



iMMAP Inc. Afghanistan

# Exploring Perceptions and Opportunities for Agricultural Trainings in Afghanistan

March 2024



## SUMMARY

The study "Exploring Perceptions and Opportunities for Agricultural Trainings in Afghanistan", conducted by the Afghanistan Food Security and Agriculture Cluster and iMMAP Inc., investigates the prospects for agricultural training in the context of Afghanistan's evolving social and economic environment. Concentrating on **405 households** engaged in agriculture, the study seeks to understand their views on agricultural training programs. It reveals that for these households, agriculture is not just an activity but a key source of livelihood, with cereals and vegetables being the predominant crops. Notably, **36%** of the respondents have never received formal agricultural training, indicating a considerable gap in information and support in this sector. Challenges such as insufficient water supply, difficulty in obtaining quality seeds, and financial constraints are prevalent. Additionally, issues related to market access and low product prices significantly affect these agricultural practitioners. The respondents expressed a clear preference for practical, hands-on training, especially in areas like field crop cultivation and farming techniques. These findings highlight the importance of creating customized and effective agricultural training programs to boost productivity and support the diverse agricultural community in Afghanistan.

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## Glossary

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**FSAC:** Food Security and Agriculture Cluster.

**HNRP:** Humanitarian Needs and Response Plan

**NDVI:** Normalized Difference Vegetation Index, a measure of vegetation health.

**Crop Cultivation:** The process of growing crops.

**Livestock Management:** The practice of breeding and raising animals for agricultural purposes.

**WASH:** Water, Sanitation, and Hygiene.

**Premise Platform:** A technology used for remote data collection.

**R stat:** A programming language and environment for statistical computing and graphics.

**Homestead Gardening:** Growing fruits, vegetables, and herbs at home for personal use.

## INTRODUCTION

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Afghanistan with a population of over 44 million people, has continued to grapple with a surge in humanitarian needs due to the consequences of four decades of conflict, poverty, climate-induced crises, and exclusion of women in the economy. The overall level of food insecurity across Afghanistan remains high. Around 13.1 million people are currently classified as experiencing high levels of acute food insecurity (IPC Phase 3 or above) November 2023 and the situation is expected to deteriorate in the winter period which coincides with the lean season. In the period November 2023 – March 2024, the number of people estimated to be in IPC Phase 3 and above was expected to increase to 15.8 million people, or 36% of the population.<sup>1</sup> The key drivers of the high food insecurity levels include macroeconomic instability – reflected in weak job growth and continuing high unemployment in both the formal and informal sectors, continuing high levels of household debt, sustained high agriculture and livestock input prices, severely depressed household purchasing power and a persistent limited capacity for affected and acutely vulnerable people across Afghanistan to absorb shocks. The country has undergone extreme climatic conditions, including multi-year drought conditions whose impacts are still being felt, which is further compounded by other natural hazards such flooding and earthquakes that affected severely eroded the coping capacity of the population.

The worsening multi-sector humanitarian needs in health, nutrition, water and sanitation, education, shelter, and protection have been worsened by climate change and variability which has exacerbated drought and overall water crises as rising temperatures are rapidly altering precipitation patterns across the country, diminishing people's access to water in Afghanistan. Afghanistan is also vulnerable to earthquakes which significantly contribute to eroding some of the humanitarian gains in some sectors of humanitarian assistance. The 2024 Afghanistan Humanitarian Needs and Response Plan (HNRP) prioritizes the comprehensive needs of 23.7 million people, of which 17.3 million will be targeted for assistance. Key priorities include providing food assistance and emergency livelihoods, safe drinking water, healthcare, and education; and addressing acute water, sanitation, and hygiene (WASH) needs.

The study "*Exploring perceptions and opportunities for agricultural trainings in Afghanistan*" by the FSAC of Afghanistan and iMAP Inc., aims to investigate the potential impact and effectiveness for agricultural training initiatives in Afghanistan. The study focuses on understanding the needs, perceptions, and preferences of potential target groups in relation to such training. It acknowledges the importance of the agricultural sector in Afghanistan's economy and the various challenges it faces. The rationale behind this research is to address the lack of comprehensive data on specific training needs, optimal delivery methods, and the challenges and opportunities in this sector. The study employs a remote data collection-method approach, to gather in-depth insights and broader perceptions on agricultural training. This research is intended to guide the design of impactful agricultural training interventions in Afghanistan.

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<sup>1</sup> Flowminder 2024 Population data

## OBJECTIVES

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This study by the FSAC and iMMAP Inc. aims to comprehensively address the multifaceted aspects of agricultural training in Afghanistan. With a focus on exploring current agricultural activities, identifying key challenges and needs, and understanding the perceptions and preferences of the community, these objectives are designed to inform the development of effective and responsive agricultural training programs. The study seeks to bridge gaps in knowledge and practice, ensuring that the training initiatives align well with the actual requirements and circumstances of the Afghan agricultural sector. This study aims to:

**Objective 1:** Exploring current agricultural activities and previous trainings.

Investigate the current agricultural activities undertaken by potential target groups. This involves understanding the types of crops grown, livestock reared, and the techniques and technologies employed. The goal is to identify existing practices and how they might be improved or expanded through targeted agricultural trainings.

**Objective 2:** Identify key challenges and needs.

Explore and identify the primary challenges and needs faced by potential target groups in their agricultural practices. This includes understanding specific issues in different agricultural sectors, such as crop farming and livestock management.

**Objective 3:** Understand community perceptions and preferences.

Gain insights into the perceptions and preferences of potential target groups regarding agricultural training and its delivery methods. This involves assessing the community's awareness and attitude towards different training approaches.

## METHODOLOGY

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### Research Design

The research design of the study was a structured approach to gather and analyze data effectively.

Key components of this design include:

Objective-Driven Approach: Tailoring the research to meet the specific objectives of understanding community perceptions and informing program design, particularly in the context of agricultural trainings and related activities.

Geographic Focus: Study focused on selected regions and districts where agricultural activities are dominant. This approach has been tailored to design focused sampling and to prevent time and cost loss. Further details in "Sampling" section.

### Method

The methodology for the study employed a novel approach by leveraging the Premise platform for remote primary data collection. This platform enabled rapid and extensive data gathering from diverse geographical areas, utilizing the power of crowdsourcing. "Contributors", using their mobile phones, contributed valuable information, ensuring wide-reaching input.

The analysis was centred at the household level, acknowledging the household as the critical unit for understanding the dynamics of agriculture and related trainings. Respondents were individuals connected through the Premise app, providing insights about their households.

For data analysis, a combination of statistical and thematic techniques was applied by using R stat. This approach was crucial in interpreting the collected data, enabling the extraction of meaningful insights. These insights are instrumental in informing program design and policy decisions, thereby enhancing the efficacy of humanitarian aid.

Data cleaning held through data collection phase, to make outcomes as reflective as possible through analysis with removing outlier cases.

### Sampling Design

In "exploring perceptions and opportunities for agricultural trainings in Afghanistan," the study utilizes NDVI (Normalized Difference Vegetation Index) to infer agricultural activities, assuming a correlation between NDVI scores and agricultural activities. This is complemented using FAO's crop calendar to align these observations with agricultural seasons for key crops.

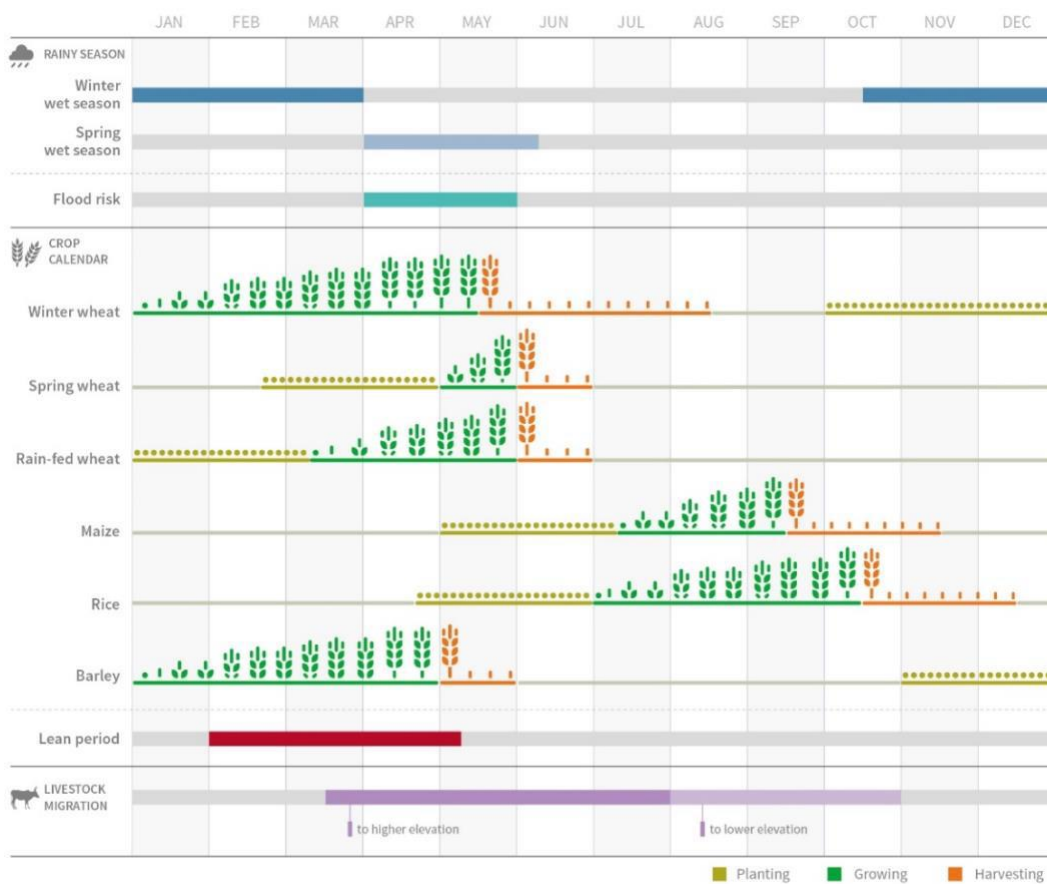
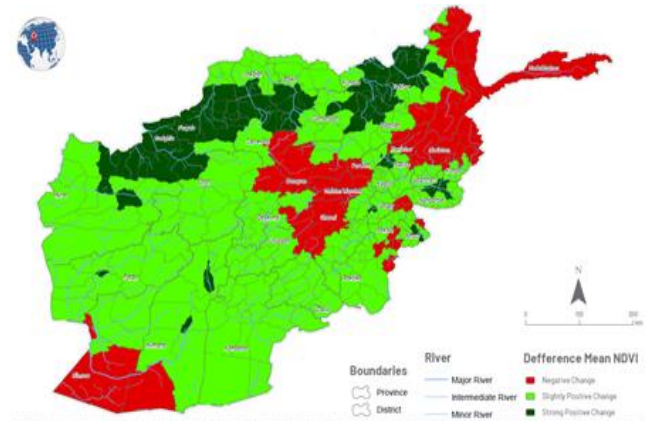


Figure 1: Afghanistan crop calendar according to FAO 2021 data.

The methodology involves comparing NDVI scores from peak and off-peak seasons (April and November) to identify significant changes indicative of agricultural activities. These changes are categorized and mapped at the district level to deduce active agricultural zones.

The study cross-verifies its NDVI-based findings with external research for robustness but acknowledges potential data collection limitations, especially in hard-to-reach areas, which may necessitate expanding the sampling to neighbouring districts for better representativeness.

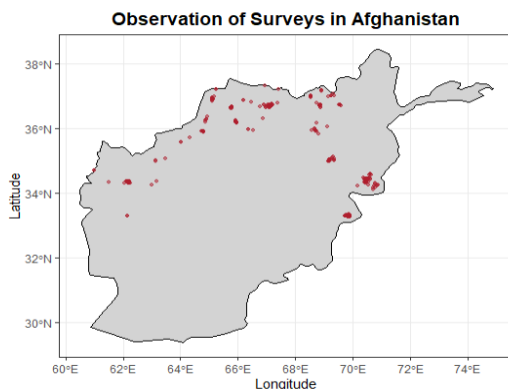


Map 12: Afghanistan Difference Mean NDVI Map (November vs April 2023)

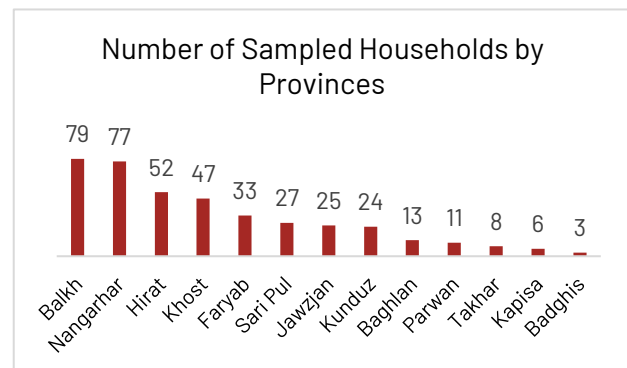
### Sampling Characteristics

The sampling strategy for the study was formulated to provide insights despite the operational limitations and the impossibility of achieving a truly representative sample, due to the absence of complete records of households engaged in agriculture in Afghanistan. The sample comprised of responses from 405 households across 13 provinces, with the highest frequency of respondents from Balkh and Nangarhar, followed by Herat, Khost, and others. The distribution reflects an effort to capture a broad spectrum of agricultural activities, yet it does not disaggregate the scale of these activities—whether households are engaged in large-scale or small-scale agriculture. This intentional design recognizes the study's objective to inform humanitarian actors rather than offer an exhaustive representation. It provides a critical snapshot of the agricultural landscape, enabling these actors to conduct complementary studies tailored to their specific proposals and programs. While providing valuable insights, the study acknowledges the need for additional, targeted research to fully understand the nuances of agricultural practices across Afghanistan.

Through the study it is important to note that sampling comes through households who are involved in agriculture activities. All outcomes of the analysis are bound by this sampling design and study objective.



Map 1: Survey locations in Afghanistan. Red dots indicate households sampled.





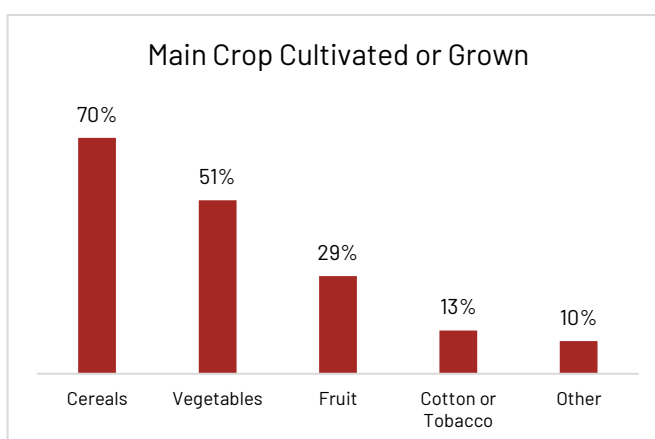
## MAIN FINDINGS

### Demography

The demographic profile of respondents in the study presents a predominantly male representation, with 354 male respondents compared to 47 female respondents, while a few respondents either did not disclose their gender or preferred not to answer. This gender distribution reflects the broader socio-cultural dynamics of rural Afghanistan and its agricultural sector, potentially indicating the gendered nature of agricultural engagement in the country. Additionally, the geographic spread of respondents included a mix of 98 from city centers or metropolitan areas, 176 from rural settings, and 130 from suburban or peri-urban areas, with one response not available. This diverse geographic distribution is significant, as it encompasses a variety of agricultural contexts, from densely populated urban areas to the more traditional rural settings. The average age of respondents was 27.4 years, suggesting a relatively young demographic, which could have implications for the adoption of new agricultural techniques and the potential for long-term engagement in agricultural trainings. The youth of the sample may also reflect the demographic makeup of the country and the active labor force in Afghan agriculture. It is essential to consider these demographic factors when interpreting the study's findings, as they provide context for the perceptions and needs related to agricultural training.

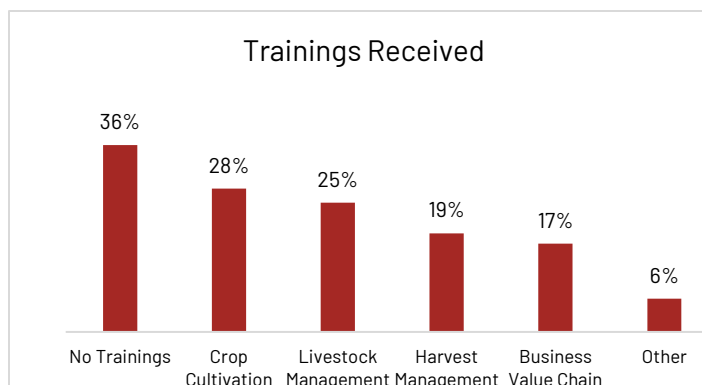
### Exploring Current Agricultural Activities and Previous Trainings

The households involved in the study have, on average, ten years of experience with agriculture, indicating a relatively established relationship with farming practices. A significant majority, **76%**, reported agriculture as their primary source of income, underscoring the sector's critical role in their livelihoods. Livestock also constitutes a substantial income source for **36%** of these households. Interestingly, **18%** have non-agricultural employment, suggesting a degree of income diversification, which may be indicative of resilience in the face of agricultural uncertainty.



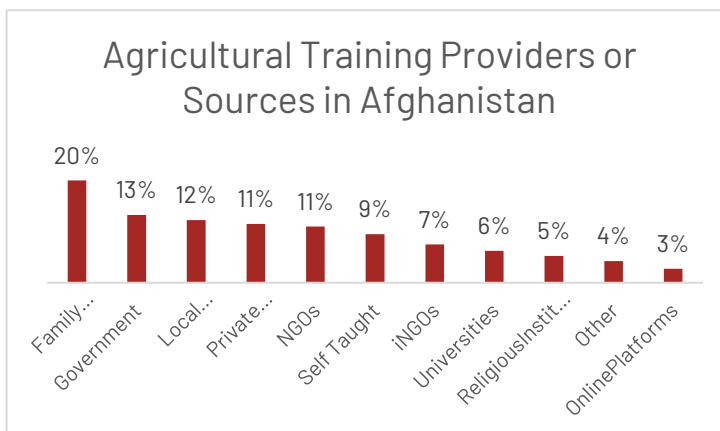
In terms of cultivation, cereals are the most grown crops, with **70%** of households engaged in their cultivation, reflecting the staple nature of cereals in Afghan diets. Vegetables also play a significant role, with **51%** of households cultivating them, perhaps due to their shorter growth cycles and potential for income generation. The cultivation of fruit and cotton or tobacco is noted among **29%** and **13%** of households, respectively, pointing to a varied agricultural base.

Livestock ownership is prevalent, with **70%** of households affirming ownership. The diversity in income sources and agricultural practices suggests a complex agricultural landscape that may require varied and specific training programs.



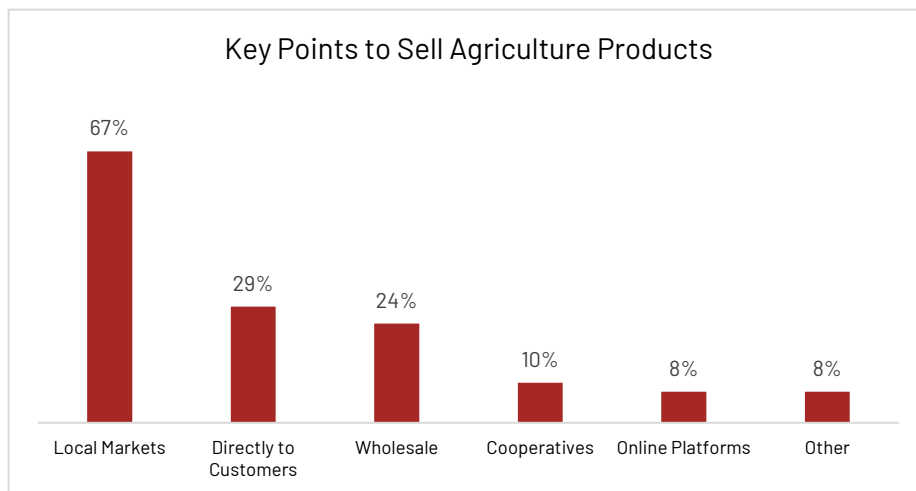
As for training received, a notable **36%** of respondents have not received any training, highlighting a significant gap in agricultural education and support. For the rest, as multiple selection question, crop cultivation and livestock management are the most common training topics received, at **28%** and **25%** respectively. However, training in the business value chain and harvest management and storage, received by **17%** and **19%** of households, indicates an awareness of the importance of not only production but also post-harvest processes in agriculture.

Personal mentorship from family stands out as the primary training provider (**20%**), emphasizing the role of traditional knowledge transfer in agricultural communities. However, government and private agricultural companies are also notable contributors, providing **13%** and **11%** of the trainings, respectively. The involvement of local communities, NGOs, and universities suggests a collaborative effort in agricultural education, which is essential for the sustained development of the sector.



### Identify Key Challenges and Needs

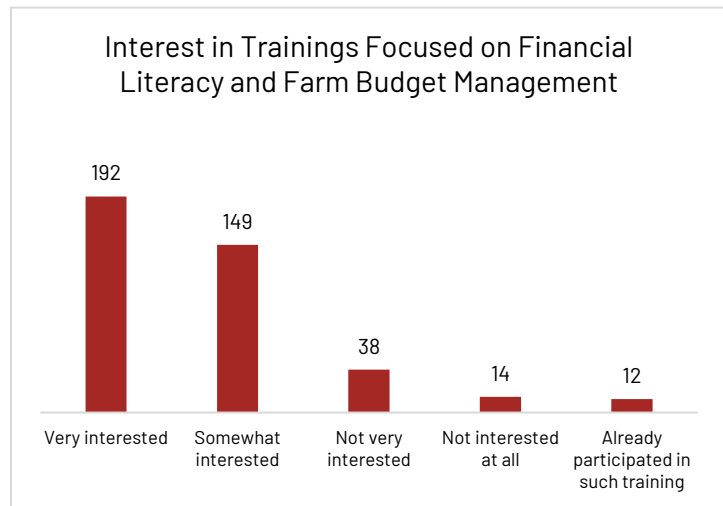
Afghan agricultural activities are fraught with challenges, crucially underscored by the **37%** of households facing inadequate water supply, a critical issue for the society. Access to quality seeds and fertilizer is a challenge for **33%** and **29%** of households, respectively, potentially impeding crop yields and the ability to sustain or expand farming operations. Financial constraints are also apparent, with **15%** of households struggling to access credit, which could inhibit investment in modern equipment and technology—another significant challenge noted by **25%** of respondents.



The accessibility of markets, reported by **26%** of households, and the presence of pests and diseases, affecting another **26%**, further compound the difficulties faced by Afghan farmers.

When it comes to selling their produce, a majority (**67%**) rely on local markets, while a smaller fraction utilizes cooperatives (**10%**) and wholesale to retailers (**24%**). This reliance on traditional market systems may expose farmers to a range of market access challenges—**27%** report limited access to markets, and a significant **56%** are affected by low market prices, which could severely impact their income and livelihoods. Complications such as logistics (**25%**), competition (**26%**), and payment or credit issues (**38%**) also present substantial barriers to market entry and profitability.

Interestingly, the data indicates a discrepancy in record-keeping practices, with only **38%** of households maintaining detailed records regularly, which is essential for managing farming expenditures and income. This gap highlights the need for training programs focused on financial literacy and farm budget management, which a substantial number of respondents are very interested in (**47%**). However, there is a portion of the population that has already participated in such training (**3%**) or is not interested at all (**3%**), suggesting the need for diverse educational approaches to meet varied levels of interest and experience.



## Understand Community Perceptions and Preferences

Understanding the community's perceptions and preferences is vital for tailoring agricultural training programs that are both effective and eagerly received. The data reveals that field crops, notably wheat and rice, are the primary interest area for training, with **27%** of respondents prioritizing this sector. Crop cultivation techniques also emerge as a key area, sought by **19%** of the respondents, indicating a strong desire to enhance traditional agricultural practices. Homestead gardening and livestock management are also significant, with **16%** and **12%** of respondents respectively showing interest, reflecting the varied agricultural activities within the community.

Regarding the preferred duration of training programs, one-third of respondents believe it should depend on the topic, suggesting a call for flexible and topic-specific durations. A substantial proportion, **27%**, advocate for one-week programs, and an additional **20%** favor a concise two to three-day duration, indicating a preference for short, intensive training sessions that can quickly be applied to their agricultural work.

The preference for hands-on experience is overwhelmingly clear, with **71%** of respondents favoring practical learning. This underscores the value placed on tangible skills that can be directly applied to enhance agricultural productivity. In contrast, only **17%** prioritize theoretical knowledge, and a mere **3%** are interested in online or remote training methods. A combination of both practical and theoretical training is favored by **9%**, highlighting the importance of a well-rounded educational approach.

These insights are crucial for developing agricultural training programs that align with the needs and preferences of the Afghan farming community, ensuring that such programs are poised for success and high engagement.

## Conclusions

The study reveals a critical need for targeted agricultural training in Afghanistan. The findings indicate that while agriculture forms the backbone of some households' livelihoods, there is a significant gap in training and

support. Challenges like water scarcity, seed and fertilizer access, financial constraints, and market limitations exacerbate the struggles faced by Afghan farmers. The community's preference for practical, field-based training highlights the necessity of hands-on learning approaches in any future agricultural training programs. Addressing these gaps and preferences is essential for enhancing agricultural productivity, supporting livelihoods, and ultimately contributing to the broader economic and social development of Afghanistan.

## Recommendations

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1. **Develop Tailored Training Programs:** Agricultural training should be customized to address the specific needs and preferences of Afghan farmers, focusing on *practical skills in crop cultivation and livestock management*.
2. **Enhance Water Management:** Training in *efficient water use and management techniques* is critical due to the prevalent issue of water scarcity.
3. **Improve Access to Resources:** *Programs should facilitate* better access to quality seeds, fertilizers, and financial resources, possibly through partnerships with government and private entities.
4. **Financial Literacy:** Training should include aspects of market access, negotiation skills, and financial management to help farmers navigate market challenges and improve their income.
5. **Expand Reach of Training:** Considering the diverse geographic and socio-cultural landscape of Afghanistan, training programs should be made accessible to a wide range of communities, including remote and hard-to-reach areas.

## Limitations of the Study

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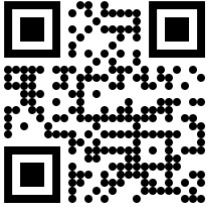
The study "*Exploring Perceptions and Opportunities for Agricultural Trainings in Afghanistan*" faces several limitations, primarily stemming from its reliance on the Premise platform for data collection. This reliance on smartphone and internet access introduces a potential bias, as it excludes households lacking these technologies, potentially skewing the sample away from an accurate representation of the entire population. The methodology, which focuses on collecting data from a single household member, may also limit the accuracy in measuring broader household awareness and perceptions, particularly in instances where multiple family members are involved in agricultural decisions.

Moreover, the study encountered challenges in achieving its intended sample size and distribution due to non-response rates and operational constraints. This issue led to an uneven representation of certain provinces, potentially affecting the study's generalizability across Afghanistan's diverse regions. Another significant limitation is the gender imbalance in survey respondents, with a majority being male. This imbalance could introduce a gender bias, limiting the study's ability to reflect the experiences and perspectives of Afghan women. These limitations suggest that caution should be exercised when interpreting the findings and underscore the need for a more inclusive and representative approach in future research.

**For more information, please contact us at:**

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More on [FSAC Afghanistan](#).



**Disclaimer:** iMMAP Inc. has spearheaded research to assess the agricultural productivity and exploring opportunities to increase the efficiency of agricultural trainings in Afghanistan. This analysis is grounded in data derived from a comprehensive survey, executed in partnership with the FSAC. It is important to note that the findings and conclusions presented in this report are based on the surveyed data and do not necessarily reflect the official positions of iMMAP Inc., FSAC, or their Cluster Lead Agencies, including the Food and Agriculture Organization and the World Food Program of the United Nations.