GIS IN SOIL EROSION - MODELLING OF VICTORIA - RANDENIGALA CATCHMENT, SRI LANKA

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Land and water resources are the backbones of an agricultural-based country like ours. Their role in national productivity, however, depends on how we manage them. Appropriate management alternatives are the result of technically sound decisions. With the aid of a resource-based computer program like SPANS-GIS, such decisions are readily drawn after input variables are integrated into the program.

Victoria-Randenigala area was chosen in this work, as it is the major catchment of the Mahaweli River which stretches the entire central hill country. With the use of SPANS-GIS, information on erodibility, erosion potential, catchment natural stability, strict protective areas and recommended forms of land-use were readily identified. Details of the findings show that 84% *of the area lies over 1,000ft. Contour* and 19% at >30% slope class. About 43% of the catchment area is at high erodibility risk despite 39% existing forest cover, due to land degradation. Only 36% of the catchment area is considered naturally stable. Hence protection priority should be given to 68% of the catchment area. To conserve the catchment, 31% of the area must be afforested and 40% must be planted with perennial crops or forest species.

SPANS-GIS proved useful in identifying key elements necessary in managing Victoria-Randenigala catchment. It is a valuable tool in providing information that helps man in managing land and water resources.