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## Developing Decision Support System for Agricultural Land Use Planning and Management at the District Level in Viet Nam

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### Abstract

After agricultural renovation policies launched in 1988, farm household was recognised as a self-control economic unit, so Viet Nam agriculture has obtained profuse achievements such as self-sufficiency in rice, surplus rice for export and poverty alleviation, etc.

However, most of farm households have been making production decision by itself. Therefore, production decisions have not been made based on the long-term predictions of market demand and comparative advantages under the assistance of scientists as well as administrators. It may caused unsustainable environment.

This caused both shortage and surplus agricultural product in the market. Farmers' income was low and instable. Upgrading capability in making decision of farm households and administrators at commune and district levels is topicality and necessity. Nevertheless, this is very complex responsibility in real life.

It is necessary to have a tool to support policy makers and planners in developing, appraising, and selecting planning scenarios which collaborate different social, economic, and environmental development dimensions in order to gain sustainable development goals.

This problem can be solved by implementing interdisciplinary research methods, which relate to Scientists in the fields of geography, land use planing, agronomy, agricultural economics and informatics technology.

Information that will be collected including land use planning and management by applying Geographical Information System (GIS) technique and Remote Sensing (RS); current crop patterns and local knowledge of farmers; household economy in relationship with land use planning, environment, market prediction and risk

Informatics and mathematical modelling techniques will be of use in data processing, optimal solution determining and information providing for making decision support. The decision support system will provide tools for planners, policy makers and others to improve policies on land use planning and implementation of other rural development and land resource management programs.

**Keywords:** Decision support system, land use planning, Viet Nam