

075**Cost benefit analysis of village tank rehabilitation programme in Hambantota district, Sri Lanka**E B I Dayananda <sup>1</sup> and U A D P Gunawardane <sup>2</sup><sup>1</sup> Department of Agricultural Economics, University of Ruhuna, Sri Lanka<sup>2</sup> Department of Forestry and Environmental Science, University of Sri Jayewardenepura, Sri Lanka

Village tanks provide multiple benefits to the local people living in their periphery and also to communities outside the area. Non recognition of the true values of this resource has led to their degradation. For example, tank rehabilitation is usually not economically justifiable when the paddy benefits alone are considered. The main objective of this research was therefore to compare costs of village tank rehabilitation programme with the multiple benefits of village tanks.

Villagers use tank water for agriculture, fish, domestic purposes, livestock rearing, and also for industry such as brick production. There are in addition, recreational benefits enjoyed by the households. Such multiple benefits have been evaluated by a survey conducted in 10 village tanks (7 isolated and 3 cascade tanks) in Hambantota district of Sri Lanka. 175 households who live adjacent to the selected tanks were interviewed using a pre-tested questionnaire with embedded contingent valuation survey during the *maha* season of 2005/2006. Information on the use of tank system for purposes other than paddy cultivation was collected and contingent valuation method, market price approach and opportunity cost method were used in order to derive the economic value.

The benefits and costs were analyzed in a cost benefit framework using a 20 year time period and 10% discount rate. Results indicate that the rehabilitation project is only justifiable when multiple benefits are included. When paddy benefits alone are compared with tank rehabilitation costs, it results in negative net present value.

The implications of the results in reversing the attitudes of the government towards small tanks and their role in enhancing rural economies are also discussed.

076**Novel analytical techniques for improved decision making: Implications for consumers and institutions**C T Jayaratne <sup>1</sup> and U A D P Gunawardane <sup>2</sup><sup>1</sup> Peoples Leasing Cooperation, Colombo, Sri Lanka<sup>2</sup> Department of Forestry and Environmental Science, University of Sri Jayewardenepura, Sri Lanka

Information availability plays a key role in determining the choices of consumers, firms and governments. However, externalities associated with most commodities represent information failure leading to incorrect decisions. The emerging scientific advances nevertheless have produced several new analytical techniques that could guide towards better decisions. The objective of the paper is to review the existing literature on such analytical techniques and assess the applicability of such tools within the Sri Lankan context.

Literature in environmental management and economics related disciplines revealed that availability of techniques such as Life cycle assessment (LCA) and food mile analysis for consumer products while institution or firm level decision making could be guided by tools such as management cost accounting and sustainable chain management.

LCA has often been used in evaluating environmental performances of different food production and food packaging options, waste management and transport options. The information of such analyses has been made available through product standards such as ISO 14040. Food mile is an indicator of transport costs of food items which could provide important guidelines for transport policy, international trade and product related environmental information for consumers.