**JKUAT-KSA Small Scale Agriculture Crop Mapping Project**

**A Summary of the User Needs Assessment for the SSCM Development Project.**

**Farmer Information Needs Assessment**

This includes the problems and opportunities of farmers, and the kind of information they require, in order to develop a suitable system. These needs include:

* Weather forecast and history: Farmers need to be warned about climate hazards, and to be informed about weather patterns to guide their decision making concerning planting, harvesting, and other farm activities.
* Market Information: Farmers need information regarding the nature of the market to avoid losses in times of glut.
* Soil fertility and soil properties content: farmers need guidance on precise fertilizer application to minimize costs on farm inputs.
* Pest and disease infestation and control measures: precise application of pesticides.
* Education on best farming practices and crop manuals, including planting and seed variety information, topdressing tips, among others.
* Field activities management: such as spraying pesticide, fertilizer application, managing weeds on the farm.
* Informed decision making

**Policy Makers**

* Access to information about road networks, crop yields, crop health, crop type, climate and reports of such parameters recorded for a chosen time period
* Access to vast amounts of data for larger regions such as counties
* Highly processed visual data such as line graphs and charts to follow up on crop, soil and climate properties records
* Making farming more profitable for small-scale farmers.
* Due to the scarcity of arable land, irrigation is becoming more important as a means of supplementing rain-fed agriculture.
* Encouraging a wider range of crops and value-added products in order to lessen the risk of failure.
* In order to fulfill the MDGs, it is necessary to increase food security and reduce hunger.
* Encouraging the industry's growth to be driven by the private sector.
* Securing the long-term viability of the environment.

**GIS Experts**

* Data collection and acquisition: satellite imagery and validation data.
* Data analysis, manipulation, storage and retrieval functions. For example, data preprocessing (cloud masking, etc), data processing functions (calculation of indices, soil properties and climate properties data)
* Extracting highly specific data from satellite images: calculate vegetation indices, process rainfall and climate data into simplified formats, etc)