

ABSTRACT

Subsistence agriculture in Kenya is rain-fed, and in the era of global climate change, crop yield is unpredictable posing a great challenge to food security among the rural dwellers. Among farmers who grow finger millet (*Eleusine coracana*), there is a tendency to apply traditional skills, practices and technologies to boost the crop yield. However, these practices have been overlooked by national research and extension services and there is little documentation of the same. Today, remote sensing is being used to successfully predict crop yield. The question however is, can remote sensing show any change in crop vigour thereby enabling yield estimation based on farmers ' traditional practices? This project is aimed at improving our understanding of the relationship between remote-sensed data, indigenous practices and crop vigour in order to predict and improve finger millet yield thereby promoting the cereal as a food security crop. A survey will be carried out to investigate farmers ' indigenous knowledge and practices in finger millet growing areas. This will be followed by satellite image analysis of farms during the different stages of finger millet growth. Data collected will be regressed against finger millet yield in order to analyse the relationships among remote-sensed data, indigenous practices and crop yield. The project will document farmers ' indigenous knowledge, as well as produce finger millet agronomic advisories.