Soil erosion in unsystematic irrigation of vegetable fields in Welimada area

Extended Abstract

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Background

Soil erosion is a one of the most considerable burning environmental problem in the world. The agents of soil erosion are water and wind. The loss of soil from farmland may be reflected in reduced crop production potential, lower surface water quality, and damaged drainage networks. (Krishnarajah, 1998). Soil erosion is of particular concern in the hill country where the watersheds of major rivers are located. The most important catchment i.e. the upper Mahaweli catchment (UMC) Consists of 3118 so. Km (Nayakakorala, 1996) Most of the people in Welimada area are farmers and grow vegetables. The crops are planted on a bed of about 1 to 1.5 a wide separated by furrows or ditches. Water is sent in the furrow / ditch and splashed on the bed while water is flowing in the ditch using a plate. Water splashed onto beds wash off the soil on beds and added to the flowing water in the furrow/ditch. Uma Oya is the major water source in this area and it had been polluted due to inappropriate irrigation methods of the farm lands. A conspicuous observation is the brownish color water running in the Uma Oya. (Tributary of Mahaweli River) which flows through Welimada area throughout the year, irrespective of rains. Uma Oya feeds the Rantambe reservoir.

Objectives

The general objective was to identify soil erosion of unsystematic vegetable fields in Welimada area. And specific objectives are to find out reasons and social, economic and Environmental effects of soil erosion. And study how Uma Oya important to the people and effects of pollution. Another objective of the research is to find out soil conservation methods and propose soil conservation methods.

Methodology

Both primary and secondary data used for the information collection. Primary data collected from questionnaires, field surveys, interviews, and discussion. 50 questionnaires used for the research and selected participants by randomly. Focus group discussions were used for gathering data. Books, Articles, Newspapers, Journals, Internet were used as secondary data collection. Data were analyzed by Excel and presented by graphs, charts tables and statistics.

Results and Discussion

This research was mainly discussed impacts of soil erosion and soil conservation. Reduced water quality, destroy soil quality, reduced soil fertility, damage to ecosystems such as aquatic animals (endemic and endangered) and small organisms in the top soil layer are the environmental impacts of soil erosion. In the small land, they used the high capacity of primary irrigation systems. Using notice boards, banners, posters, stone bunds, Hampshire, contours drains, drip feed system and empower laws and regulations, organized awareness programs are very important to the soil conservation in the area. Then, according to the research 30% of farmers used some soil conservation technology in their farm land. 70% of farmers didn't use any soil conservation methods due to lack of knowledge of soil conservation in vegetable lands.70% of interviewers like to apply soil conservation technology to their farmlands, but, lack of money is the main problem for using soil conservation technology.

Conclusion and Recommendations

Unsystematic irrigation systems of vegetable lands are the major reason for soil erosion. Primary soil conservation, using technology and rules and regulations are mostly important to soil conservation. Government and other organization should pay attention about provide subsidies to farmers. Most of the poor farmers didn't refer to soil conservation techniques. Because those are very expensive and maintain cost is a high and providing subsidy also very important to soil conservation in this area. And also according this research people like to use that soil conservation method if the government or Ngo provide subsidies for them. Most of the farmers were uneducated and providing awareness programs also very important. Then it is timely important to encourage farmers for soil conservation in the well-made area to protect hill country and clean water sources in Sri Lanka.

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