

**BIO-ECONOMIC MODEL OF THE EXPLOITED ANCHOVY RESOURCE
OF THE SOUTHWEST COAST OF SRI LANKA****K. M. L. Perera and J. Jinadasa***(University of Sri Jayawardenapura, Nugegoda)*

The 'Maadela' (Beach Seine) is the primary fishing gear operated to exploit the anchovy resource in the southwest coast of Sri Lanka. The fishing season extends from about September to about April each year, which roughly covers the intermonsoon and northeast monsoon periods of Sri Lanka. There are about four anchovy species in this part of the island of which *Anchoviella indica* is the most predominant, forming about 90% of the catch during the entire season. This species is recruited to the fishery when they are about 3 to 4 cm in length, but the length of the fish in the exploited stock ranged from about 3 to 9 cm. *A. indica* is primarily a zoo-

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plankton feeder which become mature when they are about 8 to 10 weeks (?) old, and are about 6 cm long. The fecundity ranged from about 300 to 3,000. They spawn twice during the fishing season. The catch per unit effort varied from about 40 kg to about 720 kg per operation. There are one to several such operations per day. The average revenue was about Rs. 8/- per kg in 1980-81.

Cost of operation (fixed and variable) is about Rs. 62,000/- per year. The number of fishing days per month ranged from about 15 to 20 days. The breakeven catch is about 65 kg per day. Therefore even, with one single operation per day, except perhaps for very few days of the month, anchovy alone brings economic returns to the fishermen. This is more than the opportunity cost of labour and investment put together. The total economic return of the 'maadel' fishery is actually much more than that obtained from anchovy alone, as it forms only a fraction of the catch. The balance was composed of other edible species of fish, like snake mackerel, wolf herrings, smaller carangids and prawns, etc., other than anchovy. Considering the extremely profitable economic returns on anchovy alone and the costs of other methods of fishing, it is opportune that this dying 'maadel' fishery be resuscitated.