Problems and prospects of Industrial Aquaculture in India: An overview

Krishna Kumar K. A. kkumar5700@gmail.com

Brief history

India has a long history of shrimp farming dating back several centuries. Traditionally the *Pokali* farms on the Kerala coast and *Bherries* in West Bengal were engaged in farming shrimp and fish. Scientific shrimp farming was introduced in India during the early 90's. The Marine Products Export Development Authority (MPEDA) of India set up two hatcheries with Hawaiian collaboration in the states of Andhra Pradesh and Orissa to produce *Penaeus monodon* seed. Taiwanese and Philippine technology was introduced in India for grow out farming. Initially, formulated shrimp feed, paddle-wheel aerators etc were imported. Subsequently many private sector hatcheries/farms and feed mills were established along the coastal states of India. Vast tracts of barren land close to sea, salt water bodies and canals got converted into brackish water shrimp farms. The increased production of export-worthy shrimp generated the much-needed foreign exchange and contributed to the Indian economy.

Shrimp farming in India that picked up in the early 90's was adversely affected by the White Spot Virus during the mid-90's. Many of the major players left the field. Shrimp farming resurged with the introduction of the exotic species *Litopenaeus vannamei* commonly called the White leg shrimp or the Pacific white shrimp. This exotic species proved well-suited for commercial farming in India. The Government of India established Coastal Aquaculture Authority (CAA) under the Ministry of Agriculture to monitor the farms and hatcheries. Permission of CAA was made mandatory for farming or hatchery operation of *L.vannamei*. An aquatic quarantine facility was established under Rajiv Gandhi Centre of Aquaculture (RGCA) for facilitating import of the brood stock of *L.vannamei* . Andhra Pradesh is the major state in India that produces about 68% of farmed shrimp in India.

Problems faced by Indian Aquaculture

Indian aquaculture is confronted by several problems. Among these, the fluctuating price of shrimp produced is a major issue faced by thousands of shrimp farmers. The price drops below the cost of production frequently. Lack of control on farm operations leads to increasing disease incidences that wreaks havoc. The crop Insurance that was extended to aquaculture sector in the early days is unavailable at present to insure the crop. Very few state governments extend facilities like power availability at a lower tariff.

Though *L.Vannamei* was introduced in India a decade back, the sector is still dependent on the imported brood stock.

Suggestions / Prospects

The price-drop in export market can be mitigated to a major extent by developing a domestic market which holds huge potential. Infrastructure support from the government side such as cold chain, all-weather roads ensuring better access to farms, popularisation of nutritional advantage of shrimp among masses are some of the essential requirements. There must be better monitoring of quality seed and other farming inputs besides decentralisation and proper monitoring by the authorities. Brood stock multiplication centres for producing SPF/ SPR brood stock is a long pending need of the industry.

Shrimp farming activities presently are centred around only single species, L*.vannamei*. Possibilities of culture of other species should be explored to reduce the risk in case of a wide spread disease affecting a particular species or a fall in the export market price. Awareness about the sustainable farming practices needs to be created in the not-so-organised fisheries sector.

Culture of new species like *Penaeus japonicus* which is available along the Indian coast can be promoted considering the fact that it grows well under Indian conditions and also has a good export potential. Besides, culture of crab and sea cucumber can be tried. This calls for setting up hatcheries and demonstration of grow-out operations. Preparation of value-added sea food products is another potential area. Utilisation of shrimp shell and fish offal to produceChitosan, Glucosamine, high quality leather etc. also holds good promise.