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Strategies for management of culture-based fisheries in seasonal reservoirs of Sri Lanka

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Abstract

The seasonal reservoirs retain water for 6 to 9 months of the year and completely dry-up yearly or retain very little amount of water for a few months. The extent of seasonal reservoirs estimated to be around 40,000 ha and most of them are located in the dry zone of the country with <200 mm of annual rainfall. These reservoirs are highly productive. Stocking of hatchery-reared fingerlings of Chinese carps, Indian major carps and common carp in these reservoirs resulted in high yields with an average of 449.8 kg ha⁻¹ (range: 53-1,801 kg ha⁻¹).

Nearly 60% of the Sri Lankan population mainly depends on fish to obtain the daily requirement of animal protein. According to investigations of the Medical Research Institute, Colombo, minimum fish consumption per day should be at least 60 g, in order to get the daily requirement of protein by fish consumption. As there is about more than 12,000 seasonal tanks scattered as cascade systems throughout the dry zone of the country, which can be utilized for development of culture-based fisheries, they could be used to supply the animal protein requirement of the rural communities.

The culture-based fishery activities in seasonal reservoirs depend on both ecological characteristics of the reservoir and the socioeconomic status of village communities. Although the legal empowerment is not yet completed for the culture-based fisheries in seasonal reservoirs, introduction of a set of criteria for the selection of seasonal reservoirs for culture-based fisheries activities on the basis of physical, biological and socioeconomic features and the development of a best practice model for optimization of the yield are important.