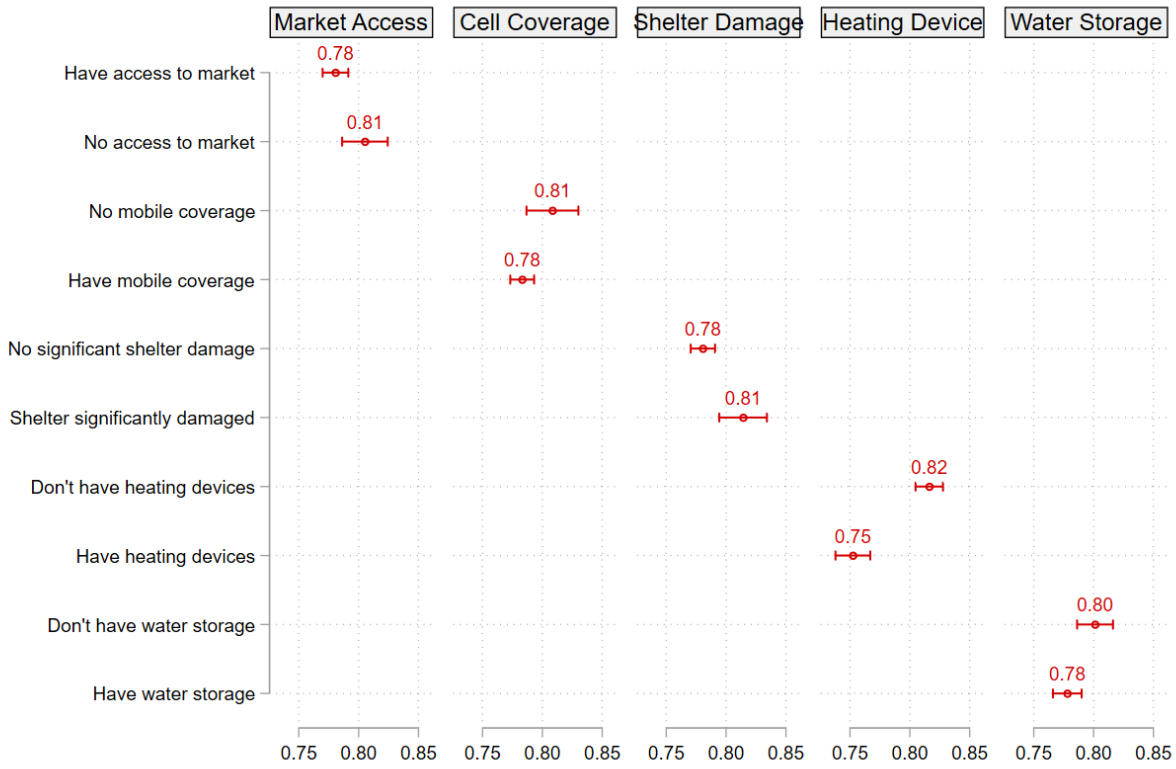

Figure 5.1: Prevalence of Food Insecurity by Economic Factors

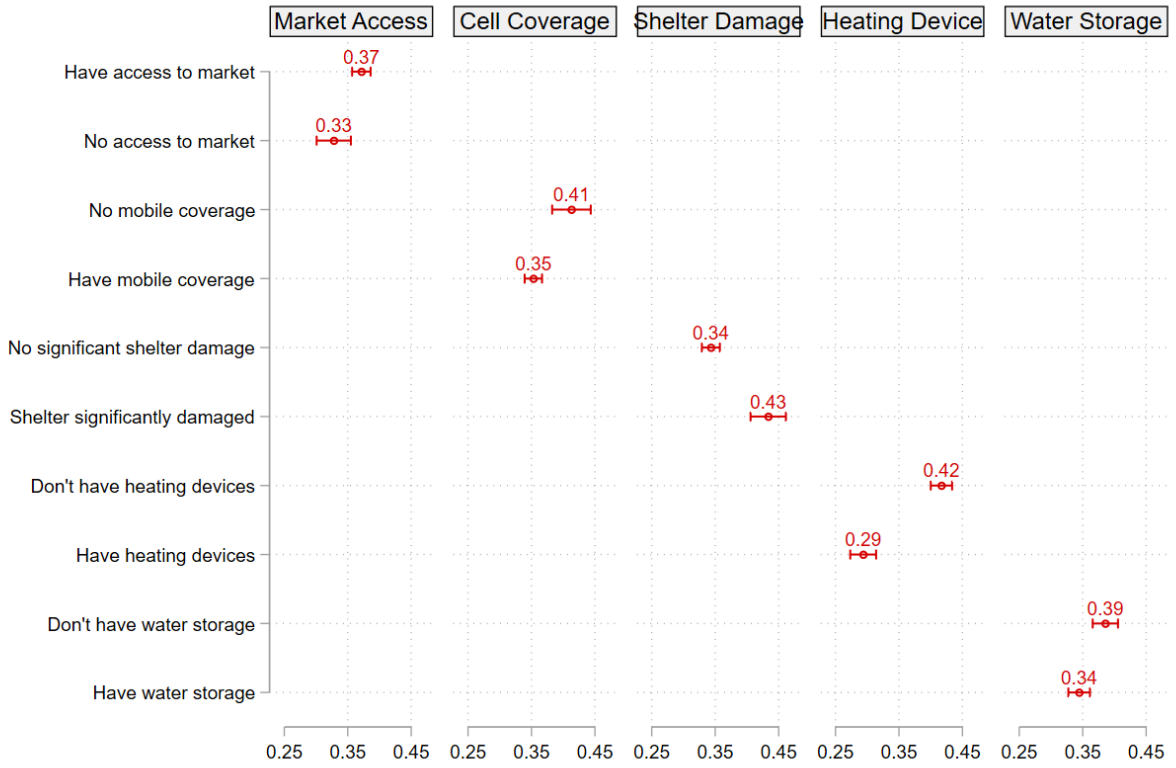

Figure 5.2: Prevalence of Hunger by Economic Factors

Policy Recommendations:

1. Improve Market Access: Enhance transportation infrastructure and establish local markets in remote areas to improve market access and reduce food insecurity among vulnerable households.

2. Invest in Water Infrastructure: Expand access to clean water facilities in remote and water-deprived areas.

3. Strengthen Communication Networks: Invest in mobile network infrastructure to connect households to mobile services and information resources.

4. Promote Household Amenities: Provide assistance and educational programs to improve access to amenities such as kitchen sets, heating devices, and water storage.

6

Conclusion

In this study, we used the 2022 Whole of Afghanistan Assessment data and highlighted several sociodemographic factors significantly associated with food insecurity and hunger. The study's findings underscore the multidimensional nature of food insecurity and the importance of addressing not only socioeconomic factors but also infrastructure and housing conditions. The identified factors of food insecurity provide valuable information for policymakers and practitioners to develop targeted interventions to alleviate food insecurity and hunger in Afghanistan.

Factors that are meaningfully associated with food insecurity and hunger include female-headed households, household size, having children below 12 years, having debt, last 30 days income being low, rural households, shelter significantly damaged, and having heating devices. For instance, female-headed households exhibit a higher likelihood of both food insecurity and hunger, while households with children below 12 years and those experiencing shelter damage also show increased vulnerability. Similarly, households with debt and those with low income in the last 30 days are more prone to food insecurity and hunger, emphasizing the importance of economic stability in ensuring food access and security. The prevalence of food insecurity and hunger is lower among rural households compared to non-rural households, suggesting rural households are more resilient to food insecurity than non-rural households. Access to basic amenities and infrastructure significantly influences food security outcomes. Factors such as no access to markets, longer hours to market, and limited mobile coverage exhibit notable associations with food insecurity and hunger. Shelter damage, which is an indicator of housing quality and living conditions, is strongly related to increased food insecurity and hunger. Households with kitchen sets, heating devices, and water storage are less prone to food insecurity and hunger, demonstrating the importance of household resources and assets in protecting against food insecurity.

As a way forward, to address food insecurity in Afghanistan, policymakers should also consider the recommendations of the United Nations Secretary-General in the 2023 report on "The future of food and agriculture: drivers and triggers for achieving sustainable agrifood systems" [7]. While addressing food security in Afghanistan, policymakers should consider a comprehensive and forward-looking approach. This requires addressing deep-rooted issues such as political instability, economic challenges, and environmental degradation that exacerbate food insecurity. Early interventions should prioritize investments in productivity

and environmental sustainability to build resilience and ensure long-term progress.

Investing in research to inform agricultural policies and transitioning toward sustainable practices is imperative. In addition, efforts should focus on improving job quality and providing equitable opportunities in the agrifood sector, particularly for marginalized groups. Collaboration among farmers, access to financial services for rural women, and market access for smallholders are key components of inclusive development strategies.

Recognizing the importance of biodiversity and ecosystem preservation in agriculture is critical. Policymakers must integrate climate change considerations into food security policies, ensuring fairness, human rights, and sustainability. In addition, enhancing transparency, collaboration, and stakeholder participation is essential for coherent and effective policymaking. By involving diverse stakeholders in decision-making processes, policymakers can foster inclusive and sustainable agrifood systems that address the complex challenges of food security and hunger in Afghanistan.

Appendix

Here we provide details regarding the WoAA 2022 dataset and the econometric specification for food insecurity and hunger. We then present the marginal effects from the logit regression of food insecurity and hunger.

I.A Data

The 2022 Whole of Afghanistan Assessment (WoAA) has been part of an ongoing effort to continuously assess needs in Afghanistan. Conducted annually by REACH since 2018, the WoAA provides data on various needs of Afghan population groups across the country. Data collection for the 2022 assessment occurred from July 30th to September 4th, 2022, through in-person household interviews conducted with heads of households. Using stratified cluster sampling, the dataset ensures a minimum confidence level of 95% and a 5% margin of error at the national level, with representative findings for urban and rural areas and refugee populations. The data set covers 34 provinces except for the capital of Kandahar and includes 7,262 household interviews, with 77% conducted with male heads of households and 23% with female heads. To ensure accuracy and representativeness of estimates, our analysis of WoAA utilizes the included survey weights.

We use the Food Consumption Score (FCS) to derive a binary variable for *food insecurity*, with households scoring less than 43 for the FCS classified as food insecure. The FCS is calculated on the basis of the respondents' reports of their household's consumption frequency across eight food groups over the preceding seven days. To calculate the FCS, we sum the consumption frequencies and then multiply the result by the standardized weight assigned to each food group. The World Food Program uses FCS as part of the Comprehensive Food Security & Vulnerability Analysis (CFSVA) tool to understand food insecurity and vulnerability in countries prone to crises. [8]

We use the Household Hunger Scale (HHS) to establish a binary variable for *hunger*, where households scoring greater than 1 on the HHS are classified as experiencing hunger. [9] The HHS, which ranges from 0 to 6, is derived from a module within the WoAA questionnaire, featuring three questions on the occurrence and three on the frequency of hunger-related experiences over the preceding 30 days. Respondents indicate whether specific conditions

were encountered and, if so, how often. The resulting scores, ranging from 0 to 2 for each of the three frequency questions, are summed to yield a total HHS, indicative of the severity of hunger.

I.B Econometric Model

To estimate the relationship of food insecurity (or hunger) with sociodemographic variables presented in Table 1.1, we use weighted logistic regression due to the binary nature of our outcome variables (food insecurity or hunger).

Specifically, the outcome model is estimated via the following weighted logistic regression:

$$ln\left(\frac{P(Y_i=1)}{1-P(Y_i=1)}\right)=\alpha+X_i\beta, \tag{I.1}$$

where ln denotes the natural logarithm, P denotes the probability of the event $(Y_i = 1)$, $ln\left(\frac{P(.)}{1-P(.)}\right)$ represents the log odds ratio or logit, and Y_i is a binary variable indicating household i's food insecurity or hunger status. Vector X includes the sociodemographic variables in Table 1.1. We estimate this equation via maximum likelihood and report average marginal effects for ease of interpretation in Table I.1.

I.C Average Marginal Effect Estimates

Table I.1: Marginal effects of sociodemographic variables on food insecurity and hunger

	(1) Food Insecurity	(2) Hunger
Household head age	0.000	-0.000
	(0.000)	(0.001)
Female Head (Yes=1)	0.079***	0.196***
	(0.011)	(0.018)
Household Size	-0.009***	0.001
	(0.002)	(0.003)
Have Kids below 12 Years (Yes=1)	0.054***	0.052***
	(0.014)	(0.018)
Refugees (Yes=1)	-0.055	-0.093*
	(0.064)	(0.051)
IDPs (Yes=1)	-0.004	-0.034**
	(0.015)	(0.017)
Returnees (Yes=1)	-0.011	-0.131***
	(0.026)	(0.026)
Rural Households (Yes=1)	-0.107***	-0.150***
	(0.011)	(0.020)
Last 30 Days, Income Low (Yes=1)	0.062***	0.060***
	(0.014)	(0.017)
Having Debt (Yes=1)	0.131***	0.241***
	(0.013)	(0.013)
Last 30 Days, Outside Employment (Yes=1)	-0.021	-0.032
	(0.020)	(0.026)
Last 30 Days, Home Employment (Yes=1)	-0.032*	-0.034
	(0.017)	(0.021)
Last 30 Days, Aid Received (Yes=1)	-0.006	0.020
	(0.011)	(0.014)
Prefer Aid as Cash (Yes=1)	0.019	-0.018
	(0.018)	(0.028)
Prefer In-kind Food Aid (Yes=1)	0.068***	-0.012
	(0.017)	(0.030)
Knows How to Access Aid (Yes=1)	0.011	0.012
	(0.010)	(0.012)

Table I.1 (continued)

	(1) Food Insecurity	(2) Hunger
No Access to Market	0.025**	-0.043***
	(0.012)	(0.016)
Hours to Market	-0.038***	-0.067***
	(0.012)	(0.016)
Hours to Water Facility	0.160***	0.125***
	(0.026)	(0.034)
Hours to Health Facility	-0.005	0.003
	(0.008)	(0.011)
Have Mobile Coverage (Yes=1)	-0.025**	-0.060***
	(0.012)	(0.016)
Shelter Significantly Damaged (Yes=1)	0.034***	0.090***
	(0.011)	(0.016)
Have Kitchen Sets (Yes=1)	0.007	-0.101***
	(0.014)	(0.018)
Have Heating Devices (Yes=1)	-0.064***	-0.123***
	(0.010)	(0.014)
Have Water Storage (Yes=1)	-0.023**	-0.041***
	(0.010)	(0.013)
Male or Female Hopeless (Yes=1)	0.010	0.044***
	(0.010)	(0.014)
Observations	17,262	17,262

Note: All coefficients are weighted using WoAA survey weights. Variables with (Yes=1) represent binary variables and their coefficients represent marginal change relative to the base level (i.e., Yes=0). By multiplying coefficients by 100 we get marginal change in percentage points, i.e., 7.9 p.p. (0.079 × 100) for the coefficient of Female Head in Column 1.

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