

D-44: Economic value of on farm soil and water conservation benefits in Huruluwewa watershed using replacement cost approach and productivity change approach

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Shared Control of Natural Resources (SCOR) is a watershed management project implemented in two watersheds. Huruluwewa and Nilwala in the Dry zone and Wet Zone of Sri Lanka respectively. The objective of the project is to Integrate conservation concerns with production goals. In the view of achieving the objective of the project, SCOR has implemented several soil and water conservation interventions in selected subwatersheds. The objective of the study was to assess the benefits of soil conservation in monetary terms to conceive the magnitude of benefits to be used in future course of action.

Productivity of land is being depleted due to soil erosion. Erosion of 5cm depth of soil has reduced the productivity by 40% in a fertile soil. The productivity change due to soil erosion was calculated using productivity change approach. Simultaneously soil erosion depletes the nutrient in the soil that incur an additional fertilizer cost. Cost for nutrient replacement would be indirectly used to express soil conservation benefit.

Soil erosion of traditional land use practices was 47 mt/ha/yr. It means 3 mm depth of soil has been eroded annually and declined the production levels of the crops by 2%. The study shows the cost of nutrient replacement is Rs.8233/ha/yr and Rs.507 worth of production loss per ha/yr resulted. Since the economic analysis is partial, the true value of soil conservation was not presented. However the positive values show the soil conservation investment is economically viable.