

**INVESTIGATION OF AN OFFSHORE PURSE-SEINE
FISHERY ASSOCIATED WITH FLOATING OBJECTS
IN THE EXCLUSIVE ECONOMIC ZONE OF SRI
LANKA**

BY

M.M. ARIYARATHNE [B. Sc.]

**DEPARTMENT OF ZOOLOGY
UNIVERSITY OF KELANIYA**

SRI LANKA

Dissertation submitted as a partial requirement for the M.Sc. Degree in
Aquaculture and Fisheries Management of the University of Kelaniya,

Sri Lanka

DECEMBER 2008

ABSTRACT

“Kotan dela” is a purse-seine net used by multi-day fishing boats, the catches of which are regularly landed at Galle and Hikkaduwa fishery harbors in Galle District. This fishing method is operated to catch fishes attracted to floating objects in off shore areas. However, these catches are not represented in the national marine fish catch statistics as those were not included in the production data compiled by the statistical division of Department of Fisheries and Aquatic Resources as this fishery is not known to fisheries officials possibly due to the reason that the fishery is a relatively recent development. As the catches of the fishery consist of fish species which are not generally caught in other fisheries, it can be hypothesized that this fishery targets at catching underexploited fishery resources in the Indian Ocean. The objective of the study is to investigate the status of “Kotan del” fishery with a view to quantifying its overall importance in the marine fish production.

Investigations were carried out from August 2007 to January 2008 in the Galle fisheries harbor sampling 16.4% multi-day boats landed during the study period. A total of 17 fish species were encountered during the sampling period. The major species of “Kotan dela” catches were *Decapterus russelii*, *Elagatis bipinnulata*, *Coryphaena hippurus* and *Abalistes stellatus*. These species are not generally caught in other fishing methods. The present study indicates that 46 -84% of total fish production of multi-day boats landed in Galle fishery harbor consists of the catches of “Kotan dela”.

This fishery is more economical than multi-day fishing operation with drift gillnetting and long-lining although the latter targets more valuable fish species such

as skipjack, yellow-fin and big-eye tunas. The operational cost associated with “Kotan dela” fishing operations (about Rs. 100,000.00 per operation) is much lower than that of drift gillnet and long-line operations (Rs. 120,000.00 – 140,000.00 per operation) depending on number of boat days.

Presently this fishery falls within the illegal, unregulated and unreported category. Therefore, detailed studies of this fishery are necessary to define suitable management strategies. This is of particular importance because in the present study, it was found that in addition to virtually under exploited fish species, juveniles of skipjack and yellow-fin tunas were also caught in significant numbers in this fishery. Due to high profitability of this fishery, there is a potential expansion of fishing capacity so that regular monitoring of this fishery is vital for defining management strategies.