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#### Impact of Covid 19 Pandemic on Seafood Exports from India

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**Abstract:** The Covid 19 pandemic has rapidly spread around the world with extensive social and economic effects. The food industry especially the seafood industry of India has been seriously disturbed due to the pandemic situation of Covid-19. The export of Indian sea food called blue economy was reduced due to port closures, loss of access to cold storage, cessation of shipping and air freight. The domestic market was also affected by lack of fish catch, market, and supply chain due to the lockdown during Covid-19. The Government took necessary measures to control the spread of disease through quarantines, travel restrictions and lockdown of cities have resulted in a significant reduction in demand and supply. Reduced activities in transportation, retail trade, leisure, hospitality and recreation have been battered the lives of direct and indirect employees of this huge sector. The Indian seafood industry has suffered significantly throughout the pandemic, especially due to the collapse of the fish and seafood market resulting from the travel restrictions and lockdown regulations in the foreign countries.

Keywords: Fishery, Marine products, Food supply, Supply chain, Fish production

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#### Introduction

The COVID-19 pandemic and subsequent lockdowns are creating health and economic crises, leading to increasing incidence of poverty (Sumner et al., 2020) and a looming food crisis (Conti et al., 2020; World Food Programme, 2020). The food system has been seriously disrupted with impacts occurring at multiple levels and across supply chains (Hobbs, 2020; Devereux et al., 2020; Chenarides et al., 2021). Fisheries play an important role in the food sector and contribute to food security of the world. The impact of pandemic is also seen in the fisheries sector. Seafood is one of the most traded food commodities, both globally (Gephart and Pace, 2015) and regionally (Belton *et al.*, 2018), it is composed of many species, production and distribution strategies.

India plays a biggest role in the global seafood export among the Asian countries. Indian seafood Industry is a major supplier in the 'Global Seafood trade' in exporting 'wide range of products. Seafood export in India is over 50 years old. Indian seafood Industry has come a long way; shipping seafood products to more than 100 countries. Indian seafood processing units being a part of the global supply chain need to be a responsible global supplier in providing sustainable seafood products. The outburst of the coronavirus has impacted this industry negatively and there is a stringent need to adopt appropriate and adequate policy responses to ensure the long-term sustainability of the seafood industry. This communication is a brief on the immediate impacts on COVID-19-related shocks and responses in the Indian seafood sector.

#### Sea Food Industry:

The global fish and seafood market is one of the largest and most highly integrated markets in the world, with long supply chains and thousands of participants. The global fish and seafood market size is projected to reach USD 194 billion by 2026. from USD 159 billion in 2020, expected to grow at a Compound Annual Growth Rate (CAGR) of 3.4% during 2021–2026 (Absolute Reports). Fish can be produced in one country, processed in a second and consumed in a third, reflecting the sector's degree of openness and integration into international trade. Fish and fishery products are among the most traded food commodities worldwide with a significant share of total fish production of (about 38 per cent, live weight equivalent) being exported. International trade has also played an important role in broadening fish consumption by providing wider choices to consumers (FAO, 2021).

About 89 per cent of fish production is directed to human consumption, with the rest destined to non-food uses, including reduction into fishmeal and fish oil. About 45 per cent of the fish destined for human consumption is marketed in live and fresh form, followed by frozen (34 per cent), prepared and preserved (11 per cent) and cured (dried, salted, in brine, fermented, smoked at 10 per cent). World apparent per capita fish food consumption has significantly grown during the last few decades, from 9 kg in the 1960s to about 20.3 kg in 2017. At the global level, fish accounts for about 17 per cent of the world population's intake of animal proteins and provides about 3.3 billion people with almost 20 per cent of their average per capita intake of animal proteins and 5.4 billion people with 10 per cent of such proteins (FAO, 2021).

#### Indian Seafood Industry:

India is the second-largest fish producer in the world and accounts for nearly 6% of global fish production. A major thrust in fisheries development in recent years has optimized production and productivity and has augmented sea food export. It also generated employment and improved the welfare and socio-economic status of over one million people in coastal areas. Fish production has grown 6.5 fold in the last two decades with freshwater aquaculture contributing over 95%. It is a fact that the blue economy contributes 3.5-7% to the global GDP. India, exports 50 different types of fish and fish products (Susmita et al., 2020). The marine products exported from India are shrimps, squids and fishes in different conditions such as frozen, dried, and live and chilled to diverse countries. Seventy five percentage of the total seafood products exported from India is frozen form of fin fishes and shrimps. The blue economy and especially the small-scale fisheries sector in India have dwindled due to disruptions in the fish catch, market, and supply chain due to the lockdown of Covid-19.

#### Seafood Exports From India:

Indian seafood exports reach about 106 countries in the world and it is one of the largest exporters of shrimp to countries like USA, Europe and Japan. Besides, it also exports cephalopods like squid, cuttlefish and octopus; crustaceans like lobsters and crab; fish etc. in frozen or chilled forms and very small volumes in live form. In the year 2019-20 the export value of seafood had reached 6678.69 million USD (Table 1). The COVID pandemic and sluggish overseas markets cast their shadow over India's resurgent seafood sector also, the country exported 11,49,341 MT of marine products worth Rs. 43,717.26 crores (US\$ 5960.30 million) (Table 1) during FY 2020-21, registering a contraction of 10.88 per cent in volume as

	2017-18	2018-19	2019-20	2020-21
Quantity in Ton	1377244	1392559	1289651	1149341
Value in Crore	45106.89	46589.37	46662.85	43717.26
US\$ Million	7081.55	6728.5	6678.69	5960.30

Source: MPEDA, Ministry of Commerce and Industry

compared to the earlier year due to the impact of Covid-19.

#### Reduction in Demand and Exports:

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 behaviour of many people around the world. According to the Food and Agriculture Organisation (FAO) worldwide demand for both fresh and frozen shrimp has declined significantly, including in India's main export markets. The pandemic impact including several other factors drastically affected seafood exports during 2020-21. On the production side, there were reduced fish landings due to less number of fishing days, slow logistic movements and market uncertainties. Scarcity of workers in fishing and processing plants, paucity of containers at seaports, increased air freight charges and limited flight availability affected exports, especially of high-value chilled and live products. The situation in overseas market was another dampener. In China, container shortage, increased freight charges, and COVID testing on seafood consignments caused market uncertainties. In USA, China, Japan and EU, COVID- induced lockdowns made the closure of hotels, restaurants, supermarkets, and retails also affected the demand of seafood (David et al., 2021). Moreover, the decline to sluggish demand in major export markets due to the pandemic that led to cancellation of several export of seafood orders,

reduced and delayed payments from the buyers, slowdown of cargo movements and difficulty in getting new orders from the importers made the Indian seafood industry a great challenge.

#### Employment Crisis:

The Indian fisheries sector employs nearly 15 million people; in processing industries, 65% of total workers are women (Meharoof et al., 2020). During the pandemic period, the workers faced a new form of immobility due to suddenly ceased fishing activities or shutdown of processing plants. In both cases, they lost their jobs or reduction in salary as maximum processing and fishing firms are self-financed, and the owners were unable to continue the daily wages of workers; the scenery is quite same globally (Orlowski, 2020). Prolonged lockdown, disruption in internal and foreign trade, and reduced demand from importer countries have led to the closure of hatcheries, feed mills, and other accessory businesses in the fisheries sector (FAO, 2020). Unemployment crisis have given rise to direct assumptions regarding extremely negative impact of COVID-19 (IMF, 2020).

Key activities in a fisheries or aquaculture supply chain are fishing, aquaculture production, processing, and transport of inputs, distribution, wholesale and retail marketing. Each of these activities is of equal importance to the success of the supply chain. Each stage of the chain is susceptible to being disrupted or stopped by impacts arising from COVID-19 and related measures. If one of these buyer-seller links is ruptured by the disease or containment measures, the outcome will be a cascading chain of disruptions that will affect livelihoods and food security. Households experiencing financial distress may slow down their spending. The reduction of household demand, also influenced by containment measures (e.g. closure of food services, tourism sites, etc.) affects production, processing and distribution, and causes disruption in international and domestic supply chains (Serpil and Mehmet, 2020). The fact that live, fresh or chilled fish – which represent 45 per cent of fish consumed - are highly perishable presents additional logistical challenges in the supply chain, these are the problems faced by the domestic market of seafood.

#### Consumer's Point of View:

Consumers generally do not think much about how the food on their tables is produced. However, concerns a healthy diet for protecting themselves and their immune systems (Rodríguez et al., 2020). Therefore, the demand for the functional foods which contain bioactive ingredients increased. Secondly, food safety has gained more attention to prevent the transmission of coronavirus among producers, retailers, and consumers. Food security concerns have arisen because of the people on lockdown restrictions and moreover, food sustainability problems have emerged in the era of pandemic (Galanakis, 2020). In the midst of the global pandemic have drawn attention to the enormous infrastructure and workforce responsible for creating a safe and reliable food supply worldwide (Serpil and Mehmet, 2020).

Especially at the beginning of this global crisis, consumer demand for food has increased and some store shelves have been temporarily emptied and resulted in excess purchases of essential products. However, despite this unprecedented demand, the food supply chain remained strong, since many supply chain actors, including farmers, producers, distributors, and retailers, have worked hard to renew shelves (Nicola et al., 2020). Despite the large scale of the pandemic, there is no report that COVID-19 has been transmitted through food consumption to date. Therefore, as stated by the European Food Safety Authority, there is no evidence that food poses a risk to public health in relation to COVID-19. Hygiene controls by food business operators are designed to prevent contamination of food by any pathogen and will therefore aim to prevent contamination of foods by the virus responsible for COVID-19 too (Pressman et al., 2020). It was reported that foods were not a source of spread of coronaviruses including MERS and SARS-CoV due to the acidic environments of the stomach (pH< 3.5) in previous outbreaks. However, some cooking and eating habits may lead to the reappearance of the coronavirus from animals to humans (Rizou et al., 2020).

### *Few Highlights During Covid 19 Situation in the Seafood Industry:*

People went into lockdown, quarantine themselves, many of them work from their home, people still wanted to eat and they still want to eat good food. Few highlights during Covid 19 situation in the seafood industry are--

•Technology helps to tackle pandemic-related disruption food supply chain

•Increase in door to door sale of fresh and frozen fish to reduce congestion in the markets

•Supplies were getting to consumers through all kinds of means using technology like Grab food, Shopee, Lazada, Tmall, Ali Baba etc.

•Increase in wholesalers/processors selling directly to consumers

•Orders through the fishermen co-operatives/ associations collaborated with mobile app developers and have their fish delivered right to their doorsteps.

Surely with passing time, the pandemic will comes to an end, the global market and trades will

be restored as earlier, and it can be predicted that the Indian seafood sector may reach its peaks in no time.

#### Conclusion

During a pandemic, continuing the flow of the supply in agriculture and food sector, which is one of the most important sectors together with health, is vital to prevent the food crisis and reducing the negative impact on the global economy. Although no major problems have been observed in the seafood supply chains so far it remains unclear in the face of an uncertain future. As a result, each country has to realize the severity of the situation and sometimes should tighten or loosen the measures according to the spread of the pandemic. The supply chain also should be flexible enough to respond to the challenges in the seafood supply chain. Studying these types of impacts identifies vulnerabilities within the food system as well opportunities for governments, as international bodies, industries, small-scale sectors, and civil society to respond, learn, adapt, and build resilience to future shocks.

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