

## Aquaculture

## The desert shrimp farmer

The National Prawn Company in Saudi Arabia hopes to be the “world’s largest and fully integrated desert coastal shrimp farm”

Despite extensive marine fishery resources off the 1,600-km coastline along the Red Sea as well as 500 km along the Arabian Gulf, the Kingdom of Saudi Arabia has not been able to cater to the growing demands of its population domestic citizens as well as migrant workers and foreign residents. Large quantities of fish and other seafood products have been imported to partly satisfy domestic demand. In order to increase local production, and also better manage Saudi Arabia’s capture fisheries, and reduce its import bill, the Government has been encouraging the private sector to pursue aquaculture of finfish and shrimp. It established the Fish Farming Centre (FFC), along the Red Sea Coast, 60 km north of Jeddah, as a focal point in the development of the aquaculture industry.

The FFC was established in 1982 as a result of a Unilateral Trust Fund (UTF) Agreement between Saudi Arabia’s Ministry of Agriculture and Water (MoA) and the Food and Agriculture Organization of the United Nations (FAO). The FFC’s main thrust was research and development (R&D) for culturing marine finfish and shrimp species that are suitable for farming on a large scale in the country, thus establishing a home-grown aquaculture industry.

As a result of the FFC’s efforts, over 100 fish farming projects have been established in the last few years in various parts of the country to raise various varieties of finfish, mainly Nile tilapia (*Oreochromis niloticus*), the blue tilapia (*O. aureus*) and red tilapia hybrids, and also the common carp (*Cyprinus carpio*) and the African catfish (*Clarias gariepinus*). Three major shrimp farms were also established along the Red Sea coast to

raise both the tiger shrimp (*Penaeus monodon*) and the white shrimp (*Penaeus indicus*).

Perhaps the most pioneering shrimp enterprise established is the National Prawn Company (NPC), which claims that, when completed, it will be the “world’s largest and fully integrated desert coastal shrimp farm”, and a “leading benchmark in the global shrimp farming industry”. The project, whose total site area is 128.4 sq km, is located in the desert coastal areas of the Red Sea, 15 km south of Al Leith township, and around 180 km south of Jeddah, Saudi Arabia’s major commercial city.

NPC began with the establishment of its first research station based on the technical shrimp farming experience of countries such as China, Thailand, Indonesia, India, Vietnam, Ecuador and others in central America. It has also received technical co-operation from the FFC. NPC has tried to ensure ecologically sound site selection by choosing the unpolluted waters of the Red Sea. It also claims to be socially responsible by not competing with local fishermen and communities for land and livelihood resources, and by creating job and training opportunities for locals.

So as to establish sustainable production practices, NPC used domestic brood stock from native shrimp species, and avoided antibiotics and prohibited chemicals in its feed. It also avoided using fresh water as well as the mixing of influent and effluent waters.

### Economic viability

Through these principles and criteria, NPC has successfully proven the economic viability of Red Sea shrimp farming in Saudi Arabia. The company underwent

three major stages in its development. It invested an estimated US\$200 mn in the first R&D stage between 1982 and 1987, during which it successfully spawned the *P. indicus* species of shrimp.

**I**n 1985, it succeeded in spawning *P. semisilcatus*, and in 1987, *P. monodon*. In its second stage of experimental operations, during 1988-1995, it managed ten full *P. monodon* culture cycles, the production of *P. monodon* brood stock in captivity, and the first export of that species to Europe (specifically, France) in April 1992. During that experimental period, NPC produced a total of 2,245 kg of shrimp.

The third stage of commercial operations began in 1996 with the development of a fully integrated, semi-intensive farm, which included hatcheries and 110 grow-out ponds (with an average area of 10 ha per pond), a processing plant, brood stock ponds and an aquaculture laboratory. Until 2006, NPC focused on breeding, larvae rearing, and a 50,000 tonnes per day (tpd) feed mill. With 11 shrimp farms in a total area of 2,500 ha, production capacity touched 12,500 tpd.

In Phase II of planned activities for the period 2006–2010, NPC hopes to spend an estimated US\$150 mn to build 15 farms with a total grow-out area of 3,500 ha, and a production of 17,500 tonnes of shrimp, projected to touch 30,000 tonnes annually.

NPC is currently staffed by an international workforce of over 2,000 specialists and workers from more than 25 countries. In order to implement Phase II of the development of its shrimp hatcheries, grow-out and processing plants, shrimp-feed mills and the earthworks departments, the NPC management expects to hire additional, high-calibre professionals from around the world. To cater for this culturally diverse workforce, NPC has established a mini-township for its staff.

The company has also started a programme, jointly with the King Abdulaziz University, to train Saudi youth and encourage them to join NPC. The company has entered into exclusive agreements to distribute its products internationally, under the brand name 'Al-Watania', both in the countries of the Middle East, and to the US and Europe. 🇸🇦

This corporate profile is by Izzat Feidi (ifeidi@thewayout.net), a fisheries consultant based in Cairo, Egypt, who was formerly with the FAO