

Lagoons in the East Coast; are They Potential Sites to Develop Fisheries in Sri Lanka**Ellepola G. * and Ranawana K.B.**

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Abstract

Lagoons are highly productive ecosystems which provide habitats and nursery grounds for many fish species and contribute to fisheries productions of a country. The status of fishery in lagoons in the East coast has not been assessed in the past due to civil unrest in the country. This study was conducted in two lagoons in Ampara District; Panama and Pottuvil. The status of fishery was assessed over a six month period using data obtained from the daily catch brought to the landing centres. Thirty five species of food fish, four species of shrimps and the mangrove crab, *Scylla serrata* are harvested from the lagoons using different fishing methods. The bulk of the food fish caught (63%) in the Panama lagoon were represented by *Siganas lineatus*, *Oreochromis niloticus*, *Mugil cephalus*, *Gerres argyreus* and *Mystus guilio* while only *Oreochromis niloticus* and *Mugil cephalus* contributed to a high percentage (59%) in the Pottuvil lagoon. The total productions of the Panama and Pottuvil lagoons were estimated to be 74.05 kg/ha/yr and 67.48 kg/ha/yr respectively. The productivity is high in both the lagoons compared to the average annual productivity of a Sri Lankan lagoon which is about 22 kg/ha/yr. However, in comparison to the extent of the two lagoons (Panama 73ha and Pottuvil 270ha), productivity of the Panama lagoon is significantly higher than that of the Pottuvil lagoon ($P=0.01$) which makes Panama a potential site to develop lagoon fisheries in the east coast. The extent of the mangrove vegetation (Panama 83ha and Pottuvil 46.6ha) with respect to the total surface area of the lagoons is a possible reason for the productivity difference of the two lagoons. Both the lagoons show seasonal fluctuations due to rainfall and salinity changes according to the Canonical Correspondence analysis that was performed and fish migration patterns have been observed in these lagoons. The life styles of the local people are highly dependent on lagoon fisheries in these areas thus; the environmental stress is higher on the ecosystem. Non regulation of net mesh sizes, destruction of mangroves, illegal land use and use of motor boats have caused certain environmental issues hence, suitable management practices should be introduced to ensure the sustainability of the lagoon ecosystem.

Keywords: Lagoon, Productivity, Sustainability