THE FISH PROCESSING INDUSTRY: ITS ROLE IN A FISHERIES DEVELOPMENT STRATEGY

Shazam Ali

(Asst. Chief Executive Officer, National Fisheries Co. Ltd., Trinidad)

Introduction

Addressing the Opening Session of the U.N. Agency's Committee on Fisheries, held in Rome last year, the Food and Agriculture Organisation (FAO) Director-General Saouma observed that the world food fish supplies will need to be doubled by the turn of the 21st century to meet estimated consumption needs. In 1982, world catches peaked at 75 million tonnes. However, if present harvesting trends continue, it is envisaged that annual production will not exceed 90 million tonnes. On the other hand, present human consumption demand is around 55 million tonnes; but considering increased population growth in the Third World, this demand could rise to 110 million tonnes by the end of the century.

The challenge therefore, is to find another 20 million tonnes annually to meet the projected shortfall, while making the product available at affordable market prices. A two-fold approach is suggested to meet this challenge:

(1) Ways must be found to increase the fishery resource base; and
(2) Concurrently, better use must be made of fish once it is harvested.

It is believed that in the long term, the solution will lie in the better utilisation of all harvestable fish. The fish processing industry will therefore, have a well defined role to play in the overall global development strategy of fisheries.

Fisheries Development Strategy - The Caribbean

Over the past two decades, many regional seminars have focussed on aspects of fisheries development in the Caribbean. Nevertheless, this region still lacks a clearly defined fisheries development strategy. Probably this is due to the artisanal nature of the individual island fisheries, each with its attendant physical, economic and sociological problems, and the increasing tendency by respective regional members towards insularism, in pursuit of their own national fisheries development programmes.

Generally, many strategies for Caribbean Fisheries Development have evolved into long term scientific studies requiring substantial capital investment for equipment, materials and expertise. While such strategies are important for stock assessment and conservation purposes, it is submitted that paramount in any regional fisheries development strategy should be a basic or *grassroot* consideration of means whereby the earning capacity of the fisherman is directly increased. Without such an objective, either short term of long term, the productive sector in the industry will not be impressed, and it is unlikely that this sector will meaningfully participate in such a developmental strategy.

While it is fair to record that some strategies have resulted in direct benefits to the fisherman (notably in Trinidad and Tobago), these strategies have centred mainly around the productive sector, and little attention has been paid to the backward and forward linkages created by the industry. It is not advocated that governments directly

participate in either the support or processing arms of the industry; but it is their responsibility to encourage private sector participation through dialogue, and through the establishment of appropriate fiscal and other incentives. It is believed that as long as there is potential for reasonable returns in the linkages of the industry, entrepreneurs would invest, ensuring at least some tangible commitment to the industry, and paving the way for the eventual development and expansion of the support, processing and marketing arms of the industry.

The Fish Processing Industry

Basically the role of the fish processing industry in fisheries development may be considered as one of product enhancement. The objective is to utilise most of the available raw material to produce and market a superior product of excellent taste and quality, with acceptable value-added levels. Put another way, the processing industry could enhance the value of the product and relieve the burden of increasing supply and consumption of the product in its traditional form. This would still guarantee adequate rates of return to the potential investor.

Over the past decade in particular, the fish processing industry has seen a rapid development in equipment and machinery, all with the objective of utilising the less popular species of fish and enhancing value. In the Caribbean, the fish processing industry can make use of this technology to commercialise a fishery. This demonstrates the use of the forward linkage of the industry to develop the industry proper. It must be emphasised that such a strategy does not envisage the establishment of large and sophisticated plants throughout the island chain. Indeed, existing plants, no matter how small, could be made more versatile, bearing in mind that a resource of little economic importance to one island could prove to be the opposite in another because of differences in traditional taste patterns and levels in standard of living. Obviously, there must be concurrent development of inter-island transport and regional marketing, but this is not as capital intensive a development as some tend to

How can the processing industry impact directly on regional fisheries development? The answer may lie in the following observations:

(1) The processing industry must be versatile enough to make use of all fish with potential for harvesting: With careful planning, a plant could be made viable if there is a good mix of value added production, and acceptable throughput levels are maintained;

(2) The fisherman is assured that such an industry, if sustained, will provide a ready market for all catches, probably at guaranteed prices, and the pains of the low glut season prices are therefore minimised; this encourages him to move from subsistence fishing to a full time vocation.

(3) The support services such as boat building, net making and repairs, and boat and equipment maintenance are also developed.

In the Caribbean, the popular and high valued seafoods such as shrimp, lobster, red snapper and kingfish will always maintain their niche in the market system. Planners should continue to develop these resource bases as earners of much needed foreign exchange, always mindful of the adverse effects of over exploitation. The role of the processing industry as far as these products are concerned is fairly minimal and confined to a little processing and substantial packaging for export.

The role of the processing industry in respect of the less popular species is crucial. Perhaps the answer lies in establishment of small plants each equipped with fish/bone separators which would

allow the production of a basic minced fish block. This process would be ideal for the coastal pelagics (Caranfiids, Herrings). These minced blocks could then be transported to a larger factory and used as raw material for entirely new products such as reformed fillets, patties, breaded fish fingers and precooked fish sticks.

In the context of fish flesh recovery for the processing industry, the introduction of the fish/bone separator may well prove to be a milestone in the history of fishing economics. Virtually every new product produced from mechanically deboned fish flesh is derived from flesh of under utilised species normally wasted in processing operations. Moreover the bone separator has enabled the production of an amorphous, well textured, tasty raw material, capable of transformation to a variety of products, all presently in high demand and more important, highly acceptable by children. This line of product enhancement would go a long way in promoting increased consumption of domestic fish and thus make significant contribution in our drive to reduce extra-regional imports.

Another example of the use of the processing industry relevant to regional fisheries development could possibly lie in the utilisation of the unexploited and significant resources of sea bob shrimp. With the advent and success of automatic peeling machines, the flesh of this shrimp could be recovered. The larger shrimp could now be automatically separated for processing as an IQF* shrimp while the smaller shrimp could be extruded and formed into large *jumbo* shrimps, specifically for coating and pre-cooking. Such shrimp could be of immense value for the restaurant and hotel industries of the respective islands. One word of caution to the prospective entrepreneur - the investment is significant and infrastructural support (rota drum freezers) and packaging technology for this product is sophisticated.

The flying fish industry of Barbados and the potential for development of this industry within the Tobago, Grenada, Barbados triangle is another pet subject for discussion among regional experts. Yet these industries are at best fragile and subject to seasonal fluctuations both in terms of availability and prices. Additionally, this industry has remained essentially *cottage type* in nature. Yet, there is good export market potential for a high quality IQF flying fish fillet deboned and well-packaged.

It is submitted that there must be a political will if a serious effort is to be made to develop this industry. The ubiquity of fish in the Caribbean waters and the necessity to handle this fish immediately when it is caught would suggest that there should be multi-participation in a mother ship/factory vessel type operation to collect and store the fish.

The Barbados experience of use of new prototype ice boat which affords the fisherman longer fishing time has proved successful in so far as landings are concerned. However, difficulties in storing and marketing the flying fish have nullified a significant improvement in fish production. It is suggested that such quantities of fish could be processed in one plant using a combination of hand filleters and automation, the product being attractively packaged for export, bearing in mind the stringent quality requirements of the more lucrative markets.

Conclusion

In summary therefore, the fish processing industry has a positive role to play in a regional fisheries development strategy. By making use of modern equipment, and recognising current trends in marketing and taste

---

IQF:

patterns, the industry can make use of the less popular species of fish which are still relatively abundant in Caribbean waters. This will encourage fishermen to harvest fish all year round in order to supply the plants; and it is certain to reflect in better and more stable guaranteed prices for the fisherman. Needless to say, in the pursuit of a regional fisheries development strategy, governments will have to rise above their individual island politics if the Caribbean region is to aspire toward self-sufficiency in fish.