

Recruitment of *Penaeus indicus* (Crustacea: Penaeidae) to the fishery of Rekawa lagoon, Sri Lanka: Is artificial enhancement possible?

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Rekawa lagoon (240 ha) in southern Sri Lanka supports a small scale shrimp fishery. *Penaeus indicus* is the dominant species in the landings accounting for about 84% of the total shrimp catch. The productivity of this shrimp fishery is dependent on the opening of lagoon mouth which facilitates the entry of post-larvae of *P. indicus* into the lagoon. A length-based stock assessment procedure (FiSAT) was employed to study the population dynamics of *P. indicus* in Rekawa lagoon and to determine its recruitment periodicity into the lagoon. Yield-per-recruit analysis indicated that *P. indicus* in Rekawa lagoon was heavily exploited. The peak recruitment of *P. indicus* to the fishery during 1994 took place in May when lagoon mouth was open. This did not overlap with their spawning season in the sea which resulted in low shrimp catches in the lagoon during fishing season in 1994/95. As evident from previous studies, high shrimp yields were reported in the fishery of Rekawa lagoon when the opening of lagoon mouth had coincided with the spawning season of *P. indicus*. As such, establishment of a procedure is recommended for deliberate opening of lagoon mouth during June-July and October-November each year in order to enhance recruitment of *P. indicus* to the fishery.