

Fish Cutting Centres of Karnataka: An ancillary small scale industry for *Surimi* production

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Fish processing plants/industries add value as well as shelf life to the harvested fish. Such plants have facilities for curing, drying, freezing, filleting, canning etc. Processing of fish includes the preparation of minced fish meat which forms the raw material for various ready-to-cook and ready-to-eat products. The minced fish and fish paste is used in the domestic markets for preparation of various culinary products and also has a very good export demand in the form of *Surimi*. This export market provides an opportunity for preparation of high quality fish paste, through utilization of small fishes with low or no value in the domestic markets. *Surimi* is prepared from small sized fishes of good quality having reasonably high gel strength. The threadfin breams (*Nemipterus* spp.), lizard fish,

(*Saurida* spp.), croakers (*Johnius* spp.) ribbonfish (*Trichiurus* spp.), lesser sardines (*Sardinella* spp.) and goatfish (*Upeneus* spp.) are used for the preparation of *Surimi* which is a Japanese term that literally means “ground meat”.

As the *Surimi* produced is meant only for export, strict hygienic conditions are maintained in the plants with the fish being brought here in a partially pre-processed stage. This pre-processing includes beheading, removal of scales and viscera, washing etc. This activity is carried out in cutting sheds which have grown as an ancillary industry engaging a large work force dominated by women. Presently, in Karnataka there are 25 fish cutting sheds located in Mangaluru, Malpe, Kundapur and Karwar. These



Women engaged in processing of fish in Fish Cutting Centre at Malpe

centres procure raw fish directly from the fishing boats and send the pre-processed fishes to the *Surimi* plant while the waste generated is sent to fish meal plants, where it is converted to protein rich powder and used in the preparation of aqua feeds.

During peak fishing season, the Fish Cutting Centres have the capacity to produce 10-15 tonnes (t) of pre-processed fish daily. Availability of raw material used for the preparation of *Surimi* is maximum during September to December. The pre-processing centres generates enormous amount of waste, being approximately 20 - 30% of total fish weight, based on the species of fish being processed. The waste thus generated during the processing is transported to nearby fish meal plants. Majority of the fish cutting centres operate for about 6 - 8 months in a year, depending on raw material availability. Whenever there is no demand for the pre-processed fish from the *Surimi* plants or scarcity

of a particular fish, these cutting centres procure oil sardine and process it for canning factories on request.

Each Fish Cutting Centre employs around 80-100 women and the 25 functional pre-processing sheds provide direct employment to around 2500 women living in the coastal area. They are initially trained in hygienic processing of the fish. The cutting tables and other equipments have been modified accordingly to facilitate a comfortable working environment for the women employees. While processing the fish the women squat down and cut fishes using sickles. To suit this method of cutting, the height of regular processing tables have been decreased and sickles mounted on the edges. Thereby the women can sit comfortably on special platforms above the wet floor and cut the fish with ease. The trained women can process around 100 - 150 kg of fish every day and are paid on a daily basis at the rate of ₹ 2 per kg of processed fish.

These centres thus provide direct employment to the fisherfolk by playing a crucial part during the pre-processing phase of *Surimi* production. These pre-processing centres are indirectly responsible for boosting the export earnings of the country from fisheries. *Surimi* is mainly exported to European countries, Japan and South-East Asian countries and annually about 10,000 to 12,000 t is being exported from India. In addition, oil sardine processed from these centres are being used along with other highly priced fishes for export.