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Designation :
Title : Sustainable Land Use Planning for Kurundu Oya Catchment
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Background:

Kurundu Oya sub-catchment of the Upper Mahaweli catchment has been highly degraded due to inappropriate land management practices such as non-adoption of soil conservation measures, deforestation and encroachment of catchment reservations. This situation has been associated with the high level of poverty in the area, lack of availability of lands, shortcomings in the legislations stipulated for land and water resource conservation and management, non-implementation of the provisions in the legislations, lack of awareness of the value of catchment resources among communities, etc. Land use planning with community participation while implementation of available relevant legislations is required for better management of land and water resources in the catchment.

Objectives:

This study was undertaken to study the existing situation of land use in Kurundu Oya sub-catchment and to develop a suitable land use plan and land management strategies for environmentally sensitive areas, with community participation to minimise the degradation of the catchment resources.

Study Area:

The study was conducted during 2008 in the catchment area of Kurundu Oya, which is a small tributary of Mahaweli river which flows through Walapane divisional secretariat area of Nuwara Eliya district.

Research Methodology:

A suitable land use plan and management strategies for these areas were developed by participatory approach. The existing situation on the environmentally sensitive areas of the Kurundu Oya sub-catchment was identified and mapped by using primary data gathered through field observations, in-depth interviews of relevant personnel; participatory resource mapping and ground truth data collected using global positioning system, secondary data in the form of maps and information available in the literature on the study area. Topographical maps and satellite images were used to improve the maps and to identify the land use changes that have occurred over time. Legislations related to land use planning and watershed management were consulted in identifying vulnerable areas.

Research Findings:

The results of this study indicated that significant changes in land use have occurred during 1984 -2008. Extents under forests, home gardens and tea have significantly reduced from 2076 ha, 1614 ha and 1921 ha in 1984 to 800 ha (61%), 836ha (48%) and 1853 ha (4%) in 2008 respectively. There has been a marked increase of scrubs from 454 ha in 1984 to 2197 ha (384%) in 2008. By 2008, some 290 ha have been brought under other plantation crops. There has been no significant changes to the extent under paddy from 1984 to 2008.

Nearly 60% of the area in Kurundu Oya sub-catchment is environmentally sensitive due to its complex topography, altitude, adoption of improper land management practices, and vulnerability to soil erosion and land slides. These include high soil erosion prone areas, steep sloppy areas above 40%, and river reservation, paddy lands, high drainage density and water resource areas and high elevated areas. According to the community, water bodies, springs, streams, tributaries and lakes are the highest priority areas for conservation. A land use plan was prepared using the knowledge and experiences of the people living in the area, considering their socio-economic status and livelihood options. The proposed plan includes economically viable, environmentally friendly and socially acceptable options such as agro-forestry systems, mixed home gardens with export-oriented crops/fruit crops, forest plantations, etc. Apart from the proposed plan, the existing legislations must be implemented to protect the catchment from further degradation.