

**Study Title:** **An assessment and critical evaluation of the potential pollution impact of current land use practices, on Batticaloa Lagoon**

**Study Area:** **The catchment of Batticaloa Lagoon, Eastern Province of Sri Lanka**

**Study Objective:** To highlight the potential pollution impact of current land use practices on Batticaloa Lagoon, identify the main types, sources and nature of pollutants entering the lagoon, the potential current and future impacts and outline practical steps to be taken to address each of the pollution impacts identified.

**Scope of Work:** Using secondary data the Consultant will establish the catchment area of Batticaloa Lagoon, encompassing both Batticaloa District and Ampara District and quantify and characterise the main land use practices in each area, the seasonality of land use and produce land use maps for the catchment of the lagoon. The Consultant will assess the current potential pollution impact of current land use practices and identify the primary, secondary and tertiary pollution impacts (i.e. soil erosion, siltation, inorganic, organic, pesticides, aquatic plants) of the current land use practices in the catchment of Batticaloa Lagoon. Using independently verifiable research on the potential pollution impact of land use practices on aquatic systems, the Consultant will critically evaluate the potential pollution impact of current land use practices, , identify the main types, sources and nature of pollutants entering the lagoon, the potential current and future impacts and outline practical steps to be taken to address each of the pollution impacts identified.

The Batticaloa Lagoon, covering over 10,000 ha, is the third largest basin estuary in Sri Lanka and the largest in the Eastern Province. The lagoon provides a multitude of environmental 'goods' (e.g. fish, crustacea, molluscs, mangrove timber) and environmental 'services' (e.g. drainage, sewage disposal, scenic beauty) and is the defining feature of Batticaloa Town. Basin estuaries such as Batticaloa Lagoon are extremely dynamic habitats, the point of convergence of freshwater, marine and terrestrial ecosystems and as such are influenced and in turn influence activities in each of these domains. Land use practices can generate both localised and distant impacts on adjoining aquatic environments, which in turn affect the function and productivity of both freshwater and marine ecosystems. The probably pollution impact associated with various types of land use practices in the catchment of the Batticaloa Lagoon has been variously attributed to increased siltation (e.g. emergence of mud banks), eutrophication (e.g. dense rafts of water hyacinth) and contamination by pesticides (e.g. sporadic fish kills) by a number of researchers at the local level, however there has been no attempt to undertake a critical evaluation of the extent to which land use practices contributes to each or any of these issues.

The proposed Technical Study will provide a critique of current land use practices in the catchment area of Batticaloa Lagoon and enable planners at the local and provincial level to formulate appropriate action plans to reduce or mitigate the potential pollution impacts of land use activities around the Batticaloa Lagoon.

**Terms of Reference:** In consultation with the NECCDEP, the Consultant will undertake to:

1. Using secondary data establish the catchment area of the Batticaloa Lagoon; identify the current land use practices by area and season to generate land use maps for the catchment of Batticaloa Lagoon.
2. Undertake a rapid field survey, interviewing land owners and resource users, including farmers' leaders, agricultural extension staff, irrigation engineers, retail farm suppliers and others using land in the catchment of Batticaloa Lagoon to establish the current land use practices and highlight the key pollution impacts of land use on Batticaloa Lagoon.
3. Analyse the data collected and using existing analytical models estimate the nature, extent and impact of land use practices on Batticaloa Lagoon and provide recommendations for planners and resource managers by which each of the pollution impacts identified could be mitigated or reduced.

**Suggested Staff**

	<b>Nature of Consultant</b>	<b>Experience</b>	<b>Duration</b>
01	<b>Team Leader</b> Agriculturalist / Environmental Scientist	<ul style="list-style-type: none"> <li>• Planning, implementation and management of agriculture / environmental research projects</li> <li>• A thorough understanding of agriculture / environmental science</li> <li>• A demonstrated ability to undertake environmental impact assessment involving agriculture / environmental resources</li> </ul>	2 months
02	<b>Research Assistant</b> Agriculturalist / Environmental Scientist	<ul style="list-style-type: none"> <li>• Experience of implementation of agriculture / environmental research projects</li> <li>• An understanding of agriculture / environmental science</li> </ul>	4 months
03	<b>Field Survey Assistant</b>	<ul style="list-style-type: none"> <li>• Experience of implementation of agriculture / environmental research projects</li> </ul>	2 month

**Timeframe:** The estimated timeframe for the proposed *assessment and critical evaluation of the potential pollution impact of current land use practices, on Batticaloa Lagoon* is four (04 months), from the date of signing the contract.

**Reporting:** The Consultant will submit the following reports at the specified time periods

1. An Interim Report submitted within one (01) month from the commencement of the contract
2. A Draft Final Report to be submitted one (01) month before the completion date of the Contract
3. A Final Report to be submitted on the date of completion of the Contract