

ECONOMICAL AND ECOLOGICAL PERSPECTIVES TOWARDS THE CONSERVATION OF CHILAW MANGROVE ECOSYSTEM

M.A.C.C. Sarathchandra

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

Coastal community and people in Chilaw area have been using mangrove ecosystem resources directly or indirectly for many decades mainly for aquatic food production, household necessities and protection from natural disasters. But the lagoon and mangrove ecosystem products and services are undervalued leading to overexploitation of the ecosystem and rapid conversion of ecosystem for alternative uses such as construction shrimp farms, buildings and roads, shrimp farms have expanded with by 25 ha in four years, mainly at the expense of mangrove forest (approx. 13 ha) and coconut plantations (approx. 11 ha). Both ecological and economical evaluation was conducted in order to identify ecosystem services and products with a questionnaire survey of ninety households. During the study period a total of 15 mangrove species were identified belonging to 9 families, recording highest species diversity from family Rhizophoraceae and the highest species diversity was recorded from Pambala site. Mangrove associated faunal diversity was recorded for the three sites a total of 31 faunal species belonging to 28 families except fish species. During the study period a total of 16 fish species belonging to 13 families were recorded in the lagoon food catch in addition to four species of shrimps and three species of crabs. In the area monthly lagoon food production quantity ranges from 16789.5 - 8756, 6400.75 - 5875.0 and 7895.0 - 3255.0 kg/month for fish, shrimps and crabs respectively. The total food production (fish+shrimps+crabs) of Chilaw lagoon was estimated to be about 31085.25 kg/month. Average monthly use value of mangrove ecosystem is estimated to be ranged from LKR 32000 - 55000. According to the community survey and local market data records, the lagoon fish and crustacean production shows 19% of catch reduction to the previous year. It is very important to introduce and implement proper and suitable natural resource utilization and management system to ensure the sustainable use of Chilaw lagoon and mangrove ecosystems.