

# EVALUATION OF MICROBIOLOGICAL QUALITY OF SELECTED MARINE FISH SPECIES FROM FISH STALLS IN SEVEN DISTRICTS.

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## ABSTRACT

In Sri Lanka, where handling practices are often poor and suitable facilities for storage and distribution of fish are lacking, the consumer in many instances has little choice with regard to quality. During the study a total of 42 samples were collected from 21 sampling points located in seven districts. Samples were analyzed for Total Spoilage and Non Spoilage Bacterial counts, Total Coliforms, Faecal Coliforms, *E coli* and the presence of *Salmonella*, followed by the physical parameters and sensory evaluation. Most of the samples of fish had spoilage bacteria in the range of  $10^4$ - $10^5$ . Samples taken from Kurunegala and Anuradhapura districts carried *E coli*  $>10^3$  in 50% of the samples while the rest of the samples had *E coli*  $<10^3$ . Samples from Badulla district had *E coli*  $<3$  in 50% of the samples while the rest of the samples had *E coli*  $3$ - $10^2$ . Most of the samples of fish from seven districts carried Total Coli forms  $>10^3$  while three samples from two districts were positive for *Salmonella*. Further, the overall organoleptic quality of the fish samples are in 3-4 grade range. The results show barely acceptable quality of the fish at the markets. Hence a quality improvement program is necessary to ensure better quality fish to the consumer.

**KEY WORDS:** Coliforms, *E Coli*, *Salmonella*

## INTRODUCTION

Marine fish production accounted for 230,200 metric tons or 89% of total fish production in Sri Lanka (Anon, 2000). The fisheries sector is of strategic importance to the country. It is also recognized as a traditional contributor to the food production and nutrition as a good protein source. The composition of most fish is in the ranges of about 14-20% protein, 0.2-20% fat, and 10-18% ash (Potter and Hotchkiss, 1995). More importantly fish continued to be the top animal protein supplement in Sri Lanka meanwhile it comes second in total protein supplement having per capital availability of 20.1 grams per day (Anon, 2000a). Fresh fish does not have properties far away from that of the living fish. After death of fish lot of chemical,