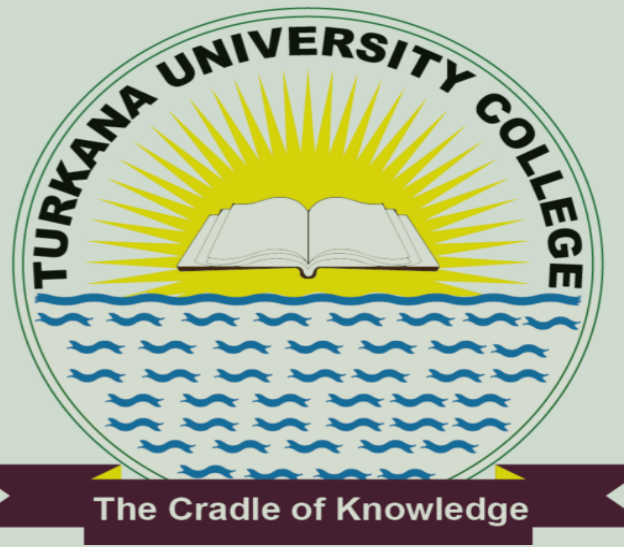




AGRO-ECOLOGICAL APPROACHES FOR FRUIT AND VEGETABLE PRODUCTION SYSTEMS IN DRYLANDS: OPPORTUNITIES AND BOUNDARIES OF TURKANA COUNTY, KENYA



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1 Introduction

- Turkana County is located in the northern part of Kenya.
- It is arid and semi-arid region.
- Home to **pastoralist communities**, with some **agro-pastoralist** activities along riverbanks.

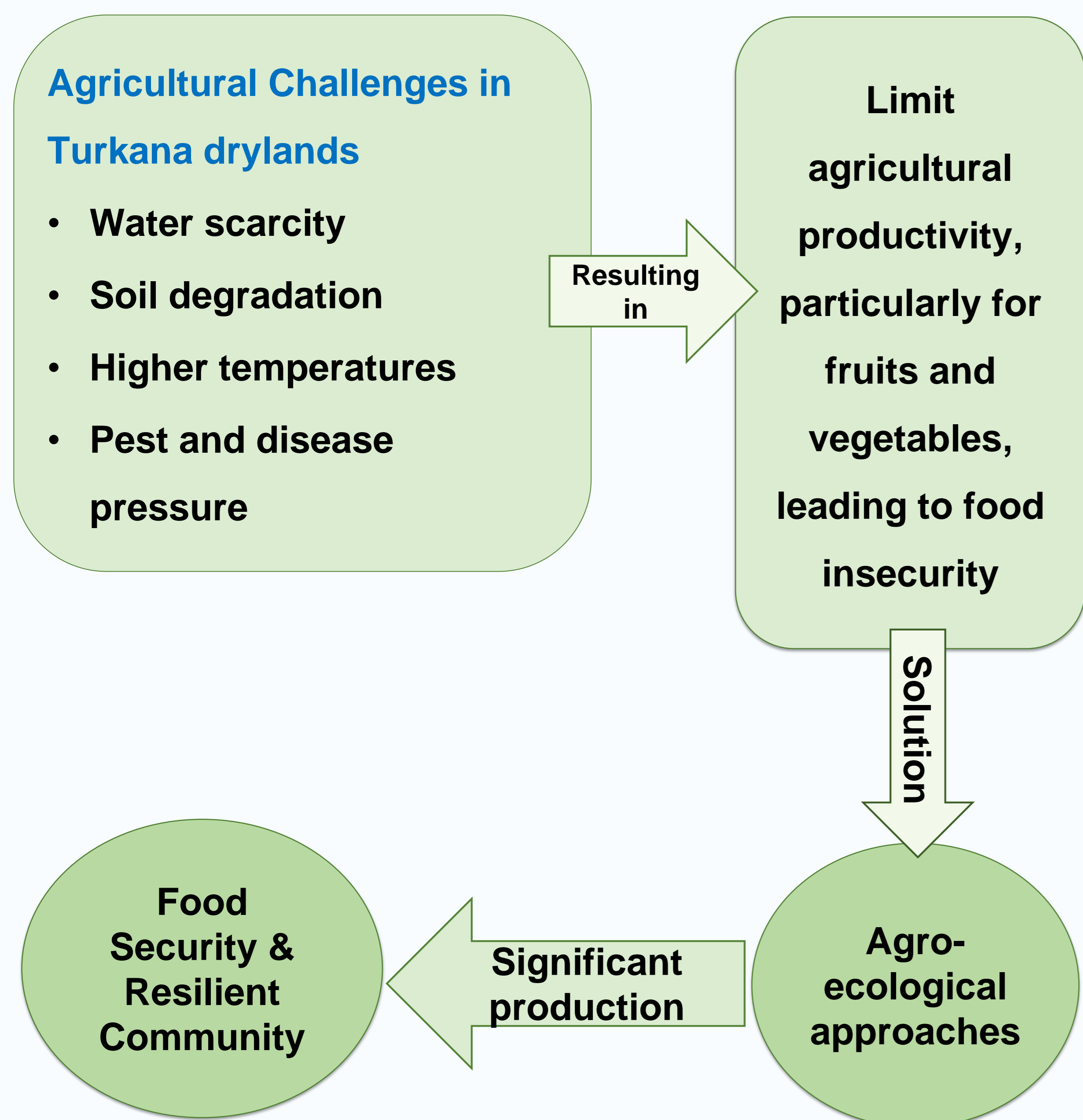


Figure 1: Introduction (Behnke & Shisanya, 2015 & Altieri, 2018)

2 Objectives

- Identification of challenges associated with producing fruits and vegetables in Turkana.
- Exploration of alternative methods to improve the yields of local fruits and vegetables in the region.
- Assessment of the sustainability of these alternative methods for increasing fruit and vegetable production.

3 Methodology

- Study sites: Kabulokor and Atala kamusio in Turkana County
- Time frame for data collection: September 2023 – April 2024
- Formative research design (figure 2)

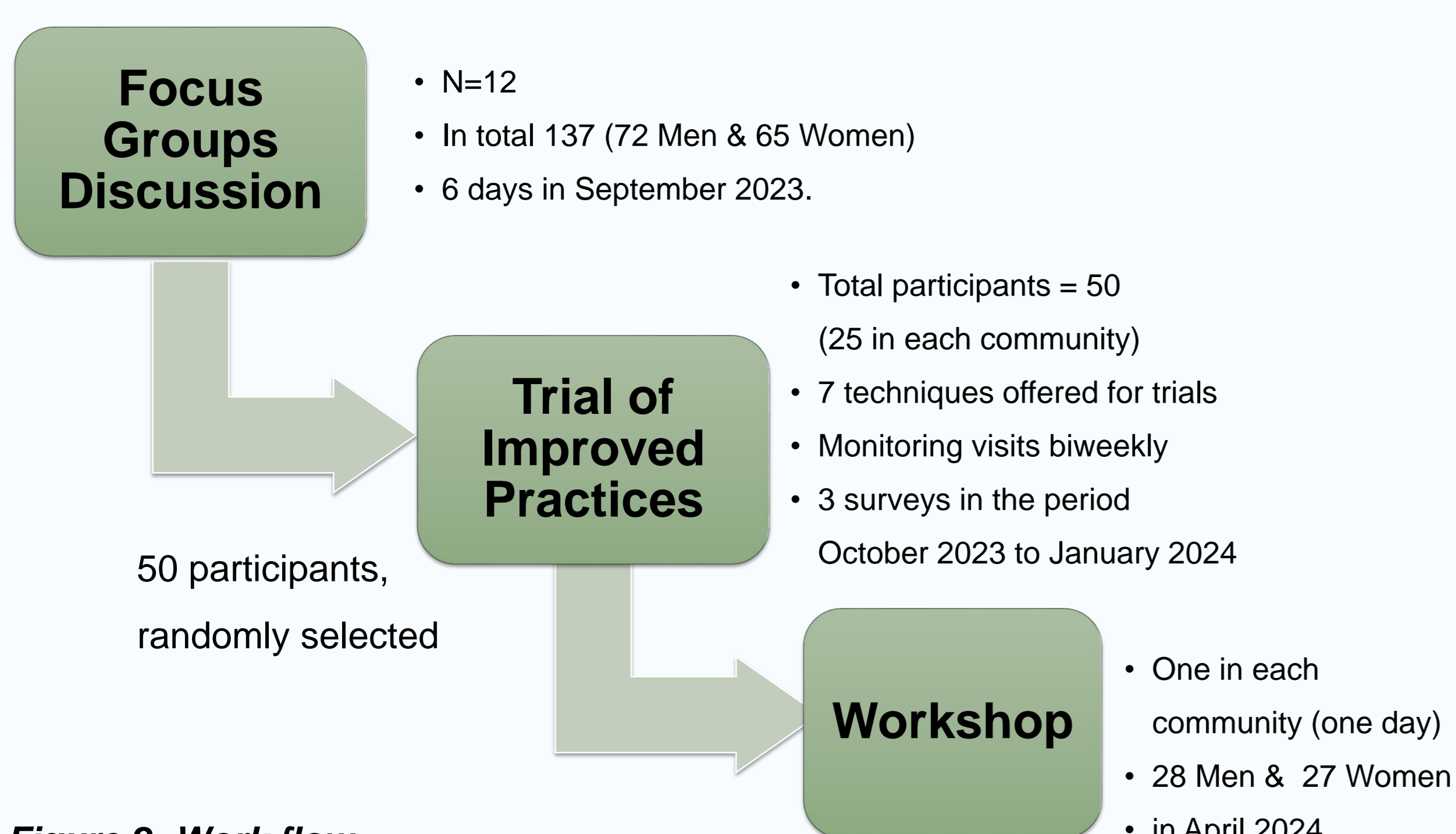


Figure 2: Work flow

4 Results

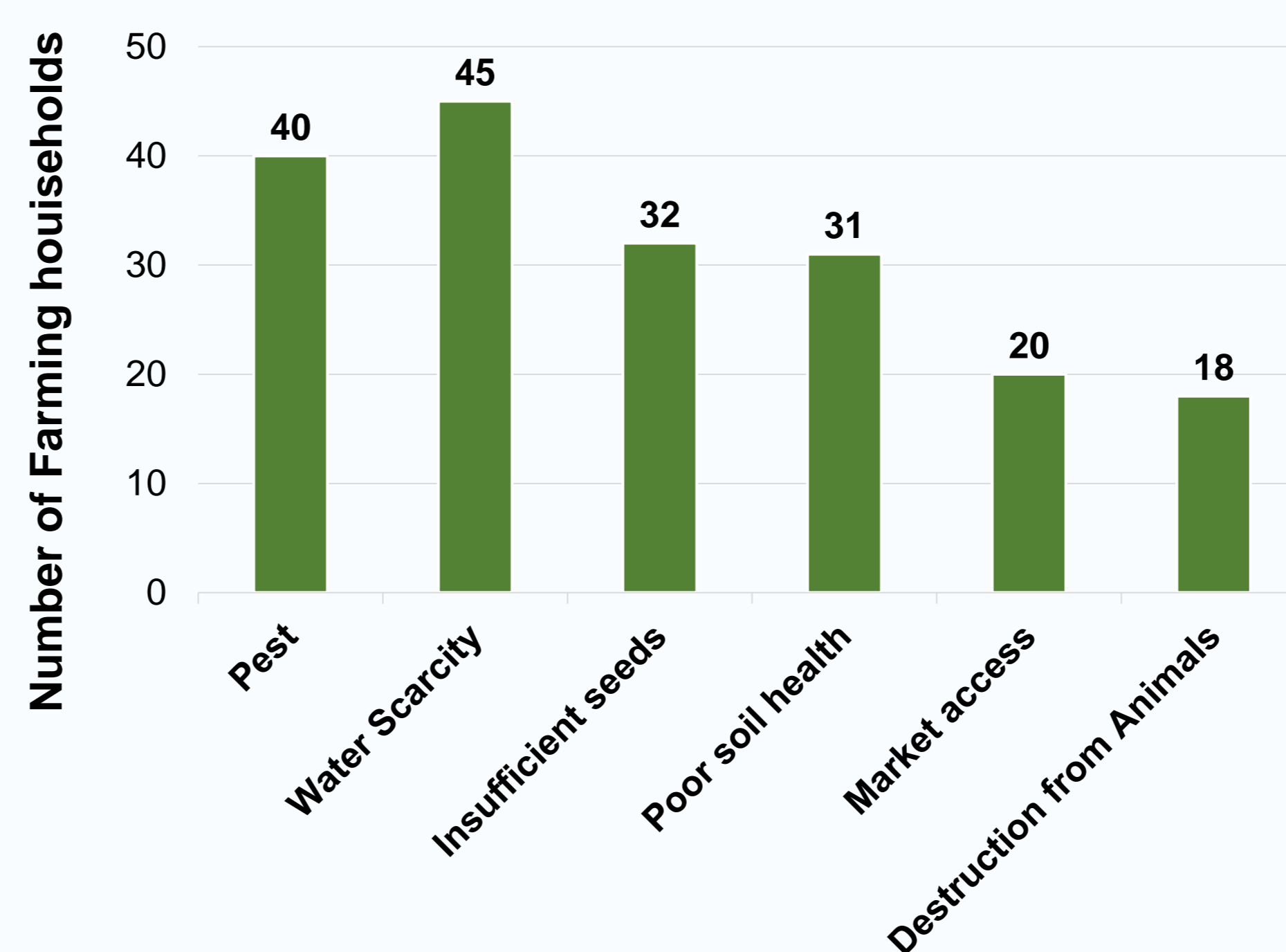


Figure 3: Challenges in growing fruits & vegetables (n=50)

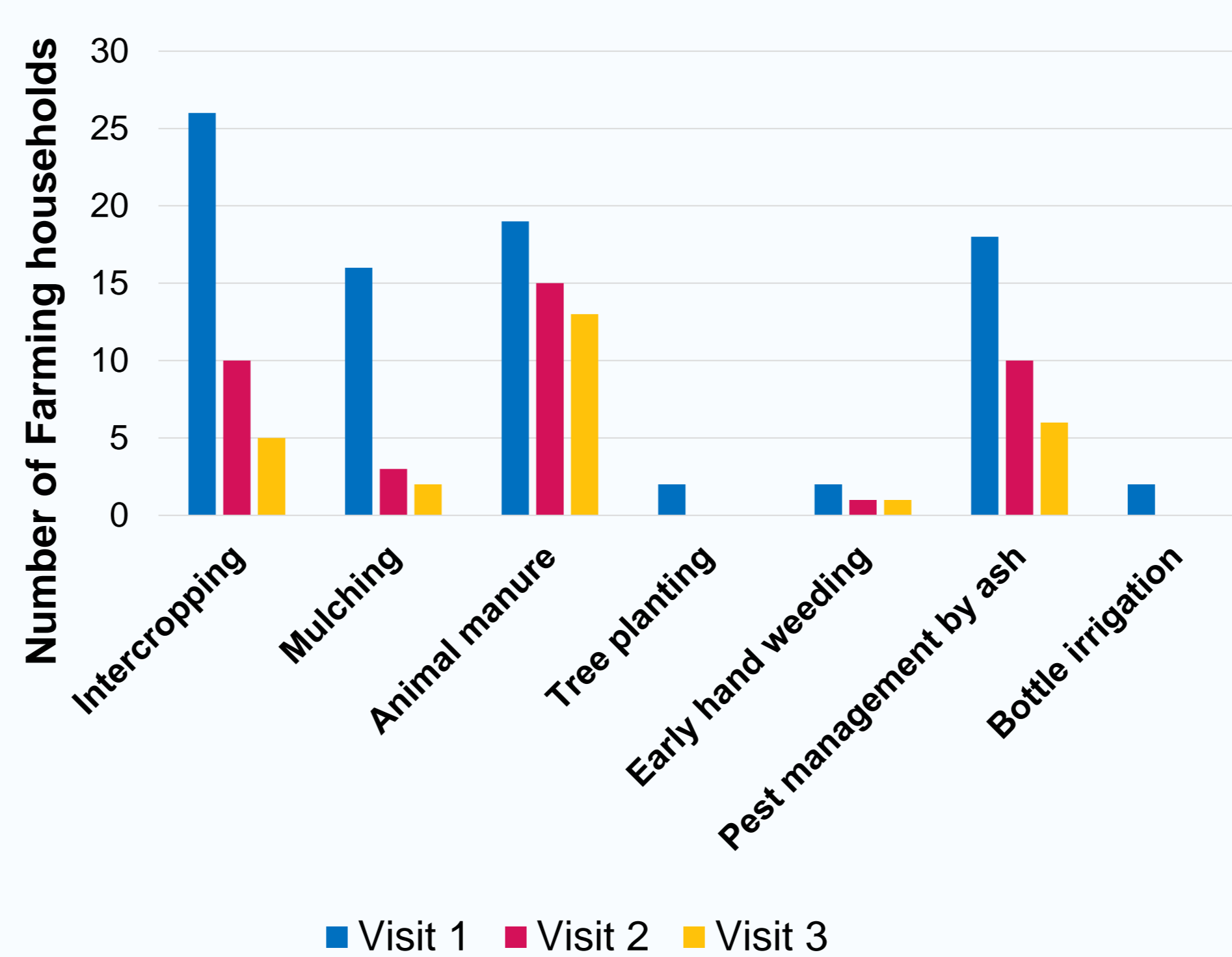


Figure 4: Agro-ecological approaches implemented by farmers (n=50)

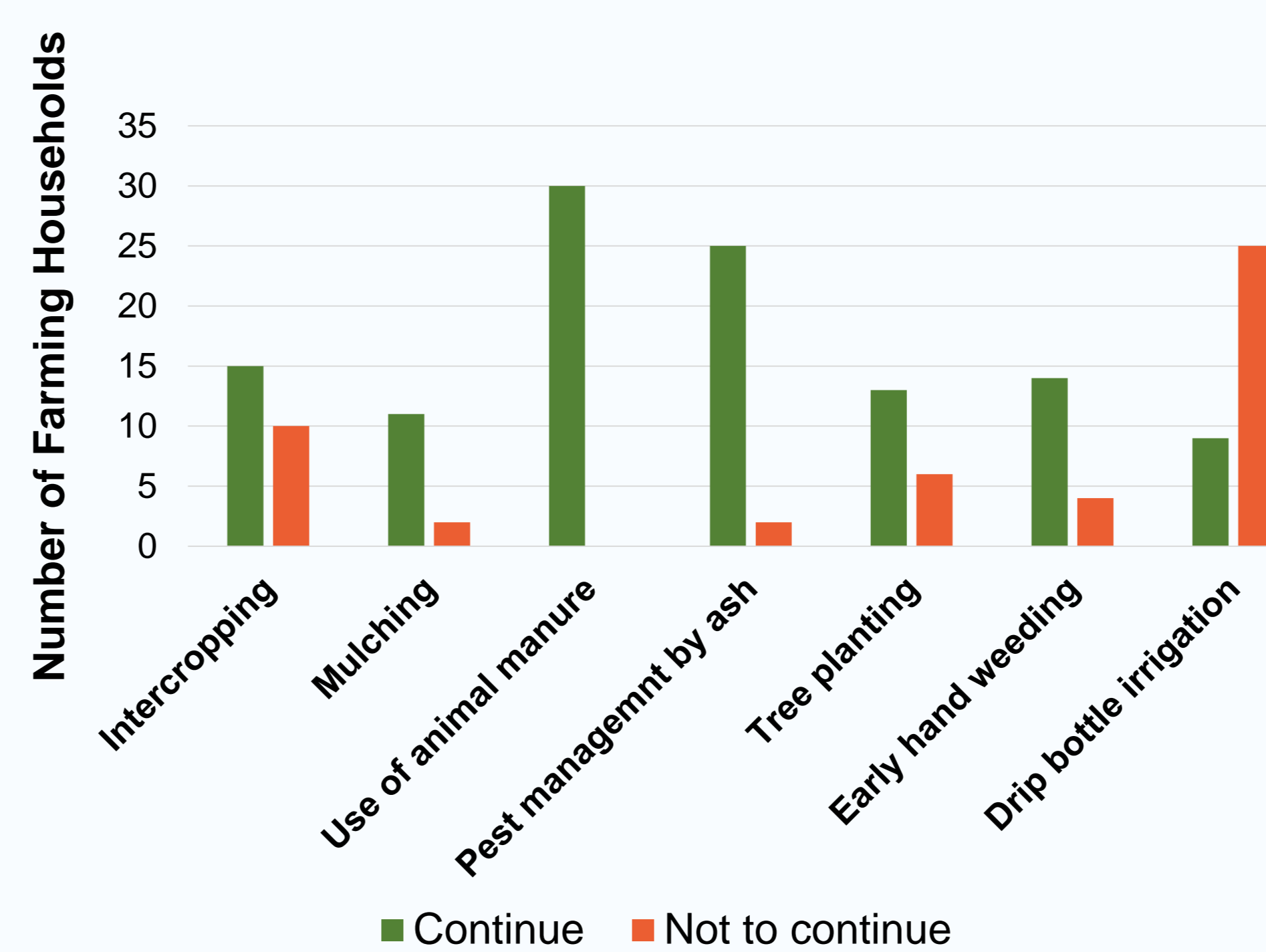


Figure 5: Willingness to continue or not to continue with the tested techniques (n=50)



Figure 6: Photo showing Technique section and Control Section

5 Discussions

- Successful messaging to farmers showed potential for **sustainable production** of fruits and vegetables.
- Techniques like **bottle irrigation** was not well-received due to poor communication and unclear explanations.
- There was successful **Farmer to Farmer** transmission of information about various techniques

6 Conclusion

- Addressing **communication and training barriers** is crucial for successful adoption of sustainable agricultural practices.
- Farmers were willing to adopt techniques if these were communicated well.

7 Acknowledgment:

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8 References

- Altieri, M. A. (2018). *Agroecology: The Science of Sustainable Agriculture*. CRC Press.
- Behnke, R. H., & Shisanya, C. (2015). *Pastoralism and the Political Economy of Drought in Kenya's Turkana Region*
- McKinsey. (2023). *The agricultural transition: Building a sustainable future*. McKinsey & Company.

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