# CONCEPT PAPER

# INTRODUCTION

Smart farmer project is about designing and implementing a software that will help farmers to improve their productivity. We are to identify the farming activity suitable for specific soils (land), identifying crop and animal diseases, providing alternative solutions suitable for the respective diseases and linking farmers to markets where their products are highly demanded.

# BACKGROUND OF THE PROBLEM

Agricultural sector is one of the sectors that Rwanda’s economy bases on, However most Rwandans carry out subsistence farming. The sector of Rwanda is facing a number of challenges that hinder farmers productivity and hence low revenue. The challenges include the following [1]:

* Poor farming techniques
* Limited access to quality farm inputs
* Inadequate production and post harvest technologies.
* Lack of awareness by farmers on better farming methods
* Low production and productivity resulting in low revenue
* Limited market access due to inadequate marketing and agro processing facilities
* failure to know the standard prices of Agricultural products.
* Failure to identify best crops and fertilizers to be used in a particular soils.
* Failure to identify crop diseases, Animal diseases and possible solutions to fight them

AgriProFocus has tried to bring together farmers,civil society, knowledge institutes and governments to find new, sustainable ways of creating impact with Agricultural markets. This has not solved the problem because many farmers in Rwanda still carry out subsistence farming[2].

The government of Rwanda through the ministry of Agriculture and Animal Resources also unveiled an initiative that aimed at addressing the challenges faced by farmers. Under the initiative, the ministry would partner with universities in research to help find solutions to the Agriculture sector’s problems[3]. this still hasn’t eradicated the problem.

The Smart Farmer project is intended to tackle all the above problems that have not been solved.

# PROBLEM STATEMENT

Currently, Farmers in Rwanda are carrying out subsistence farming and most of them are unaware of good farming inputs that are suitable for their farms. They also don’t know good fertilizers and pesticides that are suitable for their farms hence low productivity and have limited access to markets.

# AIM AND OBJECTIVES

## AIM

To develop Smart Farmer Application that will increase farmers’ market access and guide them about using their land productively.

## SPECIFIC OBJECTIVES

To gather the requirements for the Smart Farmer application

To analyze the Smart Farmer Application

To design the Smart Farmer Application

To implement the Smart Farmer Application

To test the Smart Farmer Application

To deploy the Smart Farmer Application

# RESEARCH SCOPE

The Smart Farmer Project covers all farmers of Rwanda who have access to internet.

# RESEARCH SIGNIFICANCE

The Smart Farmer Project will benefit farmers,government and agribusiness-men in the following ways;

Farmers will get access to quality farm inputs

Farmers will be able to identify crop and animal diseases and possible solutions to fight them.

Farmers will be equipped with skills that will enable them to choose better farming methods.

Farmers will get access to markets and market prices.

Farmers will acquire knowledge about how to effectively use their land for business.

Farmers will acquire knowledge about best fertilizers to be used in a particular soils.

# METHODOLOGY

We shall use Agile method throughout the development of Smart Farmer Application.

# REFERENCES

1. <https://fortuneofafrica.com/rwanda/challenges-faced-by-the-agriculture-sector/>
2. <https://agriprofocus.com/rwanda>
3. [https://www.newtimes.co.rw/section/read/226475](https://www.newtimes.co.rw/section/read/226475/)