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“World Food System —
A Contribution from Europe”

Webgis Meegahakivula

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Abstract

Smallholder farmers in the Meegahakivula region of Sri Lanka were the subject of a joint research programme with international project partners. Degraded soils by accelerated soil erosion, decline in crop yields, thus income and non-favourable climate conditions were determined to be the main problems in the region. One goal of the project was to analyse the flows of goods and cash of the household farming systems over the year in an integral way. Furthermore, the project aimed at investigating the influence that incorporation of legume trees and leaves as green manure has in enhancing soil fertility and stability. Both agronomic and socioeconomic aspects were considered to evaluate the benefits of planting trees. The project involved the use of GIS-based technologies and photogrammetric issues. Photogrammetry was used to acquire spatial data such as the orthophoto or the terrain model, in order to obtain a differentiated view of soil fertility in different slopes. GPS field measurement, socioeconomic interviews as well as agronomic survey complemented the vast amount of basic data. The internet-based GIS platform (WebGIS) was implemented to store, administrate, analyse and visualise these spatial and non-spatial project data. The project participants can access the data easily over the internet, which simplifies the worldwide cooperation of the researchers. Apart from a web browser, no additional software is required. The platform allows advanced data queries and at the same time it is a tool that can be used for project data visualisation purposes. The system architecture of the platform is totally based on open source and free software components.

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