

‘Personalized Agriculture’ for smallholder farmers in
Malawi: Evidence-based solutions for individual
smallholder farmlands

[Student Name]

Introduction and Background

Where?

- MALAWI – A small, poor country in southern Africa
- Population – 12 million, with more than 60% of the people living below the poverty line
- Main occupation – AGRICULTURE – smallholder farmers in the region rely on agriculture for their survival

Why?

- Malawi is affected by several natural disasters, alternating between drought and floods
- Due to this, Malawi faced heavy food crises in the past few years
- The population is heavily dependent on agriculture and unstable weather conditions have forced farmers into extreme poverty

Introduction and Background

Barriers to Improvement

- Smallholder farmers are resistant to the idea of crop diversification and crop rotation
- They do not have a sustainable agricultural system in place
- Due to poverty, the smallholder farmers do not spend money on good quality fertilizers
- The soil fertility has been heavily compromised due to negligence and lack of funds

Previous Work

Solution

CONSERVATION AGRICULTURE PRACTICES

- Shown to significantly increase maize yields in the region
- Improved household economy and food security for smallholder farmers

Problem

- High rates of disadoption of conservation agriculture practices by Malawian smallholder farmers
- 18.5% of smallholder farmers practice conservation agriculture on 10% of their farms accounting for 2.1% of cultivable area in Malawi

Previous Work

Reasons for Disadoption

- Increased problems of weeds
- Competition for crop residues
- Insufficient land for crop rotation
- Increase in crop diseases
- Lack of investment in soil manure
- Lack of risk protection
- Lack of good quality supplements and implements
- Failure in perceiving immediate benefits
- High expectations of smallholder farmers

Proposal

PERSONALIZED AGRICULTURE

The concept of ‘One Solution Fits All’ is not applicable here!

- Individual farmers have different perspectives about agricultural practices based on their social, cultural, and economic contexts
- Individual needs and requirements of Malawian smallholder farmers need to be considered and personalized agricultural remedies need to be provided
- These personalized remedies need to be relevant and specific to each smallholder farmer’s agricultural practices and farming requirements

Aims and Objectives

- Provide personalized solutions to Malawian smallholder farmers for adopting conservation agriculture practices
- Understand individual reasons for disadoption of conservation agriculture practices
- Tailor solutions to each farmer's specific beliefs and farming requirements

Approach and Methods

- **Study area** – 8 to 10 smallholder farms in southern Malawi

Rationale: This is the hardest hit area in the most recent food crisis

- **Data collection** – Agricultural Development Extension Officers

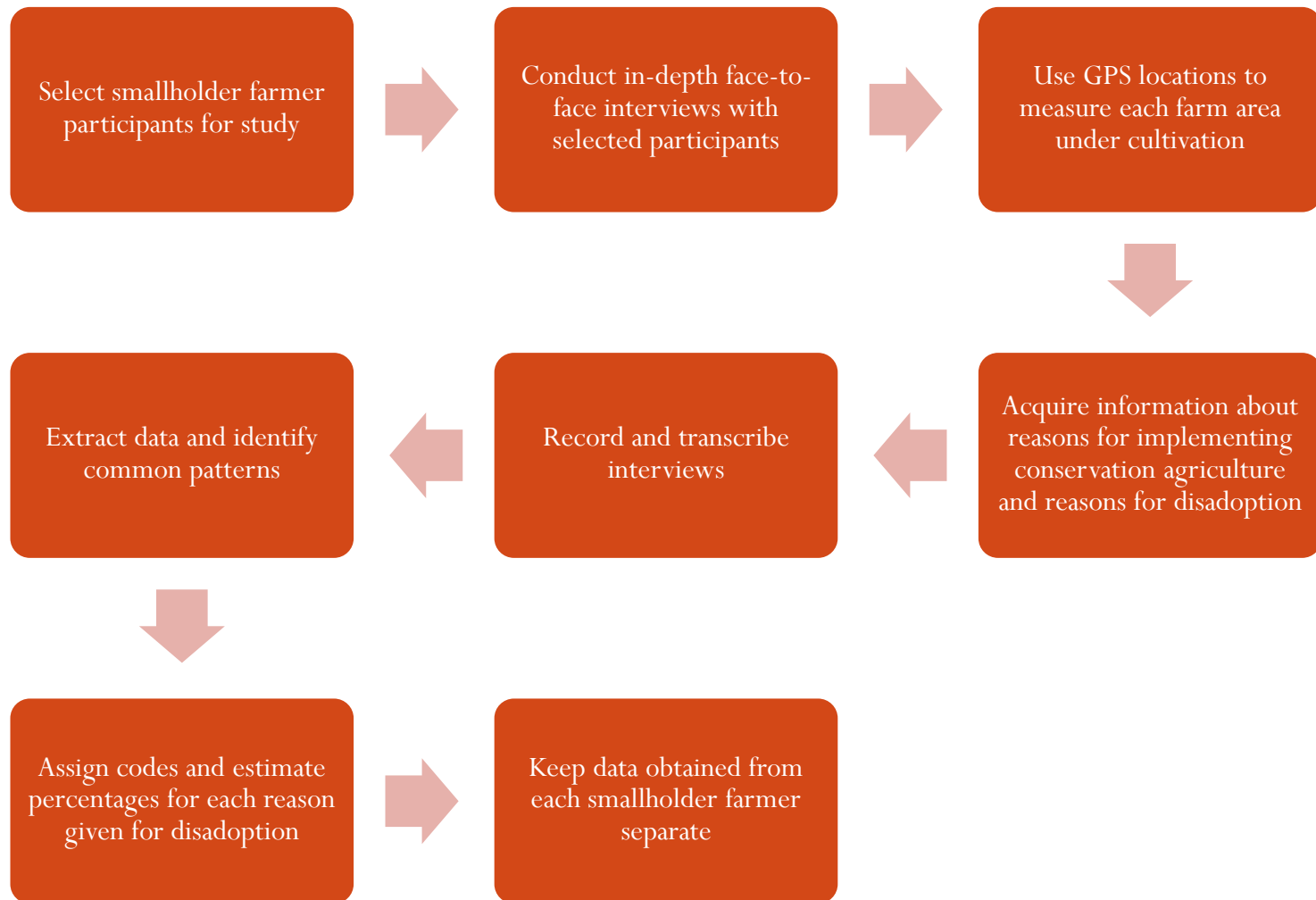
- **Study population** – Smallholder farmers who actively adopted conservation agriculture practices for at least 1 year before switching to traditional agriculture practices

Rationale: To understand the factors that caused them to shift from conservation agriculture to traditional agriculture after 1 year of implementation

- **Study design** – Qualitative

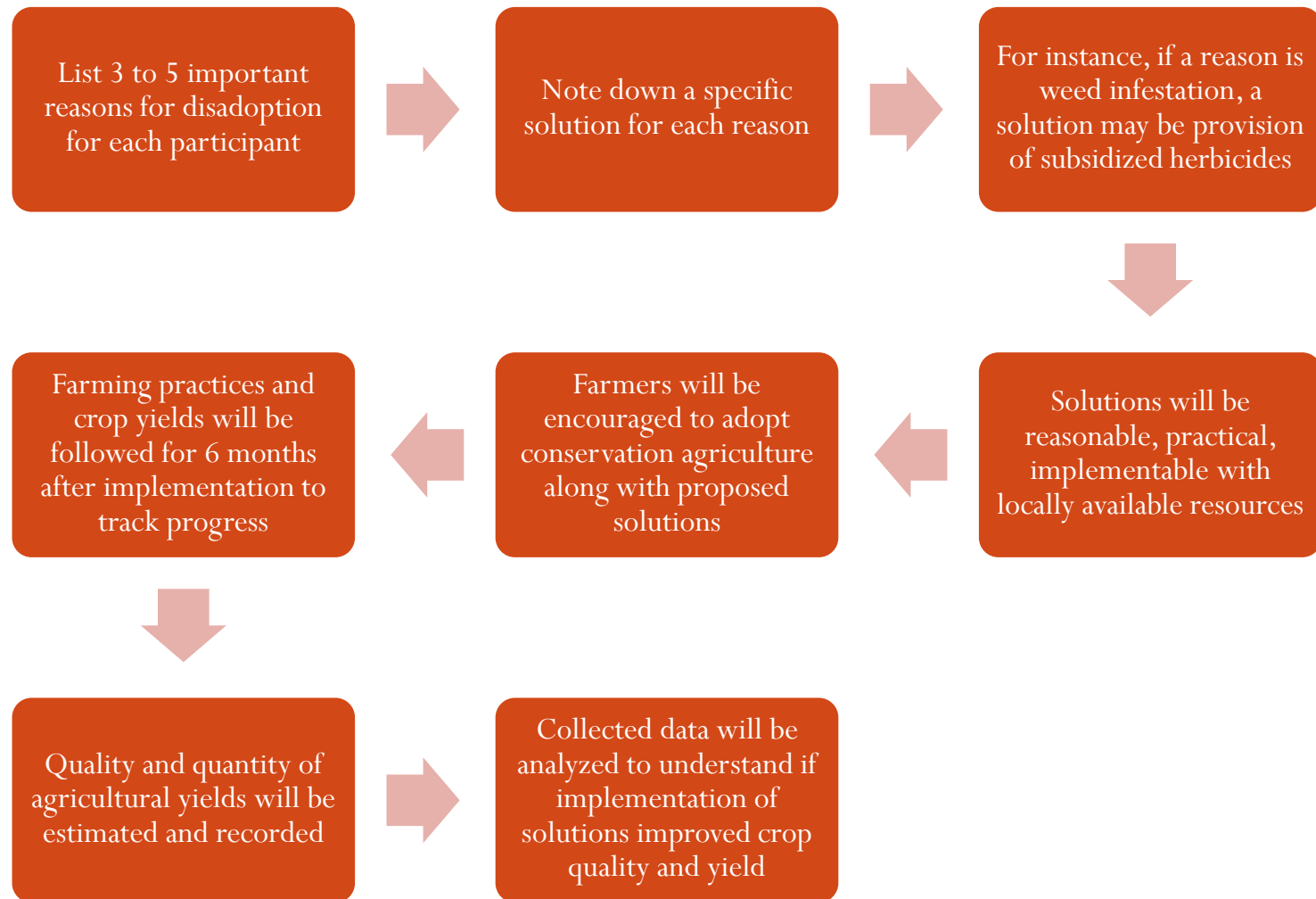
Approach and Methods

Understand Reasons for Disadoption



Approach and Methods

Provide Personalized Agriculture Solutions



Suitability of Individual to Undertake the Work

- University actively involved in upliftment of smallholder farmers
- Several ongoing research studies for developing new approaches in agriculture
- Ardent supporter of conservation agriculture practices
- In-depth knowledge and direct involvement in research

Conclusion

- Malawi is one of the poorest regions of the world due to erratic climatic conditions and heavy food crises
- Malawian smallholder farmers are extremely resistant to change their agricultural practices
- Research has shown that they have faced several issues in implementing conservation agriculture practices that led to disadoption on their farms
- We propose ‘personalized agriculture’ solutions to address specific issues faced by smallholder farmers
- Selected participants will be interviewed and personalized recommendations will be made based on their individual agriculture problems

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