



Aquaculture

Scenario Building Post COVID- 19

Indian Aquaculture is an export driven segment, with 90% of production being exported. While the demand for aquaculture is expected to be maintained post-COVID 19; the challenge faced by Indian aquaculture farmers will be mainly in terms of meeting the demand with steady production. The lion's share of Indian aquaculture comprises of shrimp, for which both brood stocks and larval feed are imported. With the global lockdown situation, supply of these has been stalled, which will have a significant impact on India's production.

This document aims to look at the challenges faced by the Indian aquaculture segment with respect to the COVID-19 crisis; and recommend measures (immediate, mid-term and long term), to mitigate the same.

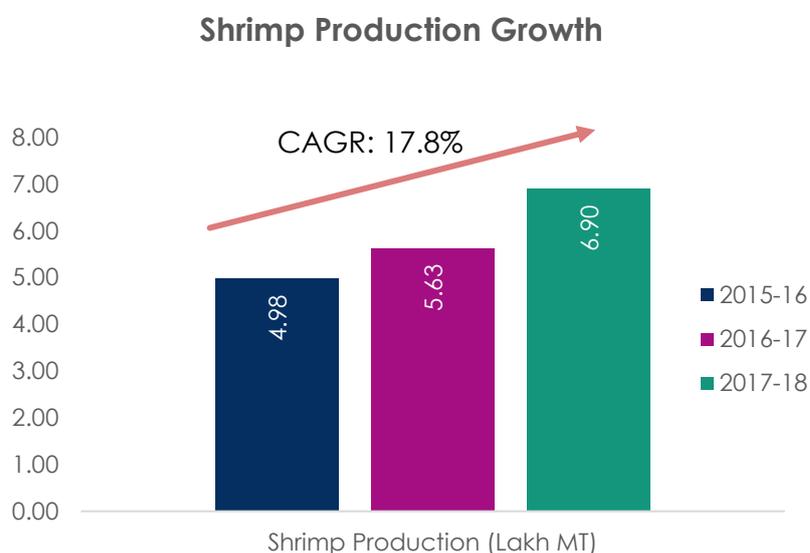
Key Impact Factors	Scenario 1 – Lock down till end April	Scenario 2 – Lock down till end May
Change in Liquidity for companies	Minor	Minor
Change in Labor availability	Challenge given the domestic migration	Challenge given the domestic migration
Supply of Raw Materials	Major Challenge since Brooding Stock is imported	Major Challenge since Brooding Stock is imported
Logistics	Major Challenge	Major Challenge
Demand	Domestic Minor Impact; Potential to increase exports	Domestic Minor Impact; Potential to increase exports

Sector Overview

Globally, the fast-evolving aquaculture sector contributes around 50% of the total fish production. With capture fishery production relatively static since the late 1980s, aquaculture has been responsible for the continuing impressive growth in the supply of fish for human consumption.

India is the second largest fish producer in the world with a total production of 13.7 million metric tonnes in 2018-19 of which 65% was from inland fishing. Almost 50% of inland fish production is from culture fisheries, which constitutes 6.5% of global fish production.

Shrimp comprises the majority share (75%) of India's aquaculture share. Over the past 3 years, shrimp production in India has been growing at a CAGR of 17.4%. Thus, showing significant growth potential.



Source: MPEDA

Currently only 10% of the aquaculture India produces is consumed domestically. The current per capita consumption is 6.2 Kgs which is projected to reach at 6.6 Kgs in the year 2030. While steps may be taken to increase the domestic consumption rate; it is clear that opportunities for Indian aquaculture, especially for shrimp, will remain export driven.

Over 90% of India's aquaculture is exported. In 2018-19, India exported 6.13 lakh MT of shrimp. Of this, the major export countries are USA (42%), China (25%) and Europe (10%).

Post Covid-19 Scenario

Fish and Shrimps are aquatic living organisms which require regular feeding and tending. Any disruption to either of these activities will result in mass mortality. This will not only result in severe economic losses, but also may result in health hazards due to decay and putrefaction.

In order to ensure continuity of the fish/shrimp crop which has the duration between 3-6 months, uninterrupted supply of quality, seed, feed and other inputs need to be ensured.

According to industry sources, hatcheries had lost about 3.5 billion shrimp seeds immediately after the lockdown while an estimated production of 5 billion shrimp was aborted.

Production challenges and Recommendations:

India currently imports the parental brood stock of Vannamei species. Mostly Pacific Indicus is imported from Hawaii and Black Tiger Prawns is imported from Madagascar. Given the lockdown, and the Global Pandemic, the import of Brood stock has been put on hold and may require time to renew operations. This will heavily impact the cyclical nature of production.

- To reduce the lag time in supply of brood stock the following **immediate actions** are recommended,



Import of Brood Stock to Be Reestablished. Air Transportation of Brood Stocks from US must be expedited. If needed special Cargo flights should be organised for the same.



Predelivery Testing is mandatory within a span of 30 Days. However, this won't be feasible under current situations. Thus, this criterion may be considered to be excluded (one-time) for selected reliable long-term suppliers. Self Declaration from such suppliers should suffice under this emergency.

To maintain production, supply of quality, seed, feed and other inputs is crucial.

India imports Brood Stock, Larval feed and nutrients. The supply of these have been interrupted. This, if not immediately rectified will impact production and lead to significant price hikes.

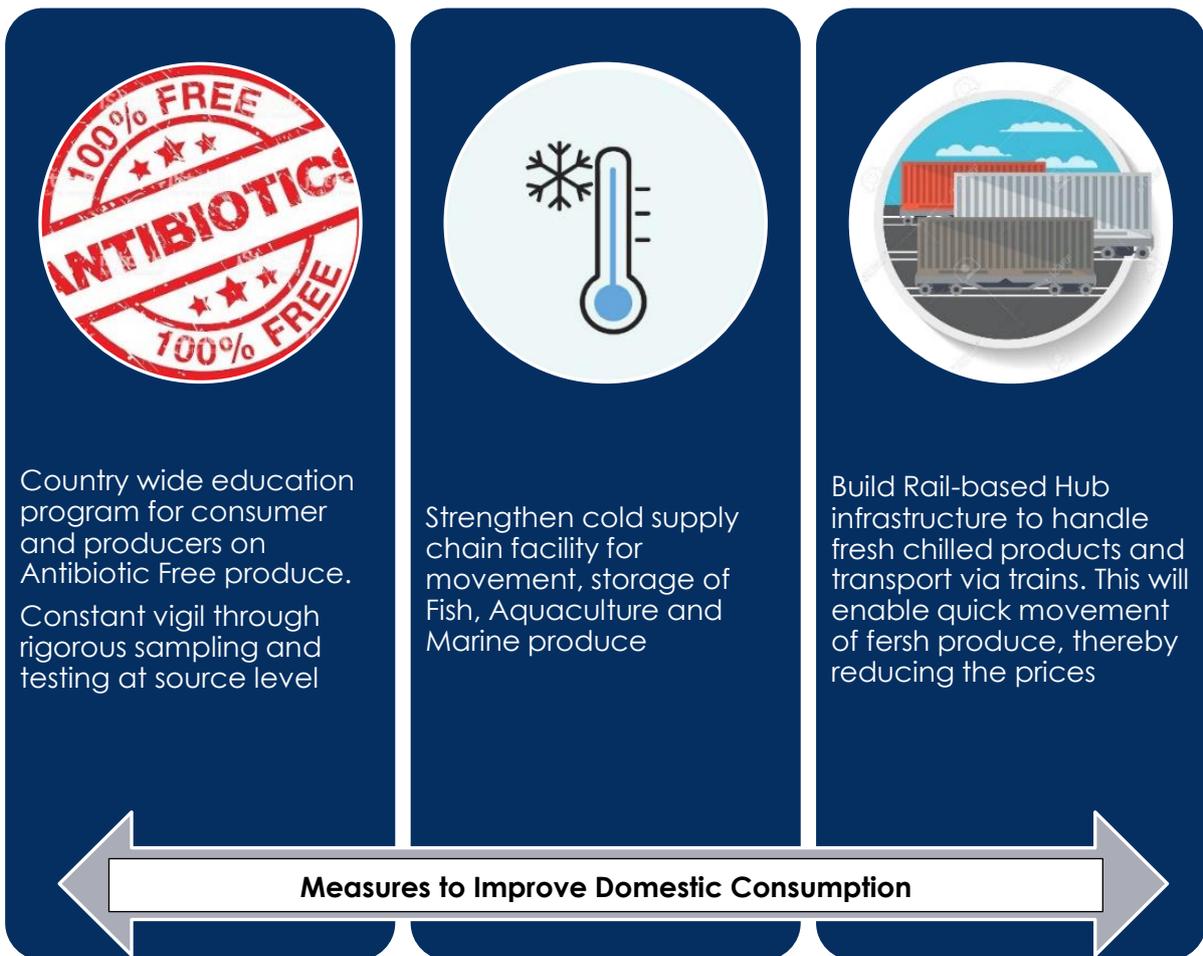


RGCA quarantine facility at Chennai is shut. Also its holding capacity is not sufficient for large consignments. Thus, the brood stock once imported should be allowed to be taken to hatcheries directly. Thereafter sampling can be done by RGCA, and on approval Hatchery owners can be allowed to use the Brood stock.

Additionally, the supply of larval feed and nutrients for Hatcheries need to be reworked, as currently majority of the suppliers are from Europe. Special permits need to be worked out to facilitate the uninterrupted supply of larval diets.

In case, steady supply of Brood Stock and larval feed is not ensured, the supply of shrimp will be heavily impacted. This will hike up prices in both the global and domestic markets.

Recommendations to Improve domestic Consumption: While post lockdown, the domestic demand for aqua products is not expected to be impacted; with definite interventions domestic consumption may be accelerated.



Global Market Opportunities

Indian aquaculture's major export markets are USA, Europe and China, contributing to almost 80% of India's shrimp exports. As per FAO data, these regions together imported Fishery and Aquaculture products worth around EUR 37 billion as of 2018.

USA: As of 2018, US imports of Fishery and Aquaculture reached EUR17.45 billion. The US mainly imports shrimps from India and Indonesia. Thus, India already has an advantage in the US market for shrimp exports.

Europe: Europe's imports of Fisheries and Aquaculture is at estimated EUR6.82 Billion. Between 2017 and 2018, households in all EU countries, except Sweden, increased their expenditure for fish and seafood. Thus, it is a growing market presenting huge export opportunities.

However, the challenge faced by Indian exporters to the Europe market is of antibiotic residue. To overcome this, India needs to invest in technological interventions in relation to antibiotic residues, along with initiating Government to Government dialogue as confidence building measures.

China: China's exports of Fisheries and Aquaculture stood at EUR18.48 billion, while its imports of EUR12.45 billion. China's aquaculture imports are witnessing a much faster y-o-y growth (28%) compared to its exports (1%). Until 2016, China was producing large quantity of shrimps for their increasing domestic consumption as well as for exports. However, since 2017, China's production has gone down due to factors such as disease prevalence; water stress on agriculture and conversion of aquaculture land holding to agriculture land; and an increase in cost of labour. This opens up the market for Indian players.

Going forward, by 2030, as per FAO the largest fish consuming regions will be Japan, China, South East Asia and North America.

Region	Per Capita Consumption (Kg/Person/year)	
	2020	2030 projected
Japan	63.7	62.2
China	37.8	37.8
Southeast Asia	28.3	29.6
North America	24.5	26.4
East Asia and the Pacific	26.1	23.8

Source: FAO

Recommendation towards Improving Export Potential

As mentioned earlier, there exists huge opportunity for India to capture a major share of the global market through exports. However, for this, the production needs to be maintained through the steady supply of seed, feed and other inputs.

Short Term Recommendations

Reducing power tariffs to improve viability



Towards improving viability and competitiveness of Indian shrimp farms, it is recommended that the power tariff be lowered to a maximum of Rs 4.50 per unit, since power constitutes 17% of the cost of production of shrimp.

Import Duty Exemption for Feed Additives and Supplement, Premixes



Shrimp Feed accounts for more than 55% of the operating cost. It is recommended that feed subsidy of Rs.10/ kg of feed should be passed to farmers through the feed mills based on the production data of the farmer or the purchase receipt of the farmers.

Financial Support for the Aquaculture Farming Community



Given the intensive investment and industrial scale implement usage required in Aquaculture farming, the sector should be given equivalent status to Micro, Small & Medium Enterprises (MSMEs). This will also allow the credit guarantee fund trust for MSME scheme to be applicable to aquafarmers.



Creation of Bridge fund, as a risk fund to be operated by NFDB to cover the calamities like floods and market collapse situations, or insurers can take this job and NFDB can bear the premium on behalf of the fish farmers.

Long Term Recommendations



There should be a focus on Research and Development (R&D) towards developing a nuclear breeding centre (NBC) for shrimp in the country.



Clear areas need to be identified for Aquaculture and inland fisheries with environment sustainability programs. This zoning will help in enhancing biosecurity in operations. It will also help in business continuity during times of disease outbreak.



End-to-end cold chain infrastructure is needed from the point of harvest to point of retail. Port infrastructure for handling frozen products need to be made more efficient.



Create desks of Indian trade of Aquaculture and Marine produce in each of targeted country specific foreign consulate offices to coordinate between the Indian trade body and importing country trade body. It is important to note with the passage of time the food safety regulation become stricter and close engagement will be key to avoid any trade disruption.