



Ministry of Foreign Affairs

# *Covid-19 and India's aquaculture sector: after rain comes sunshine?*

*Commissioned by the Netherlands Enterprise Agency*

*>> Sustainable. Agricultural. Innovative.  
International.*

## **Covid-19 and India's aquaculture sector: after rain comes sunshine?**

*India is one of the world's biggest aquaculture producers. Although the sector has taken a beating from Covid-19, the government is eager to develop the sector – providing opportunities for Dutch involvement.*

*India: a big fish in aquaculture*

India has an extensive coastline of over 8,000 km across nine states and four union territories, and is home to more than 10 percent of the global fish diversity. Presently, the country ranks second in the world in total fish production with an annual fish production of about 9 million metric tonnes (MT). India is the second largest country in aquaculture production. Freshwater aquaculture contributes to over 95 percent of the total aquaculture production.



**India's single biggest export commodity is shrimp.** In 2017, India exported over US \$5.4 billion of seafood products and 70 % of total seafood trade revenue was shrimp. Main producing states are Andhra Pradesh, Gujarat, West Bengal Kerala and Maharashtra. More than 90% of seafood exports are exported to major destinations like US and China with 42% and 25% respectively and then to EU, South East Asia and Japan. In the EU, the UK is the largest importer of Indian shrimp, followed by Belgium, the Netherlands, France, and Germany. Exports are limited to a handful of processors certified by the national Export Inspection Agency of India, because of antibiotic residue in farmed shrimp. In 2017 a few Indian seafood exporters were banned of imports to European countries, mainly due to the detection of antibiotics residues. European countries have zero tolerance limits for antibiotics in contrast to some other countries. The sampling scale of European countries has increased due to these quality issues from 10 percent to 50 percent. **India's** Marine Products Exports Development Authority, MPEDA, is working with the farmers and processing companies in improving the quality.

India's **shrimp**-farming area currently encompasses more than 176,000 hectares: about 91% are used for Pacific white shrimp production, some 8% for black tiger shrimp culture and around 1% for production of freshwater giant prawn. Data from the Indian Ministry of Commerce and Industry show that year-on-year shrimp production increased by 31% between 2019 (804,000 MT) and 2018 (615,692 MT), and that shrimp exports grew by 8% (667,140 MT) to various countries, representing 83% of total shrimp production in 2019.

### *Covid-19: temporary reduction in demand and exports*

The shrimp aquaculture industry is a growing, protein-producing sector which earns India important foreign exchange. Demand for animal protein that is safe for human consumption is on the rise, but the coronavirus (COVID-19) pandemic has not only caused a huge transition in the global economy but also affected the shopping behavior of many people around the world. According to the Food and Agriculture Organisation (FAO, <http://www.fao.org/in-action/globefish/covid-19/market-outlook/shrimp/en/>) worldwide demand for both fresh and frozen shrimp has declined significantly, including **in India's main export markets.**

According to Mr K. S. Srinivas, Chairman of MPEDA, Covid-19 caused a 7.4 per cent drop in quantity and 0.74 per cent in US dollar value during 2019-20. India shipped 1.29 million tonnes valued at (\$6.68 billion) against 1.39 million tonnes worth \$6.72 billion) in 2018-19. Mr. Srinivas attributed the decline to sluggish demand in major export markets due to the pandemic that led to cancellation of several orders, reduced and delayed payments, slowdown of cargo movements and difficulty in getting new orders. The decline in sea catch along the west coast on account of reduced fishing days has also been a reason for the shortfall in quantity.

### *Impact on hatcheries*

According to the Coastal Aquaculture Authority (CAA), there are 311 shrimp hatcheries in India registered to import specific pathogen free (SPF) *L. vannamei* brood-stock from 11 overseas suppliers, with an annual production capacity of 45 billion postlarvae (PLs). There are also 90 Nauplii Rearing Centers with a capacity of 8.12 billion PLs that are registered with the CAA to produce seed for aquaculture farmers.

Approximately 63,000 brood-stock animals were imported in the first quarter of 2020, until the COVID-19 lockdown was announced by the Government of India (MPEDA), with no new imports since lockdown. By March 2020, 16 billion PLs were produced, and of these, some 1 to 1.5 billion animals, were discarded by hatchery operators due to lack of demand by farmers, which disturbed the cycle of shrimp seed production at the hatcheries. We estimate that approximately 4 billion PLs were produced in April 2020 during the lockdown. Hatchery operators were not able to produce seed-stock during the initial period of the lockdown due to strict regulations on their operations, including various logistics aspects and labor. Also, drivers for delivery vehicles were not available to transport the PLs to distant regions.

Because of the lockdown restrictions, lack of SPF brood-stock, reduced hatchery seed production and a huge demand for PLs, seed stock prices increased by around 30% in the last three months, and further increases are possible unless conditions change. It is worth noting that the state government of the State of Andhra Pradesh has set maximum prices for PLs, with shortages expected in the coming months.

Also, if brood-stock imports do not satisfy demands, hatchery operators may resort to using farm-reared animals as non-SPF brood-**stock to produce PLs to meet farmers'** demand, and this would obviously affect seed-stock quality. Nauplii survival during the summer would be lower, leading to severe shortages (of as many as six billion PLs) in the supply of PLs after May 2020.

### *Impact on shrimp farms*

**In India's shrimp farming industry, the first quarter and early second quarter of the year** are commonly referred to as the summer crop, and this is the most active season for PL stocking. During February and March 2020, farmers were preparing to stock their ponds

based on a normal PL supply situation. However, the official COVID-19 lockdown at the end of March significantly impacted the supply of PLs and the subsequent stocking of ponds, which resulted in a drastic fall in raw material prices.

Because of the resulting uncertainty in international markets and also disease outbreaks, farmers carried out emergency harvests of ponds. Most farmers that stocked their ponds between January to early March, 2020 have harvested their shrimp even at very small sizes. As a result, about 70% of the shrimp aquaculture area is now ready for stocking. Overall shrimp production in India is likely to temporarily be reduced due to lower demand.



### *New aquaculture support scheme and opportunities for the Netherlands*

The Government of India has announced a new scheme for aquaculture industry called Pradhan Mnathri Mastya Sampada Yojana (PMMSY) with a budget of close to \$ 27 million for doubling the production and exports of aquaculture products.

The budget can be used for the following:

- Infrastructure development, such as new fishing harbors and landing centres
- Setting-up new Hatcheries
- Creation of robust supply chain
- Construction of cold chain and storage
- Research and Development
- Skilling and training (both technical and non-technical)
- Using new technologies like Recirculating Aquaculture System (RAS) & Cage Culture, Artificial Intelligence, IOT and Block Chain etc.
- Post-harvest waste management
- Hire private consultants for preparing the DPRs etc.

**Moreover, it's expected that in the coming years, consumers will increasingly focus on health, sustainability and traceability.** Also, online sales are expected to increase. This leads to the following opportunities for Dutch companies and organizations in the aquaculture sector:

- Consultancy services for new fishing harbors and landing centers
- Cold chains and refrigerated transport

- Skilling and training
- Supply of feed additives and pre-mixes
- Supply processing machinery
- New technologies like Recirculating Aquaculture System (RAS) and Cage Culture
- New technologies for maintaining the ponds using AI and IOT
- Traceability and Quality control using Block Chain technology
- Research and Development in new varieties of shrimps and ornamental fish

Over the next few months, the Netherlands Business Support Office in Hyderabad will conduct a study on the aquaculture sector in India and opportunities for Dutch companies **following the funding made available in light of the 'Self Reliant India'** campaign. For comments or questions please contact [NDE-LNV@minbuza.nl](mailto:NDE-LNV@minbuza.nl) or [Hyderabad@NBSO.info](mailto:Hyderabad@NBSO.info).

Also see:

<https://www.agroberichtenbuitenland.nl/actueel/nieuws/2017/04/26/aquaculture-in-andhra-pradesh-india>

This is a publication of  
Netherlands Enterprise Agency  
Prinses Beatrixlaan 2  
PO Box 93144 | 2509 AC The Hague  
T +31 (0) 88 042 42 42  
Contact us  
[www.rvo.nl](http://www.rvo.nl)

This publication was commissioned by the ministry of Foreign Affairs.  
© Netherlands Enterprise Agency | Februari 2022

Publication number: RVO-032-2022/RP-INT

NL Enterprise Agency is a department of the Dutch ministry of Economic Affairs and Climate Policy that implements government policy for Agricultural, sustainability, innovation, and international business and cooperation. NL Enterprise Agency is the contact point for businesses, educational institutions and government bodies for information and advice, financing, networking and regulatory matters.

Netherlands Enterprise Agency is part of the ministry of Economic Affairs and Climate Policy.