Chapter 11
Enhancing Food Security Through Sustainable Agriculture:
A Case Study of the Pfumvudza/Intwasa Program in Zimbabwe

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ABSTRACT

The Pfumvudza programme is an example of how sustainable agriculture can empower smallholder farmers and contribute to global food security. Usage of zero-tillage and mulching has improved soil health and yields, reduced water usage, and boosted the livelihoods of farmers. Pfumvudza offers valuable lessons for other nations grappling with food insecurity. Its principles can be adapted to diverse agroecological contexts, while its theoretical implications can inform research on long-term impact assessment, and the influence of policy on such programs. The study recommends continuous monitoring and evaluation, tailoring practises to different environments, integrating technology and capacity building among farmers, encouraging community participation and securing policy support, and prioritising climate-resilient and gender-inclusive practises. Future research directions include investigations into the program's adaptability, explorations of its social and economic implications scrutinising its climate change resilience, and fostering global collaboration for knowledge exchange.

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INTRODUCTION

Food security sits at the heart of the Sustainable Development Goals and government policies in sub-Saharan Africa (SSA) (Bjornlund et al., 2022). Emerging after devastating famines in the 1970s (Gerlach, 2015), the concept has become crucial for a region where smallholder agriculture remains a cornerstone of both household food security and rural development (Gollin, 2014 cited in Abegunde et al., 2020). However, climate change increasingly threatens the vital role played by smallholder farmers in ensuring food security across SSA (Kapari et al., 2023). Declining crop yields, coupled with environmental degradation and resource depletion, paint a worrying picture (Mujere, 2022). Rapid population growth, land shortages, and poor soil quality further contribute to the region's vulnerability (Kondwakwenda et al., 2022). The World Bank estimates that approximately 9% of the global population faces food insecurity (2021). Governments and partners are turning to Conservation Agriculture as a potential solution (Mavesere & Dzawanda, 2022). However, rural communities remain highly vulnerable due to their reliance on climate-sensitive livelihoods and rain-fed agriculture (Kapari et al., 2023; Denison et al., 2016). The situation is further compounded by a poorly functioning rural economy with inadequate infrastructure, limited market access, and insufficient support services, leaving smallholders isolated and unable to fully integrate into agricultural value chains (ILO, 2008).

To effectively contribute to national food security according to HLPE (2013), smallholder farmers must:

1. Increase food production: Enhancing availability is vital to address food insecurity.
2. Provide income and livelihood: Sustainable livelihoods are essential for long-term food security.
3. Contribute to diverse diets: Ensuring access to a variety of nutritious food is crucial.
4. Serve as a buffer against market shocks: Smallholder agriculture can provide a safety net during periods of market instability.

Addressing these challenges and empowering smallholder farmers is key to achieving food security in sub-Saharan Africa. By implementing effective policies and investing in infrastructure, market access, and support services, governments and partners can create an enabling environment for smallholder success and ultimately, a food-secure future for the region. The Food and Agriculture Organization (FAO) has identified three fundamental principles of conservation agriculture that farmers can follow as they engage in the conservation agriculture process. These three