

## Temporal distribution of fish and shrimp fishery in relation to monsoonal patterns in the Rekawa Lagoon, Southern Sri Lanka

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Rekawa Lagoon is one of the important brackish water bodies covering 240 ha area on the Southern coast of Sri Lanka. It provides crucial ecosystem services, including food provision by serving fishing opportunities. Though, several studies have been carried out regarding fisheries aspects in Rekawa Lagoon, there is no recent fishery information available. Therefore, the study was designed to investigate the current status of the fishery with the monsoonal pattern in the Rekawa Lagoon. The five major landing sites around the lagoon were visited once a week to collect information on fish catch, gear type, and species composition from December 2020 to November 2021. From the total number of crafts operated, 40-60% were sampled at each sampling site. Gillnet (96%), cast net (2%), and fish kraals (2%) were identified as the major fishing gear operated within the lagoon, and they are mostly practiced by using non-motorized traditional boats (NTRB) or without crafts. There were 35 fish and 4 shellfish species that were recorded during the study period. The highest average monsoonal fish catch ( $15,186 \pm 3296$  kg) was observed in the Northeast monsoon (Dec-Feb), whereas the lowest ( $4094 \pm 539$  kg) in the second inter monsoon (Oct-Nov), with a significant difference in catch with monsoon pattern ( $F = 13.37$ ;  $p < 0.05$ ). Among dominant species, *Penaeus indicus* contributed to 63% of the total catch, followed by *Oreochromis spp.* (12%), *Nematalosa nasus* (6%), *Tachysurus sp.* (5%), *Pseudarius gella* (3%), and *Stolephorus indicus* (1%) during the Northeast monsoon period. The main issues for the lagoon's fishery were the spreading of invasive aquatic plants (*Najas marina*) and filamentous algae (*Oscillatoria sp.*), increasing fishing pressure by using monofilament nets and illegal kraal, particularly during the Northeast monsoon and conflicts among fishes. It is necessary to implement long-term proper management strategies considering monsoonal impacts to improve and to ensure sustainable utilization of the fishery resources in the Rekawa Lagoon.

**Keywords:** fisheries management, monsoonal pattern, Rekawa Lagoon, seasonal variation

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