

Agriculture-Governance : A Geomatics Approach For Sustainable Watershed Development

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Abstract

Land, water and vegetation are the most important natural resources for providing environmental and livelihood security to the mankind. Even though the Green revolution had helped India achieve food security, the expected doubling of the population by the year 2050 will pose a challenge in maintaining the same in a permanent and sustainable manner for the increasing needs and demands of the population may distort the natural balance between water and land resources further. In addition, rain fed areas, which account for 70% of the net cultivated areas in the country have not benefited from modern development in agriculture.

Watersheds provide the means for development of rain fed areas through an integrated approach to planning the use and management of land & water resources. Watershed management, an integral part of the **Agriculture-governance**, is multi-disciplinary and demands comprehensive inventory of resources for formulation of location specific action plans for development planning. Watersheds, when properly developed and managed, are expected to usher in prosperity to a large number of people in rural areas through employment and wealth creation.

In the present age of emerging technologies such as Geomatics, which is the synergy of multiple disciplines, via; GIS, Remote Sensing, Image Processing, GPS, Cartography, Database Technology and other Geo-related sciences offer an integrated and holistic approach for an efficient and effective planning and development of watersheds.

This paper describes a pilot study undertaken at the instance of the Ministry of Rural Development, Govt. of India for Malshirus Watershed. The study advocates a Geomatics approach for sustainable watershed development. The various area specific problems identified for the watershed as well as rules framed to arrive at suitable solutions are also discussed. The pilot study helped generate a number of macro level and location specific action plan maps, some of which are also presented in the paper.

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