



Winter in Afghanistan: Overview of Seasonal Needs

September 2026 | Afghanistan

Key Messages

- Many households rely on food stored after the harvest. Inadequate and insufficient storage means that food runs out or spoils before the following harvest, forcing households to purchase foods from markets at a time when prices are high and labour opportunities are low. This highlights the value of improved storage and diversified incomes.
- Although food stocks are often depleted during winter, acute malnutrition peaks in summer alongside increased diarrhoeal disease. This indicates that poor health outcomes, in addition to food insecurity, are an important driver of acute malnutrition and should be considered when targeting seasonal response efforts.
- Improved access to heaters and heating fuel could help reduce the health risks associated with cold indoor temperatures. However, severe gaps in access to heaters and fuel remain, and some households resort to open fires or burning plastic waste to stay warm, increasing their risk of illness.
- Particularly at higher elevations, communities become isolated when snowfall makes roads impassable. This occurs as early as September/October in Badakhshan and Nuristan. Early action is required to support vulnerable populations before settlements become inaccessible.

Context and Rationale

Due to Afghanistan's mountainous topography, with peaks over 7,000 meters, the country experiences severe winter conditions. These include sub-zero temperatures, heavy snowfall, avalanches, and others.

Winter conditions create severe movement constraints in mountainous areas such as Nuristan, Daikundi, and Badakhshan, limiting access to markets, healthcare, and

humanitarian assistance¹. Many households live in stone and mud homes with poor insulation and inadequate heating, increasing their vulnerability during the cold season.²

This brief provides an overview of needs arising from winter conditions, aiming to inform winterisation assistance. It begins with a summary of exposure to cold shocks. Then, it presents seasonal needs in the food security, malnutrition, shelter and non-food items, and health sectors.

Methodology

This brief uses available data from three assessments.

1. **Humanitarian Situation Monitoring (HSM).** Collected 2-4 times per year, interviewing community key informants (KIs) on the needs in their settlements. Each round, around 12,000 KIs are interviewed, distributed across all districts of Afghanistan. In this brief, it is used to understand seasonal patterns of needs. Data analysis and factsheets are available [here](#).¹ The most recent data included are from May/June 2026.
2. **Whole of Afghanistan Assessment (WoAA).** Collected once a year in the summer, interviewing households on their needs. In 2026, around 33,000 interviews
3. **Joint Market Monitoring Initiative (JMMI).** Collected monthly by partners of the Cash Working Group in their areas of operations, interviewing vendors that serve both as KIs and report on their own activities. The JMMI is used here for market-level data on availability and prices of goods. Data are available [here](#) as well as in a dashboard [here](#).³ The January-March 2026 rounds are used in this brief.

Additional humanitarian reports and news articles were used to fill gaps and triangulate.

Communities at high elevations become isolated in winter due to snow-related roadblocks.

In Afghanistan, the areas experiencing the most severe winter conditions are those at the highest elevations. As seen in maps 1 and 2 (following page), this primarily includes the northeast, east, and centre of the country. Winter conditions have multiple impacts, including seasonal isolation of settlements as deep snow blocks transport routes,⁴ risk of avalanches that may cause damage and loss of life,⁵ loss of livestock due to extreme cold conditions,⁶ health concerns due to inadequate heating,^a seasonal food insecurity,⁸ and others.

Considering seasonal isolation of settlements, key informants (KIs) in a third of assessed communities reported movement challenges due to snow. This was particularly common in Nuristan and Panjsher - neighbouring provinces in the east - and Zabul in the southeast. These challenges can reduce access to markets, essential services such as healthcare, and limit humanitarian access.¹

In communities that faced movement challenges, people most commonly resorted to transporting goods on foot. However, almost a third of affected communities continued to use motorised vehicles, carts, or bicycles. Over a quarter relied on animals such as donkeys, horses, or cows.¹

Looking ahead, El Niño climate conditions are expected to persist throughout the 2026/27 winter months.⁹ Historically, El Niño has been associated with wetter and

warmer winter weather in Afghanistan, leading to fewer, more localised, and less severe cold waves.⁴ However, El Niño is associated with increased risks of flooding and landslides,¹⁰ making flood preparedness particularly pressing. The main months for flooding are February through April, when spring snowmelt and higher rainfall levels coincide. Additional floods occur in July and August, with the South Asian monsoon particularly affecting eastern and southeastern Afghanistan.¹¹

The peak lean season occurs in winter, when stored harvests are depleted and food prices increase.

In Afghanistan, many households rely on own crop production and/or livestock production as one of their primary sources of food, particularly after the harvest. This was reported by 31% of households in summer 2025,² and KIs in 72% of assessed communities in November 2025.¹ Food sources change with the onset of the lean season, usually between December and April, with variations by geography.¹³ In 36% of assessed communities, food stored from the harvest became the primary source for the majority of households in February or March 2026 (see fig. 1). This was particularly common in Bamyán and Ghor provinces in the Central Highlands (see fig. 2), with KIs in around 80% of assessed communities in these provinces having reported stored food as the primary source of food.¹ However, over half of households reported issues with food or water storage, including 26% who reported inability to safely store food or that the food goes bad easily, 22% who lacked food storage containers, and

36%
of assessed communities reportedly experienced snow-related movement challenges¹

Fig. 1: Primary source of food for the majority of households during the winter
(as % of assessed settlements)

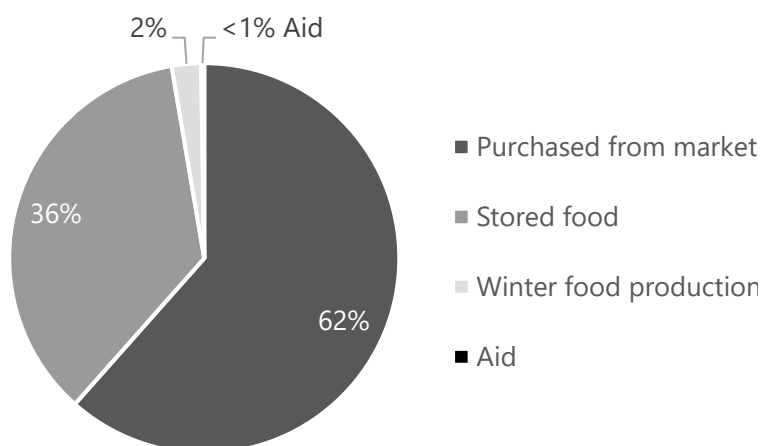
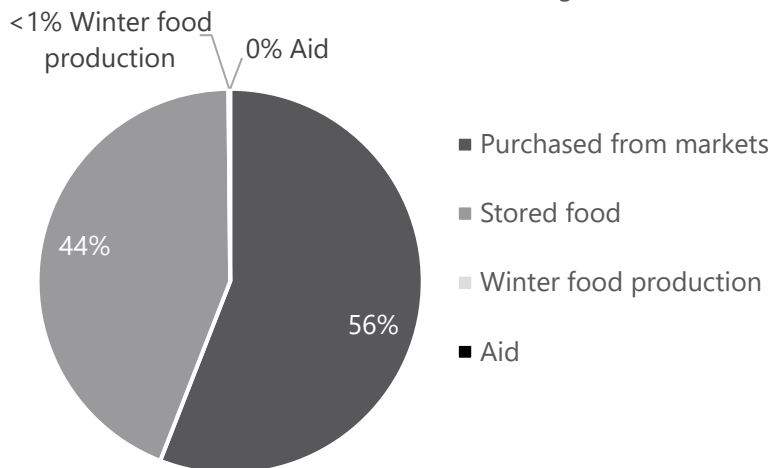
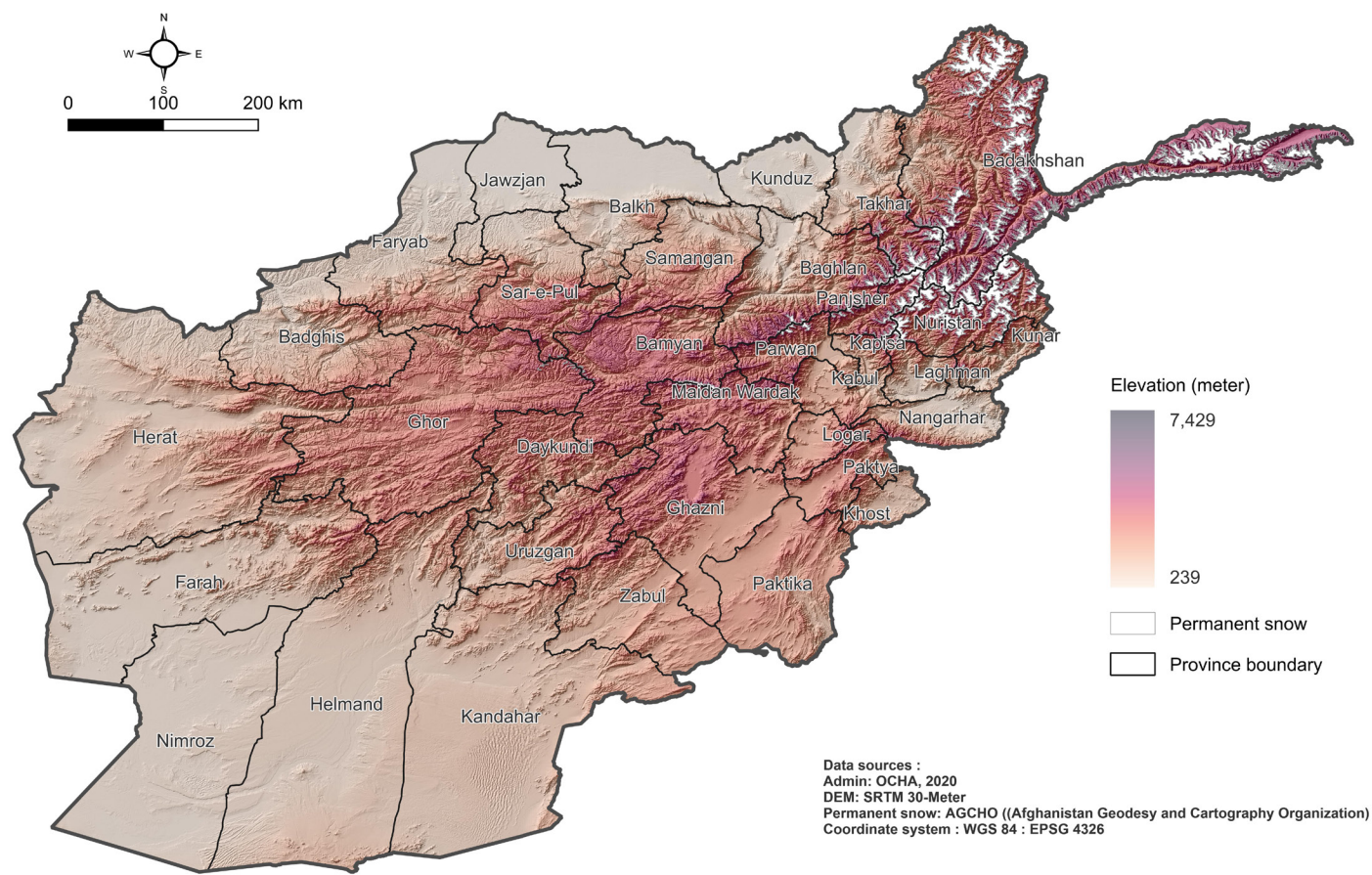


Fig. 2: Central Highlands, primary source of food for the majority of households during the winter
(as % of assessed settlements in the Central Highlands)

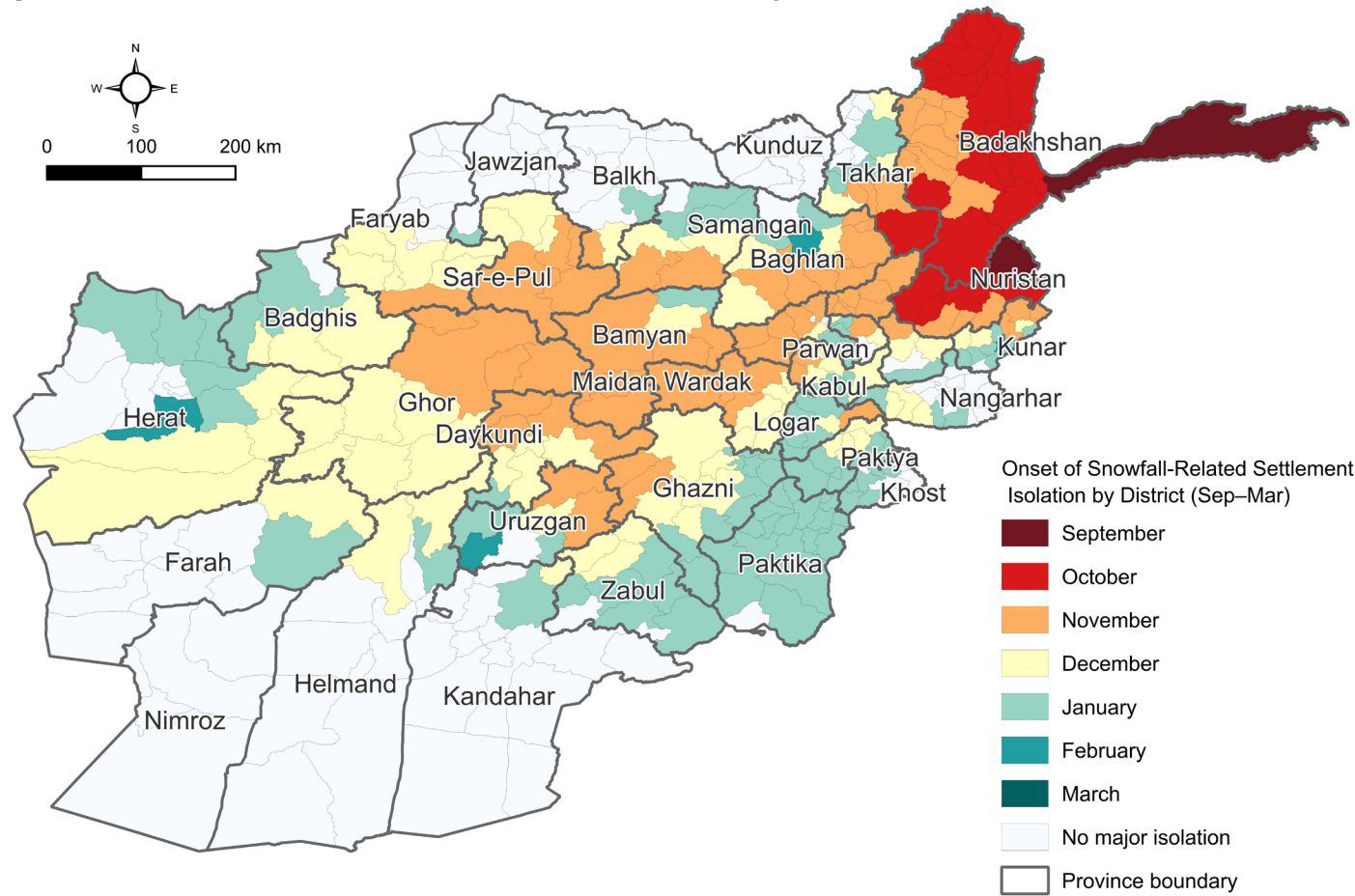


^a Almost a fifth (17%) of households relied on open fires inside their shelter for heat in winter.² Research finds that indoor air pollution, particularly through burning biomass in simple stoves, is a major health risk.⁷

Map 1: Topography of Afghanistan



Map 2: Onset of snowfall-related settlement isolation by district^{4,a}



^a Isolation is considered to occur when snow depth reaches at least 15 cm with any further increase of at least 6 cm within a 24 h period. Data rely on ERA5, analysis conducted on data from satellites

13% who lacked space for food storage.²

Research with farming households in Bamyan highlights this issue. These households generally produced wheat and potatoes. Inadequate storage of potatoes led to losses, causing earlier depletion of supplies. This forced households to purchase potatoes from the market during the spring season, at which time prices were substantially elevated.¹³ Research on post-harvest processing and storage in Laghman, Herat, and Badakhshan similarly found inadequate storage of fresh foods - potatoes kept in sacks, onions dried and then stored in a room - led to losses, particularly in the warmer climates of Herat and Laghman. Households with access to improved storage - usually zero-energy systems designed to improve aeration or insulation - kept more potatoes and onions for their own consumption and were able to sell them at higher prices outside of the harvest season.¹⁴

The seasonality of food prices is not immediately evident in the food basket prices calculated using IMPACT's or the WFP's market data.^{3,15} This is possibly because these food baskets primarily include staple foods such as wheat flour and pulses, which are easier to store and hence more readily available outside of their respective harvest periods. However, prices for three types of fresh foods are available from the WFP (tomatoes, onions, and potatoes). Tomatoes see annual price spikes, more than doubling in cost between August and January each year between 2023 and 2026.¹⁵ The IPC similarly highlights seasonal food price increases due to a lack of local harvests, increased dependence on imports, and winter-related roadblocks. At the same time, labour opportunities decline in winter due to adverse weather conditions, leading to a decline in household incomes.^{16,17} The seasonal increase in prices and decline in incomes implies a drop in purchasing power. This is a concern as unaffordability was the most reported barrier to food access according to KIs in assessed communities.¹

Food price increases only affect households who are able to access markets. In 29% of assessed communities, KIs reported that snow accumulation usually causes challenges in accessing markets.^a In 18%, they reported that inability to access markets due to road cut-offs was one of the main food challenges their communities faced in winter.^a This was particularly

common in the Central Highlands and southeastern region.¹

For the 2026/27 winter season, FEWS NET anticipates that near- to above-average harvests during the 2026 summer will contribute to food security. However, these contributions will be partially offset by the weak economic standing of most households. Low purchasing power is expected to limit households' ability to access food once personal food stores have been depleted. As such, several provinces are projected at phase 3 "crisis" levels of food insecurity for the October 2026 to January 2027 projection period.¹⁶

Malnutrition rates are generally lower during the winter, peaking in summer.

In Afghanistan, winter food insecurity contributes to child malnutrition.¹⁸ However, analyses of seasonal trends in nutrition survey data by the FAO (2020-2026) showed that acute malnutrition rates generally rose alongside diarrhoeal disease in the hot, dry months of summer.¹⁹ This was most likely due to higher temperatures contributing to bacterial growth, water contamination from snowmelt, and increased fly populations.³⁴ As such, UNICEF classified the months of July and August 2025 as peak malnutrition season, with lower severity during the winter.¹⁸

Inadequate heating poses major health risks.

Most households lived in shelters with walls of mud (pakhsa) or sun-dried mud bricks.² Global research found that mud housing can stabilise indoor temperatures due to its thick walls, but still requires heating in winter.²⁰ However, adequate heating is lacking in Afghanistan. This is a health concern as indoor temperatures below 18°C are associated with negative health outcomes, including cardiovascular and respiratory health.^{b,22}

Over half of households used heating devices that relied on animal dung, bushes, or waste (paper, cardboard, or plastic) as a fuel source (see fig. 3). A third of households heated using open fires indoors, including over a third of households in Daikundi and Maidan Wardak provinces.² Burning biomass, such as wood and dung, inside the home carries significant health risks, including higher risks of lung disease

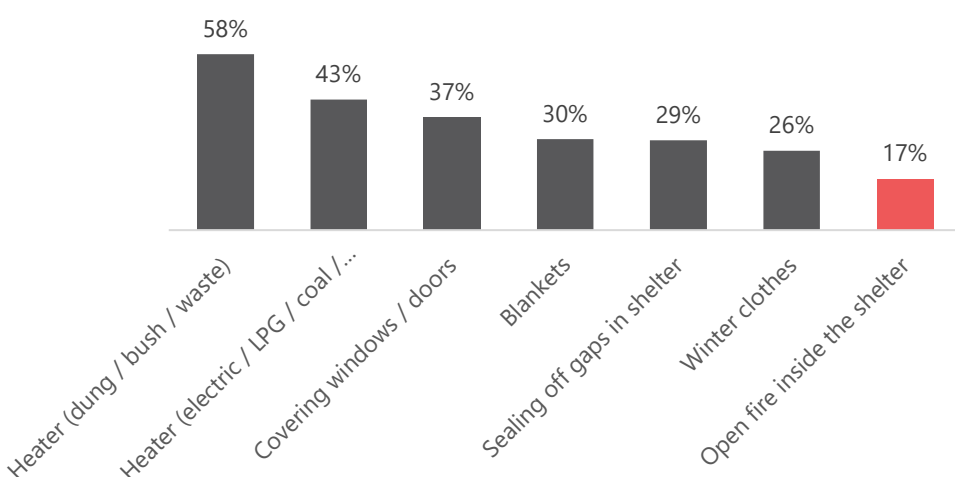
74%

of assessed communities faced problems with food security due to unaffordability¹

^a Data were taken from the February or March 2026 round of data collection. However, the questions ask about the usual situation in winter and are not specific to the 2025/26 winter season.

^b Note that almost all studies included in this review were conducted in economically developed countries. A study conducted in Nepal for instance found that people adapted to much lower indoor temperatures, feeling comfortable around 11°C, but did not include health indicators.²³

Fig. 3: Methods for maintaining warmth inside shelters in winter^{2,a}
(as % of households)



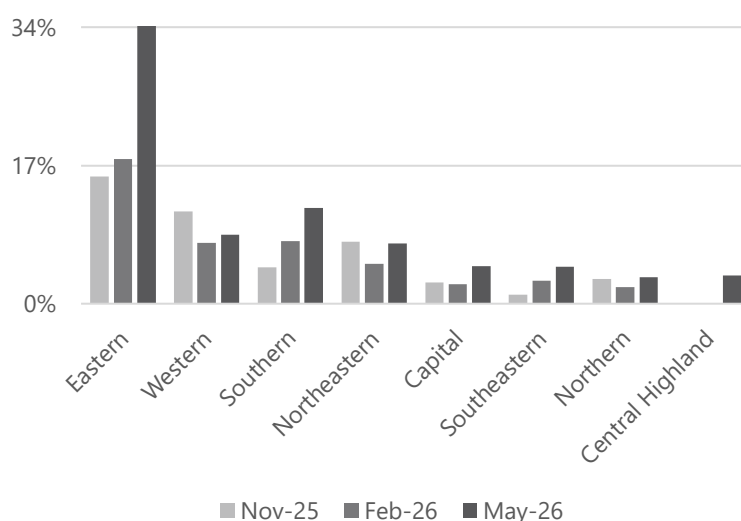
and poor pregnancy outcomes.²⁴ As would be expected, reliance on animal dung as a heating fuel was higher amongst communities in which livestock was a main source of income, particularly in the Central Highlands. Other communities relied more heavily on solid wood.¹ Most vendors interviewed during the past winter reported that firewood was widely available. The median price per kilo sold by interviewed vendors was 12.9-13.8 AFN.^{b,3} Anecdotal evidence suggests that these costs can be prohibitively high, leading households to burn waste to maintain indoor temperatures.^{26,27,28} Burning household waste that includes plastic may have severe adverse health impacts, with a global review finding increased rates of respiratory and heart diseases as well as nerve damage from burning plastic.²⁹

The most vulnerable to winter cold may be persons sleeping in the open, in tents, makeshift shelters, and unenclosed buildings. Very few households living in these conditions were captured in the WoAA (~1%).² However, KIs in 1% of assessed communities in February or March 2026 (winter) and in 4% in May 2026 (spring) reported that some persons were sleeping in the open. In 6% in winter

and 7% in spring, they reported some sleeping in tents or makeshift shelters; see fig. 4. This was particularly common in the eastern region, with KIs in 34% of assessed communities having reported that some households were sleeping in the open, in tents, or in makeshift shelters in spring. The increase observed in the eastern region between winter and spring could have been due to flooding impacts, with KIs in 29% of assessed communities having reported shelter losses due to natural hazards.¹ This region experienced additional shelter damage in July 2026 due to flash flooding, alongside the northeastern, southeastern, and central regions.²⁹ Correspondingly, 9% of households in the eastern region reported that their shelters had collapsed entirely or were unsafe to live in, as of summer 2026.²

Additionally, in half of assessed communities in February or March 2026, KIs reported that the majority of households did not have winter clothing. This included 70% in the northeastern region and 61% in the Central Highlands,¹ two regions with particularly severe winters. However, winter jackets were reported to be widely available by most vendors in January to March 2026, at a median cost of 680-700 AFN each month.³ While this equates to fewer than three days of unskilled daily labour, the low availability of labour opportunities paired with the high cost of food relative to incomes^{30,31,32} suggests that unaffordability may limit access to winter clothing. Similarly, while blankets tended to be available, the median cost of 1,150-1,200 AFN³ may have been prohibitively high for impoverished households.

Fig. 4: Any households in the community sleeping in makeshift shelters, tents, or in the open
(as % of assessed communities)



^a Not shown: 8% relied on cooking stoves, 3% on insulation mats on the floor.²

^b Medians were calculated separately for January, February, and March 2026. The range shown is the range of medians.

Access to healthcare decreases in winter.

Health needs in winter change for a variety of reasons. Data from past years suggest that rates of acute respiratory infections increase while rates of acute watery diarrhoea and malaria decline.³³ Injuries may arise from poor road conditions.¹¹ At the same time, KIs in 30% of assessed communities reported that access to health centres was reduced due to winter conditions, particularly in Nuristan (83%) and Zabul (76%) provinces.^{a,1} This may reduce health access not only for those with acute illnesses, but also for the chronically ill and for pregnant and lactating persons.

^a Data were taken from the February or March 2026 round of data collection. However, the questions ask about the usual situation in winter and are not specific to the 2025/26 winter.

Conclusion

Available data indicate winterisation needs which may have adverse public health impacts if left unaddressed.

Major concerns include inadequate food storage, which may lead to depletion of food stocks at a time when prices are high and incomes are low. Projects have found that improved food storage benefitted farmers' incomes and access to food, thereby contributing to their food security.

Severe cold, particularly at high altitudes, necessitates heating. However, many households rely on burning biomass or waste, sometimes in open fires. This poses significant health risks, which might be mitigated by providing cleaner-burning heaters and improving access to affordable fuels.

ABOUT REACH

REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT).

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Endnotes

1. REACH Afghanistan (2025 and 2026). Humanitarian Situation Monitoring [Datasets]. <https://www.impact-initiatives.org/>
2. REACH Afghanistan (2026). Whole of Afghanistan Assessment [Dataset]. Available upon request.
3. REACH Afghanistan (2025 and 2026). Joint Market Monitoring Initiative (JMIMI) [Datasets]. <https://dashboards.impact-initiatives.org/afg/jmimi/>
4. REACH Afghanistan (April 2026). Afghanistan Cold Wave Review (2000 - 2026). <https://repository.impact-initiatives.org/>
5. World Bank (2017). Disaster Risk Profile - Afghanistan. Washington, D.C. https://www.gfdrr.org/sites/default/files/afghanistan_low_FINAL.pdf
6. REACH Afghanistan (July 2025). Cold Wave Risk Analysis on Livestock. Available upon request.
7. Bruce N, Perez-Padilla R, Albalak R (2000). Indoor air pollution in developing countries: a major environmental and public health challenge. Bulletin of the World Health Organization 78(9). <https://www.scielosp.org/>
8. Gbadegesin T, Andrée BPJ, Braimoh A (December 2024). Climate Shocks and Their Effects on Food Security, Prices, and Agricultural Wages in Afghanistan. World Bank Policy Research Working Paper no. 10999. <https://documents1.worldbank.org/>
9. World Meteorological Organization (September 2026). El Niño/La Niña Update (August 2026). <https://wmo.int/>
10. International Rescue Committee (July 2026). El Niño threatens deadly floods and disease across East Africa and Asia. <https://www.rescue.org/>
11. OCHA (February 2026). Afghanistan: Humanitarian Needs and Response Plan 2025, Response Overview (1 January - 31 December 2025). <https://reliefweb.int/>
12. FEWS NET (October 2024). Seasonal calendars for a typical year: Afghanistan. <https://fews.net/>

13. Poole N, Amira H, Amiri SM, Farhank I (January 2019). Food Production and Consumption in Shah Foladi, Bamyan Province, Afghanistan: The Challenge of Dietary Seasonality. LANSIA WORKING PAPER SERIES (33). <https://hdl.handle.net/20.500.12413/14292>
14. Ghafoori I, Behzad K, Mukhlis S, Atal TH, Rezaye A, Pain A (November 2023). Findings From Field Studies of Post-Harvest Storage and Processing in Afghanistan. SPARC, AREUO. <https://d1wqtxts1xzle7.cloudfront.net/>
15. WFP (July 2026). Afghanistan: Monthly Market Report Issue 74. <https://reliefweb.int/>
16. FEWS NET (September 2026). Afghanistan - Key Message Update, July 2026 - January 2027: Favorable harvest temporarily improves food access despite lingering drought impacts. <https://reliefweb.int/>
17. IPC (December 2025). Afghanistan IPC Acute Food Insecurity Analysis September 2025 - 2026. <https://www.ipcinfo.org/>
18. UNICEF (June 2026). Too Little, Too Late: The Diet Crisis Facing Young Children in Afghanistan. <https://reliefweb.int/>
19. FAO (August 2026). Afghanistan: Understanding the drivers of child acute malnutrition embedded within local livelihood systems - Executive brief. <https://reliefweb.int/>
20. Carrobé A, Rincón L, Martorell I (2021). Thermal Monitoring and Simulation of Earthen Buildings. A Review. Energies 14(8):2080. <https://www.mdpi.com/1996-1073/14/8/2080>
21. World Bank (n.d.). Afghanistan - Country Overview | Climate Change Knowledge Portal. <https://climateknowledgeportal.worldbank.org/country/afghanistan>
22. Janssen H, Ford K, Gascoyne B, Hill R, Roberts M, Bellis MA, et al (2023). Cold indoor temperatures and their association with health and well-being: a systematic literature review. Public Health 224:185-94. <https://www.sciencedirect.com/>
23. Rijal HB (2021). Thermal adaptation of buildings and people for energy saving in extreme cold climate of Nepal. Energy and Buildings 230. <https://linkinghub.elsevier.com/>

24. Oluwole O, Otaniyi OO, Ana GA, Olopade CO (2012). Indoor air pollution from biomass fuels: a major health hazard in developing countries. J Public Health 20(6):565-75. <https://doi.org/10.1007/s10389-012-0511-1>
25. Bjelica J (February 2026). Pollution in Afghanistan: Air, water, waste and noise under weak governance. Afghanistan Analysts Network. <https://www.afghanistan-analysts.org/>
26. Xinhua (October 2025). Economic hardship leaves Afghans struggling to heat their homes this winter. <https://english.news.cn/>
27. Islamic Relief Afghanistan (January 2025). Warmth and hope: Providing relief during winter in Afghanistan's most impoverished province. <https://reliefweb.int/>
28. Verma R, Vinoda KS, Papireddy M, Gowda ANS (2016). Toxic Pollutants from Plastic Waste-A Review. Procedia Environmental Sciences 35:701-8. <https://linkinghub.elsevier.com/>
29. OCHA (July 2026). Afghanistan: Flash Update #3: Flooding in Central, Eastern and Southeastern Afghanistan. <https://reliefweb.int/>
30. WFP (March 2026). Afghanistan: Monthly Market Report Issue 70. <https://reliefweb.int/>
31. WFP (February 2026). Afghanistan: Monthly Market Report Issue 69. <https://reliefweb.int/>
32. WFP (January 2026). Afghanistan: Monthly Market Report Issue 68. <https://reliefweb.int/>
33. WHO (December 2025). Afghanistan Infectious Disease Outbreaks Situation Report | Epidemiological Week #50-2025. <https://www.emro.who.int/images/stories/afghanistan/Afghanistan-Outbreaks-Situation-report-week-50-2025.pdf>
34. Durrani, N. A., Tawhid, M. H., Bilal, K. K., Gardiwal, H., Samad, S. A., & Niazi, A.-R. (2026). Multivariable Analysis of Acute Watery Diarrhea in Afghanistan: Demographic, Clinical, and Environmental Determinants (2023-2025). Afghan Medical Journal, 3(1). <https://doi.org/10.70194/teh0c932>