

**F**isheries and sea farming are one of important industries in Vietnam due to favorable conditions: a 3,260km coastline, 1-million sq.km. territorial waters, and favorable climatic conditions for sea farming.

Up to 1998, Vietnam produced some 1.57 million tonnes of seafood and exported some US\$770 million worth of seafood a year. However, the seafood processing industry is poorly developed and the market for Vietnam's seafood is small. Joining the AFTA and the negotiation about a Vietnam-U.S trade agreement will put the local seafood processing industry at a disadvantage: keener competition from ASEAN members in both domestic and foreign markets. That is why a strategy to develop the seafood processing industry becomes an urgent problem.



## MEASURES TO DEVELOP SEAFOOD PROCESSING INDUSTRY IN VIETNAM

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### 1. Favorable conditions for Vietnam's fisheries and sea farming

#### a. Natural conditions:

Vietnam has a long coastline, wide territorial, coastal and inland waters and numerous islands that are suitable to ports and fishing industry:

- Bays and lagoons: there are some 1,160 sq.km of bays and lagoons in Vietnam. Most of them are found in Hạ Long (Quảng Ninh), Thuận An (Thừa Thiên- Huế), Quy Nhơn, Thị Nại (Bình Định), Cam Ranh (Khánh Hoà) and Rạch Giá (Kiên Giang).

- Islands: Many coastal islands are under investigation: Cô Tô, Bạch Long Vỹ, Hòn Mê, Côn Cỏ, Lý Sơn, Phú Quốc, Côn Sơn, Thổ Chu and Phú Quý. Offshore islands, including the Hoàng Sa archipelago, house a lot of species of aquatic animal but necessary investigations haven't been carried out yet.

- River estuaries: There are some

110 estuaries from Quảng Ninh to Kiên Giang: 65 of them are from 0.1 to 1.4 meters deep, and 50 others from 1.5 to 4.0 meters deep.

#### b. Hydrometeorological features:

Vietnam is in the monsoon area of the Asia and its climatic conditions in the north are different from those in the south.

- From Bình Định to the north: The winter is cold and the summer is hot and humid. This region is usually struck by storms from the Pacific Ocean.

- From Bình Định to the south: There are two seasons here: rainy and dry ones. The difference in temperature between those two is small. This region is seldom hit by storms but the southwest wind is rather strong causing some difficulty for the fishing business.

Change in tide is the main factor affecting the appearance of shoals of fish and fishing activities. There are four kinds of tide in Vietnamese waters: diurnal tide,

irregular diurnal tide, semidiurnal tide and irregular semi-diurnal tide. Experience shows that there will be huge catches of fish when the tide is low.

#### c. Variety of seafood:

- Fish: There are some 2,000 species of fish belonging to 190 families in Vietnamese waters. Some 100 of them are of high value and 50 of very high value. The life cycle of marine fishes in Vietnam is rather short, from three to four years. That is why most of them are abundant all year round. Marketable fishes in Vietnam are of medium size (15-20cm). Their biggest size is somewhere between 75 and 85 cm.

- Crustacean: There are 1,647 species belonging to six families. Marketable ones are shrimp (banana and bearded shrimps), lobster (rock and spiny lobsters), and crab.

- Mollusk: There are some 2,523 species and the most marketable are squid, oyster, clam, trepang,



mussel, etc.

- Sea weed: There are some 600 species, including sargassum, glacialia and spyrulina maxima that are used as raw materials for some industries.

Estimates of potential for seafood output provided by scientific researchers are as follows:

+ Potential resources: from 3 to 3.5 million tonnes a year.

+ Exploitability: some 1.5 million tonnes a year, 51% from surface water and 49% from deep water.

+ Sustainable exploitability: from 1.0 to 1.3 million tonnes a year.

d. Cheap labor:

Up to the end of 1997, there are some three million people (equaling around 10% of the working

US\$1,000- 1,500 for a captain and 400 - 1,500 for a sailor in Thailand).

## 2. Vietnam's export of seafood

a. Markets for Vietnam's seafood

- Before 1990, Vietnam's seafood was sold mainly to Asian countries (60% to Japan and 25% to others), Western Europe, North America and Australia.

- From 1990 on, the amount of seafood exported to Europe and North America increased while the amount to Japan and other Asian countries decreased.

- Vietnam's seafood meet keen competition from Thailand and China in Japanese, American and European markets.

b. Vietnam's seafood for export  
Some 60% of seafood exported

try

In this article, we limit ourselves to measures to improve quality and hygienic standards of processed seafood and other measures to deal with factors affecting the seafood processing industry (capital, raw materials and market for example) will be presented in another article. These measures are as follows:

a. Control of quality and hygienic conditions

Implementation of hygienic regulations in seafood processing factories should be linked with application of an overall control system. Quality control programs applied in Vietnam today fail to meet international standards and thus prevent Vietnam's seafood from entering such demanding markets as the EU and North America. The solution is to apply the HACCP system. This system helps identify hazards to processed food and thereby working out measures to control them. When applied, the system will work over a series of critical control points, save us from repeated checks on finished products and ensure better safety and lower cost.

To carry out the HACCP system, all stages of the production of seafood should be kept under control in order to ensure high and consistent quality for the finished products:

+ In fishing ship: the ship should be equipped with all facilities for preserving and storing seafood products, and all sailors should be aware of hazards to products. All equipment and facilities should be cleaned and disinfected before and after use and all waste should be treated properly.

+ In ports and fish markets: Necessary facilities should be installed to handle and preserve commercial catches before transporting them to processing factories.

+ In means of transport: full attention should be paid to time and temperature when transporting seafood. Large quantities of ice should be available because Vietnam is a tropical country. Refrigerated trucks could be used for transporting seafood over long distances to reduce expenses on ice and ensure product quality.

+ In processing factory: This is the most critical control point where the quality is enhanced and more value is added. The quality of the product made by the factory depends on two factors: equipment and hygienic conditions.

+ In warehouse: Temperature in warehouses of seafood products

Table 1: Shrimp bought by the U.S. in January of the years 1995 - 98 (ton)

Seller	Jan. 1995	Jan. 1996	Jan. 1997	Jan. 1998
Thailand	6,691	5,518	6,635	5,658
Ecuador	3,145	3,825	4,288	5,498
India	2,136	2,626	1,531	2,866
Mexico	2,894	3,522	3,088	3,736
China	1,654	719	348	729
Indonesia	516	205	1,211	755
Pakistan	268	347	80	-
Philippines	143	101	62	130
Bangladesh	554	449	614	792
Malaysia	157	79	22	66
Vietnam	-	-	-	272
Sri Lanka	-	-	-	8
Honduras	381	469	394	557
Colombia	350	235	275	142
Peru	268	107	267	463
Venezuela	318	248	382	437
Panama	672	603	734	783
El Salvador	188	515	379	151
Canada	29	53	216	153
Greenland	83	30	-	-
Norway	1,175	777	1,538	983
Total	21,924	20,064	22,064	24,252

population) living on fisheries and sea farming. Among them are 80 doctors; 3,000 university graduates; 4,000 technicians and 13,000 technical workers. The army of fishers is industrious and eager for new techniques. The labor cost is generally low in comparison with neighboring countries: US\$150- 200 a month for a captain and US\$70 -150 for a sailor (as compared with

by Vietnam are frozen only, and almost unprocessed, so it is of lower quality in comparison with that from Thailand. Over 60% of seafood processing concerns in Vietnam fail to meet standards required by European, American and Japanese buyers.

## 3. Some measures to develop Vietnam's seafood processing industry



should be kept stable (around 25°C) and well ventilated. The FIFO method should be applied here.

b. Beefing up the seafood inspection system

Food administrative agencies in developed countries have paid fuller attention on control over all stages of production (preserving, processing, transporting and storing) instead of checking only on finished products. These agencies aim at controlling importation of seafood into their countries by carrying out pre-shipment inspection and issuing certificate to exporters.

The most important condition for seafood exporters to sell their products to such demanding markets as Europe and North America is to meet requirements stated in the 91/493/ECC instruction issued by the EU Commission.

The Vietnamese PM has issued Decree 50/CP instructing the Ministry of Fisheries to provide seafood exporters with inspection certificates and this Ministry has established the NAFIQACEN (National Fishery Inspection Quality Assurance Center). Since June 1994, the NAFIQACEN has certified some 60 seafood processing concerns as able to export seafood to the European market, and EU members agreed to allow import of seafood from those certified concerns.

Because there is no official EU inspection form, the Ministry of Fisheries had to work out its own form based on general guidelines provided by the EU Commission and Canadian and American quality and environmental authorities, and

documents submitted by Thai and Singaporean exporters to the EU.

The task undertaken by the NAFIQACEN is to help seafood exporters achieve the following targets:

- + Ensuring that seafood for export is free from harmful substances.

- + Reducing waste and standard products.

- + Improving facilities for loading, unloading, processing, storing and transporting seafood.

- + Building up the public image of seafood exporters by supplying high-quality seafood.

- + Improving the marketability of Vietnamese seafood by enhancing its quality.

The establishment of the NAFIQACEN could thus be considered as a basic factor in the effort to develop the seafood processing industry in Vietnam and market the Vietnamese seafood to demanding buyers from North America and Europe.

c. Developing new products

- Producing goods of better sizes and values:

Besides enhancing the product quality, it's necessary to produce products of better size by introducing new strains and techniques (applying extensive and semi-intensive sea farming, developing districts specializing in sea farming, etc.)

In addition, exporters had better change the structure of seafood for export: reducing the amount of PD and PUD shrimp; increasing supply of HOSO shrimp; IQP goods; products of C&P and P&C categories and small-package goods; and finally,

improving package designs.

- Exporting more living sea animals and plants:

Living sea animals and plants are going like hot cakes in Chinese-dominated countries (Hong Kong, Taiwan, Singapore and China) and among Chinese communities all over the world. They could be used as food or kept as pets. Of these markets, Hong Kong is the biggest. According to an IMA report, Hong Kong consumed 15,000 tonnes of fresh fish in 1995.

Prices of coral fishes are very high now. It's estimated that this market is worth some US\$1.5 billion a year. A kilo of living fish of this kind (humphead wrass, redbelly wrass, etc.) is sold at US\$70-150 on this market.

Vietnamese seafood exporters could import technologies and facilities for raising this kind of fish. The Government could support this business by zoning appropriate coastal regions for farming coral fishes, popularizing farming techniques and working out necessary regulations.

As for traditional seafood for export - such as lobster; blue shrimp; crocodile; mackerel and soft-shell turtle - the Government had better help with developing networks of concern supplying facilities for preserving, storing and transporting seafood and other necessary services; and organizing transport of living sea plants and animals by air and ship to main markets (Japan, Europe and North America)■

