

Assessment and Management of Irrigation Impacts on Tropical Inland Fisheries:

A Case Study from Sri Lanka

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Short title: Assessing irrigation impacts on fisheries.

Key words: impact assessment, fisheries, irrigation, lagoons, livelihoods.

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Abstract

Inland fisheries make an important contribution to rural livelihoods in many developing countries. Water resources development for irrigated agriculture often has significant and complex impacts on inland fisheries, either negative or positive. The assessment and management of such impacts is important in order to minimize undesirable outcomes of irrigation development in terms of livelihoods and/or aquatic biodiversity. This paper outlines the application of a holistic and participatory approach to fisheries impact assessment of the Kirindi Oya irrigation scheme in Sri Lanka. The overall impact of irrigation development on fisheries production in the watershed has been assessed as moderately positive, with production from reservoir fisheries outweighing the estimated loss of production from river-floodplain fisheries. Stakeholders identified increased drawdown in reservoirs due to very high irrigation demand, and drainage water inflow into coastal lagoons as the main physical impacts of irrigation development on fisheries. These impacts led to conflicts between farmers and fishers regarding water management in the reservoirs and lagoons. Underlying these impacts and conflicts are weak linkages between irrigation and fisheries institutions. Stakeholders identified rehabilitation of irrigation infrastructure and increased water productivity in agriculture as key measures to reduce both, drawdown of reservoirs and drainage flows into the lagoons. Improvement of institutional arrangements for water management is crucial to resolving conflicts and ensuring an equitable allocation of water between agriculture and fisheries.