

DIVERSIFICATION:

THE ONLY MEANS OF SALVATION FOR OUR SEAFOOD INDUSTRY

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[The author is very well known to our readers, so that an introduction on this occasion will be superfluous. Since we introduced him last through these columns, he has more than doubled his number of publications to seventyfive. He has also been made the Honorary Editor of the half yearly research journal " Fishery Technology ".]

Introduction :

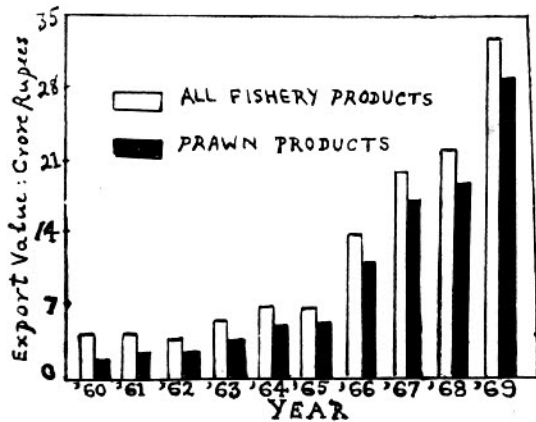
India has made great strides in her fishing and fish processing industries in the past one and a half decades. We had a flourishing trade in dried fishery products prior to world war II, immediately after which it suffered a serious set back due to several reasons. The industry was on the verge of a collapse, when in the year 1953, the first consignment of thirteen tonnes of frozen prawns left the shores of India, sparking off a rapid process of development that followed. Very soon other products like canned prawns, frozen froglegs and lobster tails found their way into the sophisticated western markets. Slowly we could also regain

some of the lost ground in the field of dry fish exports. The net result was a sudden spurt in our export earnings from these products from a mere Rs. 4 crores in 1960 to Rs.33 crores in 1969. Today we have in India, sixty freezing units with a freezing capacity of more than three hundred tonnes of fish per day and fifty canning units with a daily capacity of more than six lakhs cans.

Prawn - the fulcrum of our seafood industry :

Our export earnings from all fishery products together and the contribution to this by processed prawn products alone for the decade 1960 - 1969 are shown in chart 1.

Fig. I



India's export earnings from fishery products

It is quite evident from the figure that prawn products are responsible for a large chunk of the total export earnings, the contribution of all other products taken together being only a deplorably small fraction of the whole. If we look at the industry, we can see that almost all the activities are centred around prawn, right from catching through processing and export; all our other fishery resources being pitifully neglected, even though they contribute to nearly ninety percent of our total marine fish landings. So much so, it appears more appropriate to assign it the name "India's prawn or shrimp industry" rather than the more commonly employed term "India's seafood industry".

This sort of narrow minded approach has necessarily to change, if our seafood industry has to make any further progress. Our seafood industry is standing at cross roads at present. This is the time for it to take a firm decision as to which path to follow, viz;

proceed straight on the narrow path with eyes firmly planted on the prawn and stumble in the ditch in the not too distant a future, or diversify the activities with a broader outlook in the field, open a bright and prosperous future and develop our industry into a real "seafood industry" in the literal sense of the term, rather than constrain and suffocate in the confined realm of the prawn alone.

Lethargy must give way :

This sort of lethargy is not new to our country. If we look back to the pre-war II period, we can see that our entire fishing operations were carried out by country crafts and catamarans, confined to a narrow belt of continental shelf comprising of areas within the ten fathom line. Whatever fish were caught, were processed by the traditional method of salting and drying and very often forced to dump the excess catches in coconut gardens as manure in seasons of glut due to want of proper preservation techniques and quick means of transportation for distribution in the fresh form. Even there, dried prawn products played an important role. These conditions continued to confront our conservative fish industry until after the post-war period when neighbouring countries which were our main markets for dried fishery products almost completely terminated their trade with us leaving us in the lurch. Circumstances had to take this shape before our industry ventured, though with much hesitation in the beginning, into the field of freezing and canning of prawn, to be followed closely by freezing of lobster tails and froglegs (though the last one is not a fishery product). The increasing demand for these products in the sophisticated western and

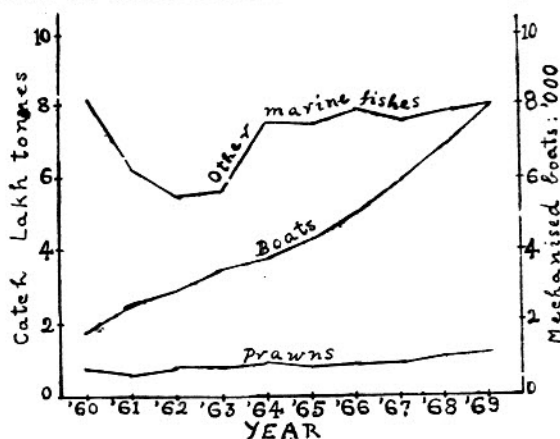
eastern markets caused a sudden spurt in the number of processing units and exporters, which in its turn aggravated the demand for raw material, several fold. This latter aspect helped to mechanise our fishing operations to some extent. Whatever progress we have achieved till now is the net result of all these developments.

What is diversification ?

By the term diversification, it is meant, diversification in catches, diversification in processes and products and diversification in markets. For putting these into practice, it will not be wise on our part to wait until we are faced with conditions which prevailed when we were first forced to venture into the present era; I mean the pitiable conditions that developed immediately after world war II. The earlier we switch over to it (diversification), the better for our industry and the nation as a whole. I shall briefly deal with different aspects of diversification in the following paragraphs.

(Diversification in catches :

Figure 2 illustrates the progress made in mechanisation of our fishing



Relation between number of mechanised boats and catches of prawns and other fishes

activities *vis-a-vis* the corresponding catches of prawns and other marine fishes in our country in the decade 1960-1969.

While it shows a slight improvement in the catches of prawns, the catches of other marine fishes have not shown any improvement at all, in spite of the rapidity in mechanisation of fishing crafts. This obviously, is due to the fact that the fishing area has not expanded with the increase in the number of boats. That is to say, the fishing activities are still confined to the narrow continental shelf and it is probably indicative of the fact that no further improvement in the harvest is possible unless the area of fishing is widened. In short, we have to take to deep sea fishing on a large scale if we are to make any further progress, which means introduction of larger size trawlers with modern equipments and gear. Another important point is that mechanisation should be expanded for catches other than prawns. At present mechanised boats are exclusively operating for prawns alone and boats even throw overboard all other fishes netted along with prawns, to make more room for the dollar-earner. This attitude has necessarily to change if further development of our seafood industry is envisaged.

Diversification in processes and products :

The same trend of approach is also observed in the case of the processes employed for preservation and the products turned out for the market. Very much as we were specializing in our stereotyped dried fishery products in the pre-war II days, we are now sticking on to frozen and canned products to which we switched over, heralding a modern trend in the country's seafood industry; and here too, prawn occupies

a virtual monopoly. In the case of frozen prawns, it is very well known that with a slight alteration in the freezing process viz; individual quick freezing (I. Q. F.) a much wider margin of profit in the foreign markets than the traditional block freezing can result. That our seafood industry has not yet taken to this, is none too complimentary to the industry. May be, the excessive cost of the special machinery (Fluidised bed freezing equipment) required and the existing import restrictions are the impediments that prevent the industry from taking to the I. Q. F. system. Whatever it is, the fact remains that we have not been enabled to exploit at least this particular technique, let alone diversification of processes in the wider sense of the term.

It is estimated that more than 60% of the installed freezing and canning capacity in the country is idle due to want of sufficient "raw material" (prawns). If at least a portion of this idle capacity is utilised for the preservation of other food fishes of our country, technical know-how for which has been worked out in recent years, it can revolutionize our fish processing industry. Besides making available to our population the universal source of protein food through equitable distribution throughout the year in all part of the country, these products are sure to find lucrative export markets too. However, as a pre-requisite for this, mechanisation of fishing activities has to be expanded to catch such fishes also. At present, it is probably a psychological conflict between the fishing and fish processing industries as to which should take the initiative. Somebody has to break the ice and both should work together for their mutual benefit as well as that of the country as a whole.

Fish dehydration industry :

This is one of the most neglected branches of our seafood industry and our export earnings from such products have been dwindling at a rapid rate in recent years. Salting and drying still remains to be the largest single method of preservation of fish in the world because of its cheapness and easiness. It is bound to remain so for a long time to come especially in the developing countries. In India, this method of preservation has to be given all possible encouragement, because fish preserved by the more sophisticated methods of freezing and canning at present overshoots in cost, the purchasing capacity of the common man, for whom, at least for the time being, curing alone appears to be the most suitable method of preservation of this cheapest source of protein foods. The industry has to be entirely reorganised on modern lines with hygienic processing halls and plentiful supply of good potable water, the most essential pre-requisites for any food processing factory. Hygienic and aesthetic methods of processing and packing, can improve the internal consumption of fish, helping to solve the problem of protein mal-nutrition of our population. Simultaneously can such products capture hitherto unexplored and sophisticated foreign markets as well.

Byproduct and speciality products :

In any industry, maximum utilization of the byproducts is absolutely essential in order that it may work economically and bring maximum returns. In the case of our prawn processing industry, shell and head wastes are important byproducts which at present, are almost completely thrown away into the backwaters. An easiest and cheapest method of utilization of these materials is to dry, pulverise and use as cattle / poultry feed or manure. Methods have recently been evolved for extracting a high quality protein concentrate in a paste or powder

form for human consumption from such material. Besides valuable chemical compounds like chitosan and glucosamine hydrochloride can also be extracted.

Cheap miscellaneous trash fish, not preferred for consumption can be advantageously converted into fishmeal for cattle/poultry feed by cooking, pressing, drying and powdering. Press cake (guano) from the sardine oil industry and offals from other fish processing industries can also be incorporated into this product. Other important products from cheap varieties of fish and for which methods of preparation have been evolved recently are fish protein concentrate for human consumption, bacteriological peptone for microbiological work, fish hydrolysates for conversion into baby and invalid foods, fish wafers and fish soup mixes. Frozen breaded shrimps and fish sticks, canned and frozen fish pastes, smoked and dried fish, smoked and canned fish,

canned fish in curries and sauces, canned shell fishes like clam, crab, oyster and lobster and fish sausages are other products of promise for diversification.

Sardine oil which hitherto was used in our country only for smearing on country boats, can now form the raw material for several industrial products like printing ink, artificial rubber, lubricating oils, paints and varnishes. It is heartening to note that shark livers are more or less being utilized completely for production of vitamin A and D concentrates.

Diversification of markets :

This is also a very important point to be taken care of in order to get maximum returns from our fishery products. Too much dependence on one market alone causes the prices to be lowered. Hence we must explore newer and newer markets by conducting market surveys, so that markets offering higher prices, be developed.

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