STRATEGY AND ENVIRONMENTAL EVALUATION OF FOREIGN INVESTMENT BY THE SHRIMP CULTURING INDUSTRY

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OCCASIONAL PAPER SERIES No.9406
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I. Preface

Shrimp culturing in Taiwan was once the best in the world and Taiwan was known as the "Kingdom of Shrimp Culturing". Our domestic shrimp culturers and experts were the most desired personnel by other nations. Because of the desire for quick, short-term profit by the shrimp culturing industry as a whole, and the overemphasis on applied science while ignoring fundamental scientific research, a fatal disease in shrimp occurred in 1987 which caused a death rate of over 80%. The shrimp culturing industry diminished rather rapidly, and when it finally hit rock bottom, the hard-earned export market was taken over by other nations.

Looking ahead into the future, we find that Taiwan is most likely to face the following problems: an inferior shrimp culturing environment, a shortage of water sources, recognition of environmental protection, a prevalence of shrimp culturing disease, dumping of cheap foreign seafood, adjustment of government policy, etc., especially since the current cost of culturing has risen too high. At this time, shrimp prices are very low on the international market, and some shrimp culturers are not very competitive, thus operation is becoming difficult. In addition to improving

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quality, some nations possess contain open land, abundant water sources, suitable climates, low culturing costs, and local government supportive to foreign investors. An important alternative for Taiwan’s shrimp culturers is to transfer the industry overseas.

This paper contains the following sections: Chapter I: Preface, Chapter II: Introduction to the Theory of Investment Abroad, Chapter III: Evaluation of the Shrimp Culturing Environment of Various Nations, Chapter IV: Studying the Causes of Failures in Shrimp Culturing Abroad, Chapter V: Discussing the Strategies for Foreign Investment by the Shrimp Culturing Industry, Chapter VI: Conclusion.

II. Introduction to the Theory of Investment Abroad

Before 1960, most economists explained the cause of foreign investment using MacDougall’s (1951) Rate of Returns Hypothesis. According to MacDougall’s theory, most capital will be transferred from an area with a low rate of return to an area with a high rate of return. This theory meets the basic requirements, however, it does not explain fully why the shrimp culturing industry invested overseas. In this section, we will try to establish a basis for the theory of foreign investment by the domestic shrimp culturing industry through the study of industrial organization theories and product cycle theories.

The industrial organization theories were first introduced by Hymer (1960). In his study, he pointed out that some manufacturers received an "ownership-specific advantages" when intangible assets (patents, special management, and manufacturing techniques) are in surplus, which they cannot be sold in the incomplete market structure, and they contain physical no value, but that proper management of these intangible assets is essential to operating foreign investment activities. From this point of view, investments by the shrimp culturing and the eel culturing industries, and plant relocation overseas by Taiwan Sugar Company fulfill the spirit of this theory, in that they are able to apply their accumulated technology, talent, and international communication.
Caves (1971 and 1974) started out with the theory of market structure. He classified foreign investment into two categories: horizontal and vertical integration. Taiwan Sugar Company relocated its sugar cane cultivation to Vietnam; first refining sugar cane into low grade sugar and then shipping sugar back to Taiwan for further refining. Taiwan Sugar Company also tried to transfer the pulp industry, with causes serious pollution, to Australia or South America and then ship the finished goods back to Taiwan for upgrading. Both of these are cases of vertical investment. On the other hand, to overcome obstacles in international trade and open up the US market, it invested in North and South America. This is a horizontal investment.

The product cycle theory of Vernon (1966) can reasonably explain the investment behavior of agriculture and industry segments. The theory points out that when a product reaches a mature or declining stage in the local market, profit declines. If production can be relocated to an underdeveloped country, this particular item will still be in its growth stage in that country, thus it is likely that more profit can be realized. This is quite an acceptable theory for "sunset" agricultural industries in Taiwan. Overseas investment by this industry is thus explainable.

Besides the two theories mentioned above, Dunning's (1979) eclectic theory is also important. According to Dunning's thought, it was important for manufacturers to obtain three advantages before investing overseas. They are the "possession advantage," the "internalization advantage," and the "location advantage." The possession advantage means the possession of intangible assets such as goodwill, management and manufacturing techniques. The internalization advantage means the ability to develop an international operation with horizontal and vertical teamwork by manufacturers. The location advantage means choosing a profitable location for the establishment of plants; this activity involves consideration of natural resources, fundamental construction, political factors, economic environment, natural environment, financial environment, peripheral industries, social and cultural elements, and other elements of the country considered for relocation.
III. Evaluating the Shrimp Culturing Environment of Various Nations

Most of the shrimp culturing industry is concentrated in the eastern hemisphere. According to statistics on world shrimp culturing in 1991, the total amount of shrimp cultured in the eastern hemisphere was 556,500 tons, or about 80.60% of the total shrimp cultured in the world. In 1990, total shrimp cultured amounted to 535,500 tons, indicating a growth rate by 1991 of 3.80% in the eastern hemisphere. The total land surface for the shrimp culturing industry in the eastern hemisphere was 819,500 hectares, about 82.50% of the global total. In 1990, the total shrimp culturing surface area of the eastern was 893,500 hectares, showing an 8.30% decline for 1991. The above statistics show that the shrimp culturing industry in the eastern hemisphere has moved into its mature period with a declining growth rate.

There are eight main countries and areas in the eastern hemisphere involved in the shrimp culturing industry. Mainland China (145,000 tons) was the top site for the shrimp culturing industry. This industry created a lot of foreign trade for the country, so the industry expanded rapidly. It not only enacted various preferential policies, but also removed many obstacles to the operation of the market. Because of its prominent natural environment, cheap labor, low production cost, and large profit potential, many investors were attracted to enter the shrimp culturing field. Land and production for the shrimp culturing grew rapidly, hitting its apex in 1989. Recently, due to price declines in the international market, shortage of food and baby shrimp, dual exchange rates, the aging of shrimp pools, water pollution, errors in shrimp farming, disease, and other factors, even though the shrimp culturing industry of mainland China remains No.1 in the world, compared to the production level of 1989, it is declining. It may fall behind the production of Indonesia in the future.

Shrimp culturing production was 140,000 tons for Indonesia, falling a little bit behind mainland China, however, it has the merits of a long coastline, warm climate, no typhoons, abundant natural shrimp food and shrimp sources, cheap labor, and strong support by the local government. Thus, there was a rather rapid growth rate in the shrimp culturing industry. Its production in 1991 increased more than 20,000 tons (14.30%) compared
to 1990. Shrimp culturing land did not increase much, showing the improvement of local shrimp culturing techniques. There are many large-scale shrimp culturing projects underway, and production is expected to increase one-fold if everything goes well. There is great potential for investment, however, its processing technology has fallen behind.

Thailand took the third place, with production of 110,000 tons, and land surface for shrimp culturing of 80,000 hectares. The country had the merits of a stable political environment, complete basic facilities, superior processing technology, and it maintains a good relationship with Japan, so that it took over Taiwan's place in supplying Japan with large amounts of shrimp when Taiwan's shrimp culturing industry was suffering a shrimp disease. Most shrimp culturing industries are located around Bangkok where pollution is severe. Also they have applied heavy chemicals in the industry, culture density overloading, and were suffering the problem of the aging of shrimp culturing pools. Residual oxytetracycline was found in shrimp shipped to Japan, so Japan has decided to inspect all shrimp shipments from Thailand and other countries in Asia on a case by case basis, resulting in stagnating sales. All of these incidents have interfered with the survival of the industry. Because of the destruction of the redwoods on the coastline, the ecosystem was affected, so the government decided not to promote more land for culturing. Many big shrimp culturing corporations thus transferred to other countries.

India was the fourth country in the shrimp culturing industry. The country possessed the merits of abundant shrimp food, large space, and costs of only US$1.50-2.0/kg, compared to prices for Thailand, the Philippines, and Indonesia of US$3.50-5.0/kg. When the price in the international market is low, India is very competitive. According to a projection made by a Japanese expert, India will be one of the two largest shrimp culturing countries in ten years. However, the country also suffers the disadvantages of low political efficiency, low living standards, no basic facilities, a shortage of talent, and the special social systems inherent in this area. These are all unknown parameters for the shrimp culturing industry in this country.

The Philippines had 30,000 tons of shrimp production. Its production and culturing space grew rapidly after the government actively promoted it and invited many culturing experts from Taiwan. 1986-1989 was the golden age of shrimp culturing in this country, however, because of improper operating strategies, the culturing pools became aged, polluted,
and disease was quite serious. When the price of shrimp dropped dramatically in 1989, the unified shrimp culturing group (including Ortega, San Miguel, etc.) on Negros Island suffered serious losses; add to that the catastrophes of earthquakes, drought, typhoons, etc., and many culturing pools were closed or transformed into sea fisheries. Weak organizations and groups will gradually be retired. For the protection of the local fish-food industry, the Philippine government once had tariffs as high as 30%, resulting in no profit for local importers. Taiwan tried to relocate its fishfood factories here, but the local fishfood market was monopolized by San Miguel (85%), there was no room for growth. Over the last few years, the exchange rate of the Philippine currency to the US dollars has declined over 30%, so import costs increased dramatically, especially for business practiced in the Philippines, where it takes about 3-4 months to collect bills. Interest is a very heavy burden (the annual interest rate for the local banking system was 18%). Add all of this to depression in the shrimp culturing industry, and it is no wonder that the shrimp culturing is encountering difficulty. The government also controls foreign currency exchange, there is insufficient basic construction, frequent strikes, inefficient administrative operation, unstable political conditions, much stealing, racial discrimination, etc., which discourage foreign investment.

Vietnam is a newcomer to the shrimp culturing field. There are many highly talented people in Vietnam, and due to changes in the economic and political environment, private industry has a lot of room for action, so there are already some private shrimp pools in this country. They have imported shrimp culturing techniques and experts from Japan to assist in the development of the industry in their country. There is a natural coastline with abundant shrimp food in Vietnam, thus it is a good place for development of the shrimp culturing industry. The United Nations is helping Vietnam develop its shrimp culturing industry, however, the country is facing shortages of material, basic construction, poor relations with world banks, and inefficient administrative operation.

According to statistics of world shrimp culturing (1991), shrimp culturing in the western hemisphere totaled 133,600 tons, about 19.40% of the total in the world. In 1990, the total amount of shrimp cultured was 97,400 tons, so the growth rate was 27.10%. In 1991, the total land area for shrimp culturing was 174,250 hectares, about 17.50% of the whole. In 1990, the total shrimp culturing area was 129,450 hectares, giving a growth rate of 14.70%. The above records show that the shrimp culturing industry
in the western hemisphere is in its developing stage. Most of the industry was located in South America, and Ecuador took the first place (7.50%), with total exports of US$400 million. The merits of abundant shrimp food, large tides, rich water, salt concentration of the water around 34%, and advanced shrimp culturing techniques, indicate the country has potential. However, the country is facing the prevalence of disease and frequent red tides which need to be overcome soon. Generally speaking, the country has good potential in this field, and the growth of shrimp culturing is expected once it has successfully entered into the European market.

Shrimp production has grown up four times in the last two years in Colombia, and the country has assumed second place in the western hemisphere. The temperature of the coastline surface water along the Caribbean is quite stable (27-29 °C), monthly precipitation in the rainy season is seldom over 15 cm, the salinity changes little, and the tide is stable (about 0.6 meter). It is thus very suitable for shrimp culturing, especially since the redwood surface area along the coastline is small, so culturing pools are easy to construct, are low cost and have good potential.

Mexico has been rather active in promoting the shrimp culturing industry, and it has assumed the third place in the western hemisphere. Private citizens were allowed to invest in the industry in 1989. Since the country is adjacent to the United States and labor costs are low, and since the country has a good climate and many foreign investors (especially US businessmen), there are many large-scale shrimp culturing projects in production. The main shrimp culturing locations are controlled by local cooperative organizations and agriculture reformation organizations, so foreigners can use a cooperative operating style. Recently, the local government loosened controls over foreign investment, and the future of the shrimp culturing industry in Mexico looks rather optimistic under the leadership of large cooperatives.

In 1990, Honduras assumed the second place in the shrimp culturing industry in the western hemisphere, but it fell in 1991. There is a large area of mahogany along of the coastline which can be turned into shrimp pools, and the abundant natural shrimp food and good climate are very suitable for the development of the shrimp culturing industry. However, the rich shrimp food in the coastal waters has limited the development of artificial shrimp pools. Due to a painful experience with the shortage of shrimp food which almost resulted in the termination of the industry, local farmers are trying to persuade the government to construct large-scale
hatching pools. In addition, there are small shrimp pools in Peru, Panama, Brazil, and Guatemala, and they are expanding into Venezuela, Nicaragua, Costa Rica, and the Caribbean countries. Costa Rica is known as “the Switzerland of South America”, it is famous for its neutrality and stable political environment in a region where many wars are going on. Also, Costa Rica has a complete basic infrastructure, is close to the U.S. and receives preferential treatment from the European market and the CBI project in the USA. Costa Rica is full of potential for growth. The main drawback is a strict control of foreign exchange. Profit and principal cannot be transferred out of the country until it has been registered with the government for over one year, and the capital can be withdrawn after four years of production. Also, the currency is depreciating.

Summing up the information above, we have selected mainland China, Indonesia, Thailand, India, the Philippines, Vietnam, and Ecuador as the most important shrimp culturing countries. A comparison is made in Table 1 with 23 items.

IV. Causes of Failure in Shrimp Culturing Abroad

The Taiwan shrimp culturing industry has invested abroad before (mainly in Southeast Asia and South America), and excepted for a few successful cases, most returned broken. Some of those involved are quite famous in Taiwan, but they failed for various complicated reasons. The causes of their failures are traceable, however, after thorough study. A summary of the main causes is listed below:

1. Insufficient understanding of the foreign countries to be invested in. The climate, water quality, and soil relating to the shrimp culturing industry are different from Taiwan. The investors went in without a complete understanding of the local natural environment and social background. The operating results fall behind expectations during water shortages, because of water pollution, or a catastrophe, and the peripheral industry of Southeastern Asia and South America was not as advanced as in Taiwan.
Table 1 The Comparison of the Shrimp Farming Environment for Various Countries

<table>
<thead>
<tr>
<th></th>
<th>Indonesia</th>
<th>Thailand</th>
<th>India</th>
<th>Philippines</th>
<th>Vietnam</th>
<th>Ecuador</th>
<th>Mainland China</th>
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<tbody>
<tr>
<td>1. Shrimp Type</td>
<td>Prawn</td>
<td>&quot;Mor-Gi&quot; Shrimp</td>
<td>White Shrimp</td>
<td>Prawn</td>
<td>Prawn</td>
<td>White Shrimp</td>
<td>Giant Shrimp &amp; Prawn</td>
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<tr>
<td>2. Natural Environment</td>
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<td>0</td>
<td>0</td>
<td>Δ</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>3. Natural Shrimp Food &amp; Stock</td>
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<td>Δ</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>4. Political Conditions</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
</tr>
<tr>
<td>5. Regulations</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
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<tr>
<td>6. Foreign Capital Limitations by Government</td>
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<td>X</td>
<td>Δ</td>
<td>Δ</td>
<td>0</td>
<td>Δ</td>
<td>0</td>
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<tr>
<td>7. basic construction</td>
<td>Δ</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
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<tr>
<td>8. Open Land</td>
<td>Δ</td>
<td>X</td>
<td>0</td>
<td>Δ</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>9. Labor Supply</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>10. Labor Efficiency</td>
<td>Δ</td>
<td>0</td>
<td>X</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>11. Shrimp Farming Techniques</td>
<td>0</td>
<td>0</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>0</td>
<td>Δ</td>
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<td>12. Peripheral Industry</td>
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<td>0</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>X</td>
<td>Δ</td>
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<tr>
<td>13. Water Pollution &amp; Disease</td>
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<td>X</td>
<td>0</td>
<td>X</td>
<td>0</td>
<td>Δ</td>
<td>Δ</td>
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<tr>
<td>14. Shrimp Farming Intensity</td>
<td>Δ</td>
<td>0</td>
<td>X</td>
<td>0</td>
<td>X</td>
<td>X</td>
<td>Δ</td>
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<tr>
<td>15. Fish Food Supply</td>
<td>Δ</td>
<td>0</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
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<tr>
<td>16. Processing Technology</td>
<td>Δ</td>
<td>0</td>
<td>X</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
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<tr>
<td>17. Monopoly</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
<td>0</td>
</tr>
<tr>
<td>18. Environmental Protection Pressure</td>
<td>Δ</td>
<td>X</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
</tr>
<tr>
<td>19. Stability of the Currency</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>A</td>
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<td>20. Foreign Exchange Controls</td>
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<td>A</td>
<td>A</td>
<td>X</td>
<td>A</td>
<td>A</td>
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<tr>
<td>21. Administrative Efficiency</td>
<td>X</td>
<td>A</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>A</td>
</tr>
<tr>
<td>22. Security</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>X</td>
<td>A</td>
<td>X</td>
<td>A</td>
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<tr>
<td>23. Financing Condition</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

| 24. Background Information | Shrimp culturing area: 200,000 hectares, total production: 140,000 tons, assumed second place in the world. There are 20,000 shrimp farms and 250 hatching farms in this country, the average production of each hectare was 700 kgs. | Shrimp culturing area: 80,000 hectares, production: 110,000 tons. There are 3,000 shrimp farms and 150 hatching farms in the country. The average production of each hectare was 1,375 kgs. | Shrimp culturing area: 65,000 hectares, production: 35,000 tons. There are 2,500 shrimp farms and 100 hatching farms in the country. The average production of each hectare was 538 kgs. | Shrimp culturing area: 50,000 hectares, production: 30,000 tons. There are 3,000 shrimp farms and 150 hatching farms in the country. The average production of each hectare was 538 kgs. | Shrimp culturing area: 150,000 hectares, production: 30,000 tons. There are 5,000 shrimp farms and 250 hatching farms in the country. The average production of each hectare was 250 kgs. | Ecuador has taken the first place in the South America; its production was about 80% of the total production. The shrimp culturing area was about 145,000 hectares with production of 100,000 tons. There are 1,700 shrimp farms and 150 hatching farms in the country. The average production of each hectare was 188 kgs. | Shrimp culturing area: 140,000 hectares, production: 145,000 tons, it has assumed the first place in the world. There are 2,000 shrimp farms and 1000 hatching farms in the country. The average production of each hectare was 1036 kgs. |

Note: The background information was obtained from World Shrimp Culturing (1991), in which the sign of "0" means the question does not exist or is not serious, "A" represents the middle level, and "X" represents a very serious problem.

*: "0" represent a group farms, "A" represents semi-group farms, and "X" represents primitive cultivating.
2. Insufficient language ability hindered communication and management. It was mentioned above that the culturing experience of Taiwan is quite abundant, however the educational level is low, and they lack foreign language abilities and international trade experience so they cannot enter into local markets. This is one of the reasons why shrimp farmers and the frozen industry chose the markets of Southeast Asia and mainland China instead of South America. The Taiwan shrimp foods industry relocated factories abroad based on the consideration of cheap labor. They hired local residents and assigned senior managers to go to the foreign location, Bossiness and cheating were rather common, harmony could not be reached, resulting in strikes and/or inefficient productivity. Production was interfered with by these situations.

3. Overreliance on Taiwan’s experience, poor adjustment to the environment. Taiwan’s outstanding experience is undeniable, and the professionalism and characteristics of Taiwan’s shrimp farmers is also eminent, however, shrimp culturing techniques are accumulated through experience. Basic information such as the biological traits of shrimp, nutritional requirements, the effects of medicine, and so on, are insufficient. But they are acceptable for an environment similar to Taiwan’s, and will not create too much trouble for Taiwan’s shrimp farmers. If the foreign environment is too different from Taiwan, they usually run into the problem of inflexible reaction and problem-solving ability. For example, the reason why the group shrimp culturing method was adopted in Taiwan was due to limitations of the natural environment and outstanding shrimp culturing techniques, as well as the cooperation of the peripheral industries. This is not applicable all over the world. In many areas of the world, the shrimp culturing industry is only now originating, and their peripheral industry is behind. Shrimp culturers should adjust the intensity and operating style to coordinate with foreign conditions. However, investors go after short-term profit without much patience, so they ignore the special characteristics of the foreign environment, and simply apply Taiwan’s business style abroad. The shrimp culturing industry experiences many failures in high intensity applications, as is common in Southeast Asia.

4. Different customs and cultural backgrounds result in different viewpoints in values and attitudes. Conflicts in cooperation and management thus arise. For example, the labor quality of Guatemala
is poor, and it is very common to give too much or too little fish food. In addition, in underdeveloped areas, social connection has more weight than regulations; it is important to keep some local officials on a leash, so shrimp farmers have to spend much time not only on shrimp culturing but also on socializing.

5. Individual struggle and lack of teamwork prevents the outflow of shrimp culturing techniques which affect the development of the domestic shrimp culturing industry. The government has classified shrimp culturing techniques as confidential. The shrimp culturing industry is restricted by this regulation, so they must carry out overseas investment alone. Because of the weakness of individuals and insufficient capital, they are under the thumb of foreigners and have little effect, in some cases they have even been bought out by big corporations. Especially for investors with tourist visas, they can stay in the country for only a short period of time, and then have to leave the country and apply for reentry. While they are away, the local partners often conspire to sell the shrimp farms privately. After the investors returns, they find the situation is no longer the same. He has no place to turn to and the investment is lost.

V. Strategies for Foreign Investment by the Shrimp Culturing Industry

A well-organized strategy should be prepared for the shrimp culturing industry. There are seven factors to be considered in the strategic plan: location, investment items, species of shrimp culturing, operating scale, sales network, and profit transfer. A more detailed discussion follows:

1. Location: This is a decisive factor in the success of the shrimp culturing industry, a good location not only saves investment costs, but also assists the operation of management, providing a better chance to succeed. The selection of a location includes consideration of natural elements (including climate, soil, precipitation, the stability and purity of water sources, and pollution), cultural environment factors (including the stability of politics and society, security, labor wages, technology level, and local price orientation), the outside
effect of other industries (including competition for farm land, effects on other fisheries along the coastline, and influences on the ecosystem), and the cooperation of the peripheral industries (including electricity, transportation, engineering, medicine, prairie, frozen food processing industry, etc.).

2. **Investment items:** The selective investment combination for Taiwan investors includes the hatching of shrimp food, shrimp culturing, frozen food processing industry, transportation and selling, and manufacturing of seafood. Most of Taiwan’s investors are working on hatching shrimp food and shrimp culturing. Because both activities require special techniques, Taiwanese businessmen are dominant in this area, however, the future of shrimp food is not very promising, so they should direct their investment to condensed shrimp food and additives. The potential for hatching shrimp food is very good. According to research, large-scale shrimp food farming has the highest profit potential, while small-scale has less profit potential. Taiwan investors should concentrate on large-scale hatching farms, raising shrimp food and then selling it to small shrimp farms for a better operating effect.

3. **Species of shrimp culturing:** There are prawns, red tail shrimp, banana shrimp, oriental shrimp, etc. Taiwan investors do not know about the physical traits of prawns which are common in low water temperatures. Investment in this area should be very careful; it is a good idea to concentrate investment on the type of shrimps that are more familiar to investors.

4. **There are four operational styles:** Super groups, groups, half-groups, and primitive, each with its own advantages and disadvantages. Taiwan investors have adopted group culturing styles in mainland China and Southeast Asia without proper consideration of the local environment. This has resulted in higher costs, rapid aging of the shrimp culturing ponds, and reduction in shrimp size. According to our research, the best operating style would be the semi-group style.

5. **Operating scale:** Family-owned shrimp culturing was the most common style in Taiwan. This decentralization did not result in any monopoly in the shrimp culturing industry, however, this may be not the right operating style to be practiced in mainland China. Since the abundant water sources in mainland China have an eminent economic effect, and the decentralized system is not performing well in
mainland China, businessmen should integrate their businesses in Taiwan first. It is most likely they will adopt the group investment alternative. Also, at this point, mainland China continues to practice a type of economy that is controlled by humans, and rent-seeking behavior is common. Group operation will enable better price negotiation and is most likely to receive some “privileges.”

6. Sales networks: For investment abroad, it is very important to open up domestic markets, but Taiwan investors must specify the target customers for a breakthrough. As to exporting, headless shrimp with shell, whole frozen shrimp, shelled and deveined shrimp, cooked shrimp, and fast frozen shrimp are the most common products on the international market right now. Investment in shrimp culturing should coordinate with the processing and packaging industries.

7. Profit transfer: Most developing countries practice strict foreign exchange policies, and the exchange rate may change dramatically, so Taiwan investors may suffer large losses after selling the shrimp locally and making their profits.

The above seven factors are the key points in the Taiwan investors’ investment strategy abroad. It is the investors’ own responsibility to examine all of the relevant factors.

VI. Conclusion

Investment abroad is an important strategy for the industry to upgrade its intangible assets and to solve its difficulty in development. But basically, the activity involves environments that are totally different from the political, cultural, social, legal, and economic conditions in Taiwan, so more information is needed, and the strategic plan for it has grown more complicated. For a better chance at success, our suggestions are:

1. The combination of the investment strategy for domestic shrimp culturing should be improved, so the intangible assets (such as techniques and management) can have more effect.

2. Basically, investment abroad must involve both horizontally and
vertically integrated domains. When facing different cultural traits and value systems in other countries, the management techniques should be adjusted before being transplanted.

3. Location is a very important part of the investment decision for the shrimp culturing industry. When deciding on a location, assign the proper weight to each index in accordance with the character and purpose of the investment. When evaluating the investment environment, it is very important to receive a variety of information. Taiwan investors should contact local government agencies and experts for further assistance.

4. A perfect moment is not as good as a convenient location, a convenient location is not as good as a harmonious relationship. Talented people are the basis of any business operation. When the shrimp culturing industry is taking part in international activities, the old, conservative operating concepts should be discarded, and more progressive action should be taken in recruiting the relevant talent, and in providing them with thorough authorization and encouragement.
Reference


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