

**A Case Study on Community Based Fisheries
Management: Beach Seine Fishery
Sinnapaduwa - Thoduwawa Waraya Puttalam - Sri Lanka**

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Beach Seine fishery introduced to Sri Lanka around 1860 A.D. (Alexander, 1977; Ruddle, 1994) is an active non mechanized, shore based, traditional method of fishing which is now partly governed by the customary laws of the community. Prior to the introduction of the Beach Seine regulations in 1984 the entire fishery was carried out under customary laws (Atapattu, 1994). Since the coastal fish production has reached it's maximum sustainable yield level, it is vital to introduce management measures to this sector with a view to utilize the resource in a sustainable manner. In this regard, identification of existing management problems and the management systems practiced is important.

This study was limited to the Beach Seine fishery at the Sinnapaduwa - Thoduwawa Waraya which is located 12 km north of Chilaw in the north-west coast of the island. Thirty one (31) Beach Seines were in operation in the Waraya at the time of the study. The study was conducted in two stages. In stage I information was collected through a pilot survey from the fishermen, fishery officials and published documents to identify the management problems in the coastal waters of the island. These were presented to a randomly selected sample at the final survey to prioritize them. Confidence intervals were calculated (Battacharya *et al.*, 1977) on the percentages of the prioritized problems (Table 1). The same procedure was followed to identify the management measures in the Beach Seine fishery and their significant roles (Table 1).

Open access is the most serious management problem in the coastal waters of the island (Table 1). Under open access fishery, exclusive rights are not established and the resources are threatened, because fishermen make

Table 1. Management problems and management measures.

Issue	No. of people responded (%)	95% confidence interval on percentage
Management problems		
Poor enforcement of land	100	-
Open access	87	76.7-97.3
Over fishing	90	80.8-100
Habitat degradation	84	72.8-95.2
Pollution	97	91.8-100
Destructive fishing gear	97	91.8-100
Management measures		
Entry limitation	100	-
Establish exclusive rights	97	91.8-100
Habitat conservation	90	80.8-99.1
Fishing gear restriction	81	69.0-92.9

every effort to harvest maximum portion of the resource. In this respect the variety of fishing gear they use may be economically efficient but not environmentally friendly. Over fishing, habitat degradation, loss of eco system and resource depletion are the long term effects of the open access fishery. This leads to many social, economic and environmental problems.

Beach seine fishery is one of the management systems practiced in the coastal waters of the island. Territorial User Rights in Fisheries (TURFs), establish the exclusive rights and restrict the access to the resource. The customary laws imposed and enforced by the community limit the fishing effort, control the time of fishing operations, prohibit the use of environmentally non-friendly gears and bring the resource under management. Therefore it is reasonable to identify the TURFs in beach seine fishery as an effective management measure of coastal fishery resources.

It may be concluded that the customary laws based on the TURFs in the Beach Seine fishery play a vital role in the management of coastal fishery resources. The beach seine regulations introduced in 1984 have created many problems in the industry. Therefore it is recommended that

the rights prior to 1984 should be vested with the community enabling them to manage the entire fishery through the social and economic sanctions based on the customary laws which decide what, when, where and how to utilize the resource.

REFERENCES

- Alexander, P., (1977). Sea tenure in Southern Sri Lanka. *Ethnol.* 16: 231-251.
- Atapattu, A.R., (1994). Legal and Institution Frame Work for Fishery management and Role of Community Organisations. Sri Lanka/FAO Natl. workshop on Development of community based Fishery Management systems, Colombo, Sri Lanka, 3 - 5 October 1995.
- Battacharrya, K. Gouri and Johnson A. Richard, (1977). *Statistical concepts and Methods.* John Willey and sons, Singapore. 249 - 250 pp.
- Ruddle K. (1994). A guide to the literature on traditional community based fishery management in the Asia - pacific and Tropics. *FAO Fisheries circ.* No. 869.