## Data Summarization of Import and Export Trade of Fishmeal in India

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ish meal production in India is a significant industry that utilizes forage fishes, by-catches, and processing waste to produce non-edible products primarily intended for export markets. In India, there are more than 40 fish meal producers well equipped for the export market including European countries. The west coast of India, especially Karnataka, is a hub for fish meal processing establishments. This industry plays a crucial role in meeting the protein needs of aquaculture and poultry production in India and beyond.

Globally, the exchange of fishmeal is happening through the import and export trade under the Harmonized System (HS) code HS- 230120, which is sub-HS code under HS-2301. To understand the pathway of import and export trade of fish meal in India under the head HS- 230120, secondary data on the import and export of fishmeal to and from India under specific HS codes were collected from the COMTRADE, a database (https://comtrade.un.org/) maintained by United Nations, for the period 2000 to 2019.

The normalized trade balance index for fishmeal was computed using the Equation (1) to see the import trade performance of fish meal and pellets under the head HS-23012 over export trade performance.

$$Z_t = (E_t - I_t)/(E_t + I_t), -1 \le Z_t \le 1 \dots (1)$$

where  $Z_t$  is the normalized trade balance of fishmeal at time t

## Import of Fish Flours, Meals and Pellets: HS - 230120

India imports flours, meals, and pellets of fish and aquatic invertebrates categorized under HS-230120 of HS-2301. The imports witnessed significant growth until 2004, followed by a steep decline until 2008, and thereafter remained stagnant up to 2014 before increasing again. The highest import quantity, around 44,800 tons valued at 35 million USD, was recorded during 2003-2005. In 2019, the import quantity was 14,732 tons valued at 19.02 million USD. Key suppliers are Chile, China, Norway, Oman, Peru, Thailand, UAE, Malaysia, Mauritania. and Morocco. Initially, Peru and Chile were the major suppliers, later replaced by Norway, Oman, and the UAE.

## Export of Fish Flours, Meals and Pellets: HS - 230120

From 2000 to 2019, India's fishmeal exports, classified under HS-230120, experienced significant growth. Starting at less than 1000 tonnes, it reached 77,599 tonnes, valued at 79 million USD in 2019. This exponential increase began in 2013. Key importers of Indian fish meal included Bangladesh, Vietnam, Thailand, Saudi Arabia, Malaysia, and China, collectively making up nearly

80% of total exports. The demand was driven by South-East Asian countries due to increased aquaculture production. The majority of fishmeal in aquaculture feeds was consumed in Asia, with 34% in China. in 2019

The trade balance data reveals that India was a fishmeal importing country in terms of quantity up to 2010, but it later shifted to being an export-oriented country in this regard. This shift can be attributed to the increasing demand for Indian fish meal from South-East Asian nations, driven by the growth in aquaculture production. Fishmeal production has remained stable and is expected to see slight growth in the future as it continues to be a crucial input for aquaculture.

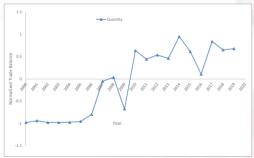


Fig 1. Trade balance data of fish meal

The trade balance data presented in Figure 1 indicates that India has become more self-sufficient in fish meal production, even exporting a significant quantity to South-East Asian countries. Promotion schemes to boost fish production, which in turn supports aquaculture, are in place. However, there are restrictions on establishing new fish meal units for export. This suggests that domestic consumption of fish meal by the feed industry is likely to increase, leading to a potential decline in fish meal exports. Simultaneously, fish meal imports may gradually rise. Unfortunately, there is no reliable data on fish meal consumption in the Indian fish and poultry feed industry. Industries may increasingly turn to raw materials such as fish and shrimp processing waste, especially from the seafood export sector, rather than relying on trash fishes and high-nutrition food fishes like sardines. The lack of specificity in the HS code for fish meal makes data-driven policy decisions in fisheries and aquaculture more challenging.