



## EXECUTIVE SUMMARY

*Sandaya, Nandan. Shrimp and Tuna Industries in Indonesia: Strategy To Increase Indonesian Fisheries Competitiveness for Shrimp and Tuna (Supervised by E. Gumbira-Sa'id and Hieronymus Jacobus Cornelis Josef Nijsen).*

The APEC Economic Leaders Meeting (AELM) on November 25, 1997, in Vancouver has decided to speed up trade and liberalization of fisheries products as one of seven recommended sectors. Several tough questions arouse on Indonesian fisheries industry such as how government provide a conducive business climate for fisheries entrepreneurs, and how fisheries producers set out clear strategies towards free trade era. Those questions are very important because fisheries industry competitiveness is rely on the support of government and the role of fisheries entrepreneurs.

In Indonesian fisheries industry, two major commodities that play an important role are shrimp and tuna. Both of them contributed around 70 % of Indonesian fisheries export value and more than 30 % of export volume in 1996. However, most of Indonesian exports are in fresh and semi-processed condition. In other word, endowment factors such as natural resources and low labor cost are dominantly determine the export. Meanwhile, detention from importing countries, still become a constrain for Indonesian exports. Limited products quality is the reason to embargo Indonesian products.

The objectives of this study were to identify the general structure and performance of shrimp and tuna industries and to conduct business environmental assessment, including field research to evaluate strengths, weaknesses, opportunities, and threats of Indonesian shrimp and tuna industries. The result was then used to examine the strategies and business implications for the Indonesia shrimp and tuna industries in order to develop the industry, to improve competitiveness, and to maintain its sustainability.

The study was conducted through the analysis of primary data and supported by secondary data. Primary data were obtained by the survey conducted at Indonesian Fisheries Federation (GAPPINDO), Indonesian Tuna Association (ASTUIN), PT. Usaha Mina (Persero), PT. Samudera Besar (Persero), PT. Harini Asribahari, PT. Sinar Mangkudijaya, PT. Triasta Citarate, and PT. Indramas Sempurna. For completing reliable data, actual information was also collected from interviews with experts, magazines, journals, and news papers. Analytical Hierarchy Process (AHP) technique was also applied to simplify the expert judgement before the SWOT matrix analysis was used to conduct the environmental assessment.

The global supply of shrimp from 1991 to 1996 decreased by 5 % affected by the declining volume of sea shrimp caught, while shrimp pond production fluctuated with the tendency to increase. The future shrimp trade is estimated to be more dependent on the shrimp pond production due to the decreasing sea shrimp carrying capacity in nearly all waters in the world. On the other hand, the global supply of tuna

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showed a marked increase from 2.2 mt in 1990 to 3.2 mt in 1995, while by value tuna traded rose steadily from US \$ 3,000 to US \$ 4,800 million. Further, the global demand of seafood will still grow at a rate of 0 - 1 % per year (Suboko, 1997).

In the International market, Indonesia has been playing a role as a major producer, especially for shrimp and fresh tuna for some years. However, due to its huge natural potential, Indonesia has the opportunity to further develop both the shrimp and tuna industries. The carrying capacity of tuna including skipjack in Indonesian waters are 764,198 mt, while 820,000 ha of Indonesian mangrove forest can be converted into shrimp pond and large areas of sandy ground can also be used for shrimp pond.

Looking at the historical production and trading of shrimp and tuna products of Indonesia, the industry has been growing. This growth is based on the natural resources potential available in Indonesian waters. Nevertheless, this growing industry is characterized by a limited technological touch which resulted in stagnant growth during the last few years. Most of the Indonesian fisheries exports are in a raw and semi-processed conditions and of a limited quality. This phenomenon might lead to various difficulties in export markets, for example the product detention at buyer end.

The fisheries industry, especially the shrimp and tuna industries have experienced a long history in Indonesia. Most of participants are small-scale producers with low technology content, poor productivity, low quality of products harvested, low capital input, and poor human resources ability. Only a small number of producers who operate in medium to large economic scale have a good management, technology, access to supplier and market, and human resources.

In general, the shrimp industry is similar to tuna industry. The uncertainty in production/fishing activities and fishing safety, and the unavailability of collateral frequently reduces the capability to obtain loans and thus limits the development of this industry. It is also not surprising that many bad debts come from tuna fishing or shrimp pond companies.

Although the businesses are highly risk, financially, their business, compared to the other business, have a high ROI ratio (more than 23 % for shrimp pond with semi-intensive and intensive technology and 20 % up for tuna fishing business ).

With regard to shrimp pond industry, for large-scale industry, there are at least two large shrimp pond companies, namely PT. Central Pertiwi Bratasena, the integrated shrimp industry with 10,500 ha shrimp ponds in Lampung and 15,000 ha ponds in South Sumatera, and PT. Dipasena Citra Darmaja, also an integrated shrimp industry with 16,250 ha shrimp ponds. Apart from these companies, there are many shrimp pond companies that are operated in small, medium, and large scale industries. Meanwhile, it is difficult to count the number of tuna fishing companies in Indonesia. Some companies combine tuna fishing with other species, demersal and other pelagic fish, like PT. Usaha Mina. Moreover, the companies who focus more on tuna fishing are PT. Samudera Besar (Persero), PT. Sinar Mangkudijaya, and PT. Harini Asribahari.





In order to reduce the cost of production so as to support artisanal fishermen, provide job opportunities through fishing activities, and improve their fishing knowledge and skills, many tuna fishing companies entered into cooperation with artisanal fisheries through small-scale & nucleus cooperation (PIR). In many cases this cooperation was failed as a result of many factors. Only PT. Usaha Mina and PT. Harini Asribahari claim to have a successful cooperation with small-scale fishermen. It appears that the right approach to plasma and people management are the main factors for success.

Shrimp and tuna industries are highly exposed to the external environmental factors such as weather, climate, and environmental quality. In order to reduce this exposure, the key success factors are technological assessment and production management. Through better technology and management, the business risk can be optimally calculated. In other words, human resources quality determine the success of the businesses. Thailand, for an example, has successfully developed its seafood industry due to the implementation of high technology and better management in their fisheries industry. Supported by relatively high quality of human resources, Thailand intends to be one of the largest seafood producers in the world.

Fisheries products trade in the international market is characterized by strict product requirements imposed by importing countries as a result of consumer force for better product. The requirements include product sanitation, quality of product, environmental conservation, and human right issues. HACCP (*Hazard Analysis Critical Control Point*), European Community Requirements for Aquaculture Products, and ISO 14000 are the common requirements for seafood products. Through those requirements, however, the bargaining position of importing countries has become higher than the producer ones. On the other hand, some importing countries conduct research and development for shrimp and tuna to develop new products which contributes to the sustainability of the fishery industries as a whole.

The key strengths for the Indonesian shrimp and tuna industries are the availability of natural resources and high potential returns for both shrimp and tuna industries. Availability of human resources supplies, weak Indonesian Rupiah, low wages levels, globalization, competition intensity, and the low bargaining power of substitution good are the opportunities for shrimp and tuna industries. Besides, the poor potential entrance and the availability of new technology are also opportunities for the shrimp industry, while suppliers bargaining power is an opportunity for the tuna industry.

Human resources quality, distribution systems, market intelligence, product lines, lack of capital, poor production management, unsophisticated technology in production, poor product quality, low industry integration, poor production capacity, lack of facility and R & D financing, and little product development are the key weaknesses for the Indonesian shrimp and tuna industries. In the meantime, the decreasing rate of economic growth, the volatility of price levels and rate of price changes, unsupportive government regulations and fiscal policy, environmental issues, consumer driven for new products, and the bargaining power of buyers are the key

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threats for both of industries. Meanwhile, easy potential entrance and high price of new technology are the other threats for the tuna industry. On the other hand, low supplier bargaining power is another threat for shrimp industry.

Based on the Internal Factors Evaluations (IFE) and External Factors Evaluation (EFE), shrimp and tuna industries are in the average position. The IFE and EFE scores for shrimp and tuna industries are 2.540 and 2.714, whereas tuna industry are 2.605 and 2.527. It means that the Indonesian shrimp and tuna industries are in the same condition, internally and externally in average. The IFE score indicates that the Indonesian shrimp industry is categorized in average, not too weak or strong internally. On the other hand, in responding external factors, the Indonesian shrimp industry has been responding in an outstanding way to existing opportunities and threats in its industry.

The average position of the industry is resulted from key strengths namely the availability of natural resources potential, the sales growth and the ROI and ROE. In the meantime key weaknesses that must be improved are the industry integration, product development, product quality, and the distribution system.

Externally, the opportunity the changes of demographic and foreign exchange rate are the major opportunities for shrimp and tuna industry. In the meantime, key threats that must be anticipated are bargaining power of buyer, fiscal policy, government support, consumer driven, government regulation, and bargaining power of supplier.

Considering the environmental assessment, several critical success factors suggested can be addressed to government, entrepreneurs, and financial institution. The government plays an important role in order to improve the fisheries competitiveness. The government has to open up to foreign investment in the shrimp and tuna industries. In order to attract foreign investment, several regulations and supports have to be issued; clear the land use planning, providing suitable infrastructure, ratify HACCP agreement, develop appropriate capital policy, put shrimp into one of the superior export commodities, and ratify the UNCLOS Agreement in order to increase the fishing area and fishing safety in international waters. The appropriate capital policies which have to be issued are special rates for fisheries business loans, and also special tax rates. As human resource is one of the most important factors in developing fisheries business, government has to set out clear regulations in education. Basically, high quality human resources can be found in the universities. However, since there is not much of a "match and link" system in Indonesia yet, most of the highly educated people graduated from the fisheries faculty are not be absorbed in the fisheries industry.

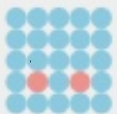
Introducing the existing products into new markets while maintaining the existing markets using comparative advantages, is the best strategy at this very moment, before competitive advantages can be increased. Further, the improvement of quality products, the development of added value products, the improvement of production management, and the implementation of advance technologies are the other important strategies that have to be conducted for the future competitiveness.



Financial institutions as the main sources of financing should be more involved in the shrimp and tuna industries. Investment in the medium size segment is more suitable to shrimp and tuna industries at this moment, taking into consideration the human resources availability, government support, the poor infrastructure, and limited technology currently available.

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