

Quality of water and ice used for fish handling in fishing harbours in Sri Lanka

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ABSTRACT

Fisheries sector plays a significant role in the Sri Lankan economy but the fish production suffers of post harvested losses due to spoilage from bacteria and chemical reactions. One possible reason for the situation could be the use of contaminated water for fish handling and ice production in fishery harbours. Usage of polluted water and ice leads to post harvest quality losses in fish. Therefore it is of great importance to understand the quality of water used for washing the fish and for ice production. The aim of this study was to find out if tap water, harbour seawater, ice and fish surface were contaminated. Samples were collected from 13 fishery harbours and from attached ice processing plants to find out the possible source of contamination. Tap water used for fish washing and ice production was sampled from harbours' facilities. Harbours seawater was sampled as well but using seawater is the common way of washing fish in Sri Lanka. Both microbial and chemical measurements were performed on the samples and the results analysed. All harbour seawater was found to be highly contaminated with environmental and faecal bacteria. *E. coli* was found as well and *Salmonella* was detected in three harbours. Harbour tap water, ice and water used for ice production were less contaminated with faecal bacteria than the seawater but still above international standards. The source of microbial contamination in ice was generally originated from water used for ice production but some originated from the wells or the tap water. Ice was in good condition in only two harbours. Surfaces of fishes were already contaminated with faecal coliforms and *Salmonella* on board the fishing boats. Washing with seawater and storage on ice reduced slightly the bacterial counts but both were contaminated. The application of HACCP good management regulations for water and ice distribution system for harbours should be used to improve the standards of fishery industry.