

A preliminary study on potential fishery for octopus in Sri Lanka using a newly introduced fishing gear

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The demand for new fisheries resources is always high due to increasing world's human population. Exploration of new candidates for export oriented markets is beneficial for the economy of a country. At present, there is no target fishery for octopus in Sri Lanka and they are mainly landed as a by-catch of the trawl fishery, which is mainly carried out in the North and Northwest coasts of Sri Lanka. Even though, locally there is no good demand for octopus, an increasing demand is observed internationally. Therefore, this study aimed to identify the potential areas for octopus fishery in the North and Northwest coasts of Sri Lanka, where octopuses are frequently caught and possibility of introducing new fishing gear (trap) to target octopus. A preliminary study was carried out from January to December, 2016. Experiential fishing using traps was conducted in the coastal sea of Pukulam in the Northwest coast with the community participation. One hundred numbers of traps connected to a common longline by 30 cm long branch-lines with 1 m spacing between two taps. Six lines of traps of this particular array were constructed, thus generating a total of 600 net traps for the experiment. Traps were deployed at a depth of 10 m and soaked for 24 hrs. Traps deployed were un-baited because, octopuses enter traps as a habitat alternative to natural creviced structure. The trial fishing revealed the possibility of using the fishing gear for catching octopus as it captured wild octopus with a mean catch rate of 05 indivi./100 traps/day. The species recorded was *Amphioctopus aegina*. Majority of the specimens tested were matured (60%) and male to female sex ratio, was 1:1. Evidences from trawl catches and experimental fishing conclude that the coastal waters in the surveyed areas particularly, the areas where trawl fishery is carried out are associated with potential octopus resource. Mean catch rate of 05 indivi./100 traps/day reflects that the trap seems to be efficiently reacting for octopus attraction. Therefore, further research is suggested in order to determine the potential of harvesting the resource with newly introduced gear.

Keywords: *Amphioctopus aegina*, North and Northwest coasts, octopus, Sri Lanka, traps

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