

Tuna fish waste as an aquafeed substitute at Visakhapatnam

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Tuna is an important group of large pelagics in the waters along the Visakhapatnam coast and constitute a major component of the exploited marine fishery resources. The annual average landings of tunas in Andhra Pradesh during 2006 -2010 was 29,360 t, which accounts for 26.4% of the national tuna catch. The highest catch of 32,369 t was recorded in 2009 and the lowest catch of 27,046 t was recorded in 2006. Visakhapatnam alone contributes to half the total tuna catch for the state. The tuna fishery at Visakhapatnam is contributed mainly by *Euthynnus affinis* and *Thunnus albacares* with small amounts of *Katsuwonus pelamis* and *Auxis thazard*. They are mainly exploited by hooks and line and by gillnets. They are locally called 'suralu' and support a regular fishery. Visakhapatnam is the major fishing harbour where tuna fish is brought from different landing centres and transported for export.

Guts and gonads of tunas account for 8% of the total body weight. Head, fins, mid bone, tails and gills of tunas contribute to 20- 25% of the total body weight. Hence 30-35% of the total body weight of tuna is waste and can be utilised in silage production. Smaller tuna viz., *E. affinis*, *K. pelamis* and *A. thazard* are processed and exported as whole fish. Yellowfin tuna weighing more than 15 kg are only degutted, deheaded, definned, detailed, degilled and exported as fillets. The average annual tuna waste generated at Visakhapatnam is estimated around 1,000 t (one fourth of the tuna caught at Visakhapatnam is only used for filleting).

The present paper reports the utilisation of wastes obtained from tuna at the Visakhapatnam Fishing Harbour (VFH). Very often, huge quantities of tuna wastes are dried at VFH. After the flesh of tuna is sliced and removed, the leftover head, thick midbone,

fins, gills and viscera are dried properly in the drying yard of fishing harbour and regularly transported in gunny bags to Bhimili. The final dried product is sold at the rate of ₹ 15 per kg and utilised for the preparation of fish meal. The average annual returns to the fishermen community by selling sundried processed tuna waste is estimated as ₹ 4.5 crores. Thus it is an economic benefit as the waste generated is again reutilised in the preparation of aquafeed.

Similar scenario exists in Lakshadweep where, on an average, 3,000 t of tuna waste is generated annually. A novel attempt was made by Central Institute of Fisheries Technology (CIFT), Kochi to develop a technology of converting waste generated during processing of tuna into a liquid protein source for animal feed preparation and developing a fish feed under the brand name "SILO" which was found to be promising for cultivable marine finfishes like cobia, grouper and seabass. The same can be tried at Visakhapatnam keeping in view the huge amount of tuna waste generated and this will enable the fishermen community to realise much higher returns than that generated at present.



Fig.1. Tuna waste being sun dried near Visakhapatnam Fishing Harbour