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Supporting the Five Million Hectares Reforestation Program: Application of Advanced Information Technology.

MANH CUONG PHAM^{*}, UT NGO^{**}, GEOFF HALL^{***}

^{*}*Institute of Rural Development, University of Goettingen*

^{**}*Director, Forest Inventory and Planning Institute, Vietnam*

^{***}*GeoSpatial International Inc., Canada*

Abstract

In July 1998, the Tenth National Assembly of Vietnam approved a new National Forestry Program, which seeks to rehabilitate and replant five (5) million hectares of forests, and increases the total forest area to 14.3 million hectares (national forest coverage is equivalent to 43%) by 2010. The Five Million Hectares Reforestation Program (5MHRP) aims at not only environmental protection but also rural development and poverty alleviation. However, the Vietnamese decision-makers and international donors are facing some difficulties on planning, capacity building, institutional development and co-operation among relevant agencies. This paper describes how advanced information technologies (remote sensing, Geographical Information System and Information Technology) can support the policy-makers to successfully implement the 5MHRP through various steps (e.g. from planning, monitoring to evaluating phases). It is a result of co-operation between Forest Inventory and Planning Institute (Vietnam) and Canadian partners.

The Weighted Site Selection Model is developed and introduced as a useful tool for planning. This open-ended model allows the user to add factors that affect and reforestation planning as many as possible. Interestingly, it enables to combine computer-based technology, and professional and local knowledge (knowledge-based) to select suitable planning from different scenarios. We select one province in the north as a typical example. For monitoring and evaluating purposes, the Forest Information System is formulated by integrating Remote Sensing, Geographical Information System (GIS) and Information Technologies. This system allows to store, manage, manipulate and retrieve multitemporal information in a common database and timely distribute to functional organizations. The outputs could be in form of maps, tabular and report. All of inducing tools are combination of most recent technologies and existing capacities of Vietnamese relevant organizations to make sure that they can be brought into production.

Keywords: Geographical Information System, land use planning, reforestation, remote sensing, spatial analysis