

1.3.4 Assessment of microbiological quality of exported seafood from Sri Lanka - Sujeewa Ariyawansa, UNUFTP Sri Lanka

The export trade of seafood in Sri Lanka has shown a growth rate of 5% within the last 5 years with key buyers from UK, France, Italy, Japan, Netherlands and the USA. Sri Lanka has emerged as a high quality tuna exporter predominantly yellow fin and big eye tuna species to the international markets. The exported tuna products include sashimi quality tuna, tuna loins, fresh tuna steaks, tuna toppings and tuna blocks, to name a few. Other varieties of Sri Lankan seafood relished by the world are the shrimps, lobsters, crabs, squid, cuttle fish, shark fin, beach de-mer etc. Currently there has been an increasing focus on food safety in the international trade of seafood products. Food-borne hazards are still of great concern for human health and in particular the risks pertaining to seafood and shellfish consumption. Control of microorganisms is essential to meet these food safety requirements. Fresh/frozen fish and shellfish samples from 16 seafood export processing establishments and official samples drawn by the competent authority for fish exports in Sri Lanka for testing of microbiological quality during the period from 2013 to 2014 were analyzed for microbiological parameters namely Aerobic Plate Count (APC), Coliforms, *Escherichia coli*, *Staphylococcus aureus*, *Vibrio cholerae*, *Vibrio parahaemolyticus*, *Salmonella* sp. and *Listeria monocytogenes*. Standard methodologies based on Sri Lankan standards and ISO standards were employed and the analysis was carried out in an accredited laboratory. Of the 414 samples tested for APC 89% samples showed $<10^5$ cfu/g whereas 8% samples resulted 10^5 - 10^6 cfu/g. 3% of samples showed $>10^6$ cfu/g. 326 and 393 samples were tested for Coliforms and *E.coli* respectively and 85% of samples was not detected for *E.coli*. 15% of samples were in the range of 0.4-9 MPN/g and frozen scampi sample was highly contaminated with *E.coli* at 40 MPN/g in one occasion. Of the 370 samples tested three fresh mullet fish samples and one fresh crab sample were found to be positive for *Salmonella* sp. Either *V. cholerae* (n=282) or *S. aureus* (n=284) was not detected in any of the fresh and frozen samples. 218 samples were tested for *V. parahaemolyticus* and only one frozen shrimp sample was contaminated at the level of 9 cfu/g. Of the 88 fish samples tested, *L. monocytogenes* was found in fresh and frozen tuna fish in two occasions. Present study revealed that microbiological quality of exported seafood is acceptable with the exception of few instances.

K.W.S Ariyawansa, P.H Ginigaddarage, K.S. Hettiarachchi, M. Seneviratne & G.P Roshan

National Aquatic Resources Research & Development Agency, Crow Island, Colombo 15, Sri Lanka.