

Mapping in Agricultural Development – Introducing GIS at a Smallholder Farmers' Association in Malawi

Malawi is a country in southern Africa and considered to be one of the poorest countries in the world. The main part of the population lives in rural areas and is completely depending on farming for their livelihood. There are, however, no records of land registration or tenure for the smallholder farmer.

The use of geographical information systems, GIS, is increasing around the world. At a smallholder farmers' cooperative in Malawi, NASFAM, there is a desire to map size and location of all fields and houses of member farmers. This data are expected to improve planning and evaluations of NASFAM's operations hence improve the living conditions of the farmers.

As a way of testing the possibilities with GIS at NASFAM, a pilot study in the project was implemented. In this phase different methods for education and measurements have been tested in order to evaluate their feasibility to be included in recommendations for continued work.

To introduce GIS in the organisation, trainings were held with field staff. Trainings were also held with the people who were assigned to collect the requested points. To investigate the opinions on this project among field staff, interviews were conducted with staff representing districts in various parts of Malawi. When the necessary data had been collected they were compiled and analysed.

Results observed after the study lead to conclusions about continuous work. One issue that has to be solved is how measurement of locations should be performed. In the pilot study people with a low level of education were taught how to collect points with a GPS-receiver because they were farmers themselves and had the local knowledge how to find the farmers. Errors in the measurements could be seen, for example an insufficient amount of measurement points. This was due to lack of basic understanding of the methodology and purpose of the assignment.

To map all farmers in NASFAM is extremely time-consuming and the measurements might have to be redone every year due to change of field alignments and usages. If a project like this is to be performed on a large scale, it is important that NASFAM views it as a long term commitment and that all staff have understanding of the purpose and benefits but also possible problems.

Keywords

Geographical information systems, GIS, agricultural development, development, Malawi, mapping, cooperative

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