

## **Impact Of Crab Fattening On The Lagoon Environment And The Livelihood Of Fishers In Negombo Lagoon**

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Crab fattening is being practiced in Negombo Lagoon as an economic activity since 1999. This is a value adding process where meat content of the marketable sized water crabs is increased by keeping them in captivity with supplementary feed. The community that depend on lagoon fisheries has expressed their concern about the deterioration of water quality of the lagoon due to recent proliferation of crab fattening farms.

Present study investigated the impact of crab fattening on the lagoon environment and the economical feasibility of fattening process. Two factor complete randomized block design was used for the study and three of large- and small-scale farms and three control sites were used to compare and contrast the impact of crab fattening process on the lagoon environment. Several water and sediment quality parameters and benthic fauna were monitored at weekly intervals at each site and the data required for economic feasibility of crab fattening were collected.

Results revealed that there is a significant ( $P < 0.05$ ) increasing trend of un-ionised ammonia, sulfide and moisture content of soil in crab fattening areas indicating deterioration of water quality. Nitrite and pH near the crab-fattening sites showed a non-significant ( $P > 0.05$ ) increase. *Cerithidia singulata*, which was abundant in control sites, was not found in crab fattening areas. The abundance of polychaetes in the fattening sites increased in both small-scale and large-scale sites than control sites. Depletion of *Cerithidia singulata* and increase of polychaetes populations may be used as biological indicators for pollution monitoring. Currently a profit of between 80% -90% / cycle on investment is earned. Further studies required towards estimation of carrying capacity of the lagoon area for this activity in order to maintain as one of the livelihoods of the lagoon fisheries community.