

# Shrimp Aquaculture in the United Arab Emirates

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## Opinion

### Background

The shrimp culture has become an important subject due to the high price of the shrimps in the local market in the UAE. Therefore; the need for the establishment of a shrimp culture system in the UAE has been raised. The Department of Marine Environment Research Centers (MERD) at Umm Al Quwain has been operating Marine Resource research since 1984 for the purpose of fisheries development in the United Arab Emirates (UAE). The MERD is one of the Departments in Biodiversity & Marine Life Sector in the Ministry of Climate Change and Environment (MOCCA). MERD played a main part in the fisheries development plan, as the aquaculture of some important fishes has been carried out with the co-operation of an expert from Japan who helped in the technical support of the shrimp culture.

### The species selected for culture

There are several species of shrimps for aquaculture in the world such as *Penaeus monodon*, *Penaeus vannamei*, *Penaeus stylirostris* and *Penaeus japonicus*. It was important and necessary to select the species that are suitable for the region. The MERD selected *Penaeus monodon*, *Penaeus indicus* and *Penaeus semisulcatus* for the feasibility study. However, the two species *Penaeus indicus* and *Penaeus semisulcatus* were the two successful types in the hatchery stage and grow-out stage of culture.

### The development of the shrimp culture industry

For accomplishing the development of the shrimp culture industry, it is necessary to conduct following activities:

- a. **The shrimp culture experiment**  
The result of the experiments done in past years, have confirmed that *P. semisulcatus* and *P. indicus* can be cultured in the UAE. However, the growth speed depends on the season, stocking density, size of seed and so on. Therefore, it is necessary to confirm the optimum culture condition in order to establish economical culture system of the shrimp.
- b. **Feasibility survey**  
There is a wide coastal area which is not utilized yet in the UAE. Some of these places might be good location for shrimp culture project. Therefore, it is necessary and important to conduct feasibility survey for the development of shrimp culture industry in these locations. Therefore, a map of potential location for shrimp culture need to be prepared for the future projects.
- c. **Estimation of the construction cost of the pond**  
There are various types of shrimp culture ponds, and the type depends on the location and culture system. As the construction cost is the major expense of the initial investment, it is important to know the estimation of the cost in each type of the pond.
- d. **Marketing survey**  
The harvested shrimp can be sold for 40-50 Dirhams per kg at the local market. However, it is necessary to sell the shrimp in the international market in order to industrialize the shrimp culture in the UAE. The Japanese trading companies tasted *P. semisulcatus* and said that the taste of the shrimp was good for Japanese market and they want to show the sample of the cultured shrimp to Japanese customers. Therefore, it is necessary to make the samples of the frozen shrimp that is produced by an economical culture system.

The above four activities have been conducted in order to accomplish the development of the shrimp culture industries in the UAE, following this plan: The experimental culture of *P. semisulcatus* started at March, after 6 months of experimental culture period, the shrimps were harvested and frozen sample were made. The samples have been provided to Japanese trading companies at September for the market survey.

### Conclusion

Through the local fish market survey, the demand of the shrimp has become high and the supply of the shrimp has increased. However, all the shrimp is being imported from neighboring countries. If the shrimp is cultured in the UAE, it will be possible to sell it in the local market. On the other hand, *P. semisulcatus* which has been cultured in MERD was evaluated high for the quality through the first market survey in Japan. As the result of the survey, it seems that there is high possibility to sell the shrimp cultured in UAE in the international markets.



Therefore, the following activities should be considered in order to develop the shrimp culture industries in the UAE:

- A. The trial shrimp culture should be continuously conducted at MERD in order to establish a suitable culture system in the UAE.
- B. It is required to culture new species of shrimp, making sure that the selected species are resistant to diseases and can be raised in different areas and not only in the coastal areas. One of these species is the *P. vannamei*, as this species
- C. An experiment of the shrimp culture should be conducted in several areas in UAE to study the growth of the shrimp in high saline sea water. Such continuous experimental studies are important for the economic success of shrimp culture in United Arab Emirates.

compared to other species of shrimp can be raised in narrow areas such as tanks and columns in ponds, it also can live in brackish water, which means that it may be suitable for breeding in private farms instead of coastal areas.