Study of the impact of the fyke net fishery ("Kudu del") on *Portunus pelagicus* and other non-target species, in the Puttalam Lagoon (Gulf of Mannar) using the Marine Stewardship Council's Risk Based Assessment Framework

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The objective of the present study was to assess the impact of fyke net fishing, locally known as 'Kudu del' on *Portunus pelagicus* stocks and other non-target species (NTS) in Puttalam Lagoon. Field data were collected from the fyke net catches of fishermen operating in the Puttalam Lagoon from 14th of November to 2nd of December and 1st to 5th of February in Kurinjanpitiya landing site and a total of 100 fyke nets were sampled (200 fishing trips). The total weight of the catch landed was 531.61 kg, of which 293.29 kg (55.2%) were target prawn species. Main species of shrimp in the harvest were *Penaeus indicus, Penaeus semesulsctus* and *Penaeus monodon*. The total weight of NTS was 238.32 kg (44.8%). A total of 56 NTS were observed including reptiles (01), finfish (44), crustaceans (06), molluscs (03), echinoderms (01) and Cyaneidae (01). The study revealed that 17.8% by weight of NTS was retained and 27.1% by weight of NTS was discarded. The total weight of the *P. pelagicus* caught by 100 fyke nets was 46.105 kg (8.71%) and the total number was 418. Small crabs (*P. pelagicus*) were discarded. Average total weight of *P. pelagicus* per boat (for 200 fishing trips) was 230.05 g. The 62% of female blue swimming crabs caught were mature. No endangered, threatened or protected species or primary main or minor species were observed, according to the Marine Stewardship Council's (MSC's) risk based framework for data poor fisheries. *Enhydrina schistose* (Out of Scope), *P. pelagicus* (8.71%) and *Hephaestus obtusifrons* (7.46%) were identified as secondary main NTS. The automated results for the three secondary main NTS species identified in the fishery generated a Scoring Guide Post ≥80 when applied the MSC's risk based framework indicated the ecological status of the fyke net fishery to be consistent with an unconditional pass of the MSC's fishery assessment methodology.

Keywords: fyke net, non-target species, MSC's risk based framework, *Portunus pelagicus*, sustainable fisheries

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