

# MANAGEMENT OF COASTAL FISH RESOURCES

by

**H.V.C. Fernando**  
**Sri Lanka**

## **1. Management of Coastal Fish Resources**

### **1.1 Coastal Waters**

The continental shelf around Sri Lanka is a narrow platform for the greater part of its extent having a mean width of 20 km. This shelf narrows to a thin strip off the coast of east to 3 km. wide belt. To the North west and the North of the island the shelf widens to an extensive shallow bank and forms the floor of gulf of Manner Palk bay and the Pedro bank before merging in to the continental shelf of the Indian mainland. The region of the sea within this continental shelf area is the Coastal Waters.

### **1.2 Coastal Fish**

Sri Lanka being a tropical country its waters are rich in fish species and much varied in quantity. There are over 500 species of edible fish found in coastal waters. Their size range from 6 cm long Sprats (*Anchoviellaes spp.*) to 2 meter long Marlins (*Histiophoridae spp.*). Nearly 90% of the coastal fish catch is pelagic and consist of herrings, sardines, anchovies, mackerels, barracudas, pony fish, scrombrids and small carnage's. They are caught in the near shore waters with beach seine nets and in further offshore with gill nets. The gill nets catch contribute about 80% to the landings while beach seines account for most of the remainder. The coastal demersal fish resource is mostly found in coral reefs and among the submerged rocky bottoms. They vary from colored parrot fish to large groupers.

### **1.3 Coastal Fish Resource**

The survey carried out by Norwegian research vessel "Dr. Fridjot Nansen" estimated that the total biomes of Sri Lanka's Continental shelf and the area immediately adjacent to it as 750,000 m tons. From this 250,000 m tons could be harvested as the annual sustainable yield (ASY). This yield is said to consist of 175,000 m tons of pelagic and 75,000 m tons of demersal and semi demersal fish.

### **1.4 Fish production in western sector of the island and its effect on the coastal fish resource**

In 1995 total marine fish production was 217,500 the coastal sector production was 157,500 m tons. From which 84% or 132,000 m tons was harvested from the coastal belt covering South, West and the North Western provinces. The estimated annual sustainable yield from this region which covers only 30% of the

coastal belt is approximately 75,000 m tons. The harvest from this region was nearly 55,000 m tons over the estimated sustainable yield.

## **2. Incentives and its effect on the fish resource**

In sixties and seventies boats, engines and fishing gear was sold to traditional fishermen at subsidized prices. These subsidies varied from 50-90% for traditional fishing craft without engines and for non traditional craft with engines and gear the amount of subsidy given varied from 30-50%. These subsidies were incentives given to fishermen to harvest more fish specially from the coastal areas which were then lightly fished.

During the two decades intention of giving subsidies to boats engines and fishing gear had its desired effect not he fish production. In 19633 total fish production from coastal waters was only 71,000 m tons. This rose to 184,000 m tons in 1983. A remarkable increase for that period.

The continuation of the incentives given to increase the fish catch saw its bad effects in latter part of eighties and in nineties. During that period results of over fishing appeared to emerge from several sectors of the coastal fishery, such as in lobster, small pelagic and trawl fishery.

### **2.1 Lobster fishery**

In seventies large concentrations of lobsters were found in the south and in the south west region of Sri Lanka. Due to heavy demand from the tourist industry and from the exporters price paid to lobsters were increased. During seventies and eighties these high prices attracted large number of fishermen to this fishery, as a result lobster resource depleted rapidly.

According to Bulletin of the fisheries research station, in sixties average catch realized from lobster fishing in south west region by a skin driver fishermen varied from 24-32 lobsters per day. (The other methods used to catch lobsters produced almost the same amount as a skin diver). The inquires reveal that the present catch from the same region varied from 4-6 lobsters per day, a big drop in the harvest as a result of over exploitation.

In 1993 UNDP funded fishery management project under took to study and to take necessary steps to rehabilitate this fishery.

### **2.2 Purse seine fishery**

In early 80's fishermen on the south west coast of Sri Lanka, began to use the purse seine nets to collect live bait for the pole and line fishery. This was later developed successfully to catch small pelagic such as red bait, mackerels, herrings etc. from the near shore coastal waters. The high income gained led the number of purse seines to increase to 32 in 1984 and 62 in 1991. This rapid increase in number

of purse seniors resulted in several conflicts specially with other resource users employing small mesh gill nets and beach seines. In 1994 ministry had to announce a temporary ban on the use of purse seniors.

### 2.3 Shrimp fishery

Fishing shrimp on large scale using trawl nets is located near the estuary of Chilaw in mid west coast of Sri Lanka. It was another coastal sector which had to be temporarily closed as a result of heavy opposition from the coastal fishermen on charges of over fishing.

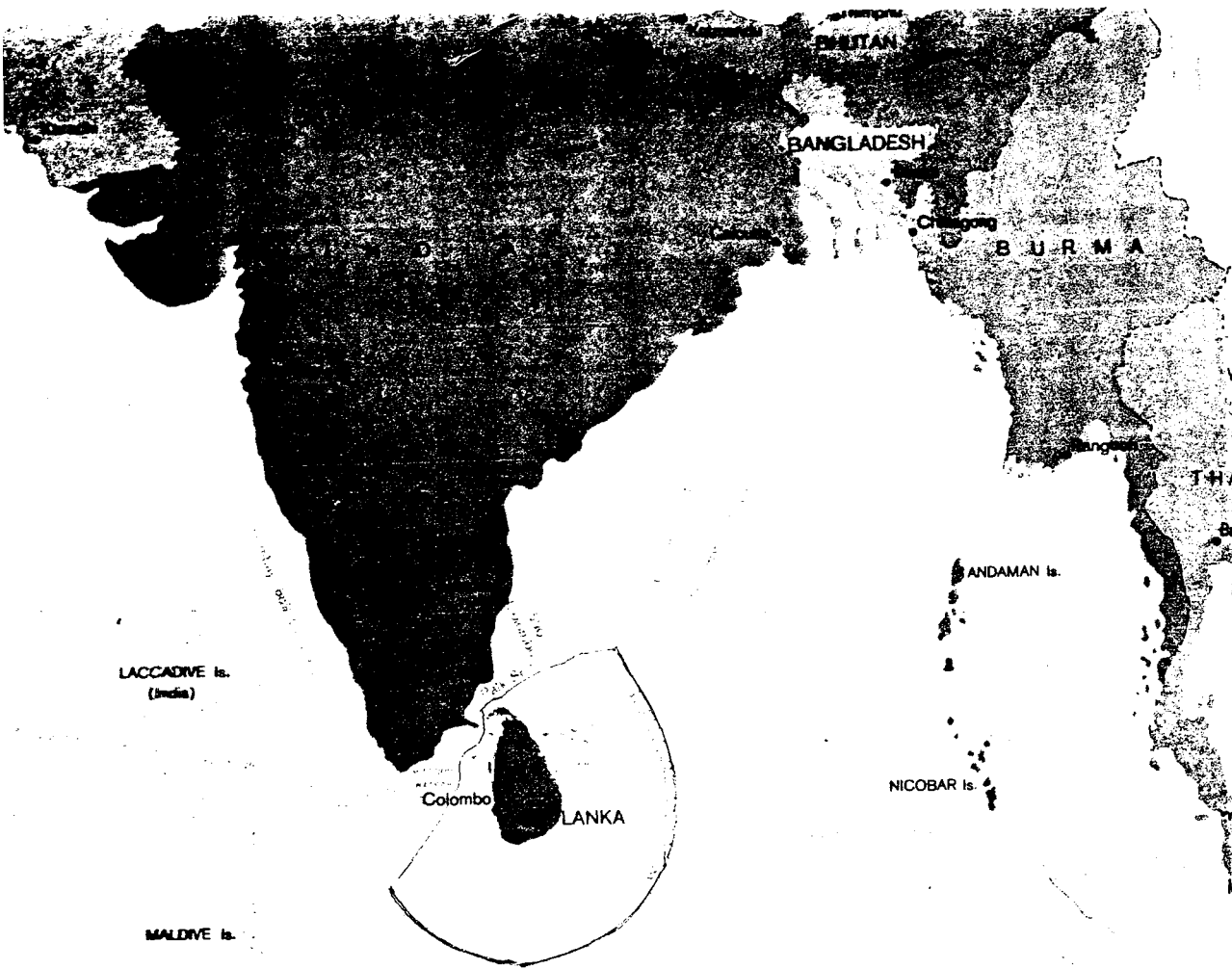
In this fishery trawl nets and trammel nets are the popular gears used to catch shrimps. The landings from trawl nets are mostly small shrimps such as *M. dobsoni* and *P. stylifera* while from trammel nets its mostly the valuable large shrimps such as *P. indicus*, *P. monodon*, *P. semisulcatus* and *P. merguensis*.

In late eighties small scale fishermen from neighboring villages of Chilaw leveled charge on the prawn trawler fishermen for over exploitation of the resource. Clashes between the two groups was so frequent that the trawler fishery had to be suspended in 1993 and their gear had to be removed. Their loss was compensated by the department of fisheries by issuing deep sea fishing boats under a special scheme.

### 3. Management measures in Coastal Fishery

The subsidized boats engines and fishing gear which was given to increase the fish production in sixties and seventies were pruned down gradually in eighties and nineties to move the fishermen away from the coastal waters. During the mentioned decades subsidized deep sea fishing boats were given instead of coastal fishing boats to attract fishermen to fish in offshore and deep sea areas. These incentives although had a effect at the beginning got neutralized by the entry of large number of displaced fishermen with boats from the North and the East of the country due to insecurity.

In 1996 the old Fisheries Ordinance which came into effect in 1941 was repealed and the new act with wide power for management Regulation Conservation and development of the fisheries resources was created. The first regulation under this act to control the fishing operation was drafted to be introduce from 1st of December 1996. In drafting the new regulation the committee appointed identified 24 fishing methods being in use all over the island. Five of these will be completely banned and the rest will be reduced to 17 operations. These 17 operations will be given licenses through the village based fisheries inspectors. It is hoped to control the dwindling fish resources through the controls that will be implemented using the above licensing system.



## SRI LANKA AND HER NEIGHBOURS

BATU Is.

MENTAWAI Is.

CHOGOS

ARCHIPELAGO

DIEGO GARCIA