Assessment of Salt Optimization for Processing and Status of Microplastic Load in Two Selected Dried Fish Species: *Amblygaster* sp. and *Rastrelliger* sp.

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Dried fish is a widely consumed traditional food in Sri Lanka, valued for its high protein content, affordability, and extended shelf life; however, concerns regarding product quality and food safety, particularly optimal salt levels and microplastic contamination, remain insufficiently studied in the local context. Therefore, this study was designed with two integrated components: microplastic as assessment and salt optimization using two commonly consumed fish species (*Amblygaster* sp. and *Rastrelliger* sp.). For microplastic analysis, dried fish samples were collected from Negombo, Chilaw, and Kalmunai, known for high dried fish production, and were processed under controlled salting and sun-drying conditions. For salt optimization, fresh fish samples were obtained from local markets and processed under controlled conditions using varying salt concentrations (5%, 8%, 10%, and 12%). Microplastic analysis was conducted using chemical digestion followed by microscopic identification, whereas salt optimization involved curing, drying, and evaluation of physicochemical and sensory attributes. The results revealed the presence of microplastics in both *Amblygaster* sp. and *Rastrelliger* sp. with fibers identified as the dominant microplastic type (65%) and blue-colored particles as the most abundant (58%). Foam particles were more prevalent in Kalmunai samples (32%) compared to Negombo (10%) and Chilaw (12%), possibly due to the degradation of Styrofoam materials used during fish processing, packaging, and transportation. In the salt optimization experiment, moisture content decreased significantly with increasing salt concentration ($p < 0.05$), whereas H and bulk density showed no significant variation ($p>0.05$). Sensory evaluation indicated that 10% and 12% salt concentrations had the highest consumer acceptability. Overall, the findings suggest that dried fish may serve as a pathway for microplastics to enter the human food chain. A 10% salt concentration is recommended as an optimal level that ensures product quality while minimizing excessive salt intake. These results highlight the need for improved processing practices and further investigation of contamination risks in dried fish products.

Keywords: *Amblygaster* sp., *Microplastics, Rastrelliger* sp., *Salt optimization, Sensory attributes*