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**STANDING COMMITTEE ON AGRICULTURE, ANIMAL
HUSBANDRY AND FOOD PROCESSING**

(2023-24)

SEVENTEENTH LOK SABHA

MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

(DEPARTMENT OF FISHERIES)

**‘EMPLOYMENT GENERATION AND REVENUE EARNING
POTENTIAL OF FISHERIES SECTOR’**

SEVENTIETH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI
FEBRUARY, 2024/ MAGHA 1945 (SAKA)**

registered number of industries and firms can be projected to reach 750 by 2024-25, potentially generating employment about one lakh people. Fishing sector also offers indirect employment in both skilled and semi-skilled activities such as boat building and maintenance, logistics including transportation, weighing, cleaning, ice and storage, supply of equipment, grading, filleting / dressing and jobs in the restaurant business.

1.30. **Fish Meal Fish Oil Industries (FMFO)** - The Fishmeal and Oil Industry was essentially an oil production activity; the oil finding industrial uses in leather tanning and in the production of soap and glycerol and other non-food products. The residue was originally used as fertilizer, but since the turn of this century it has been dried and ground into fish meal for animal feeding. Its main use is in the diets of poultry, pigs and fish which need higher quality protein. Small oily fish are the mainstay of the fishmeal and oil industry. There is a good demand for high quality fish meal and oil and production can be highly remunerative if suitable raw material is available.

1.31. The Committee sought to know about the number of Fish Meal and Fish Oil (FMFO) industries in the country till 2022 and their role in generating employment and revenue for the fishers and fish farmers in India. In this regard, the Department submitted as under :

"The number of Fish Meal and Fish Oil (FMFO) industries set up in the country till 2022 is as under:

Processing Type	No.	Capacity (MT)
Fish Meal	54	3429
Fish Oil	48	990
Total	102	4419

*Source: MPEDA

Name of the State	Fish Meal		Fish Oil		TOTAL	
	No of Units	Capacity	No of Units	Capacity	No of Units	Capacity
1. Kerela	5	134	4	29.6	9	164.00
2. Karnataka	23	2084.5	25	678.5	48	2,762.00
3. Maharashtra	6	512	6	202	12	714.00
4. Gujarat	7	255	2	7	9	262.00
5. West Bengal	4	68	0	0	4	68.00
6. Tamil Nadu	8	351	10	69	18	420
7. Andhra Pradesh	1	25	1	5	2	30.00

Total	54	3429	48	990.00	102	4419
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*Source: MPEDA

1.32. The Committee desired to know if the activities by these FMFO industries are promoting unsustainable fishing, by harvesting Juvenile Fishes (which is a reason for decline of many fish species such as Indian Oil Sardine) and Edible Fishes, which are processed and exported, resulting in collapse of fish stocks and marine ecology. The Department, in its reply, stated as follows:

"During the past 40 years, Indian aquaculture has succeeded and continues to increase while achieving the critical goals of environmental, economic, and societal sustainability. In the country the contribution of Aquaculture in total fish production has been increased from 36 % (1980) to 75 % (2020). As a result, the demand for aqua-feed has also increased substantially. Fish meal (FM) has been traditionally used as the main protein source in the aqua feed industry, due to its high protein content and balanced essential amino acid profile. FM is also an excellent source of essential fatty acids (EFAs), digestible energy, minerals and vitamins.

Fishmeal and fish oil can be produced from whole fish, fish trimmings or other fish processing by-products. A number of different species are used as whole fish-mainly small pelagic fish, such as Peruvian anchoveta, menhaden, blue whiting, capelin, sardine, mackerel and herring. The increased demand for FMFO, coupled with a significant shortage in global fish meal production and fish oil, has created sharp competition for its use by fast-growing aquaculture industry, as well as by pig and poultry farming, and the pet-food and pharmaceutical industries. As a result, FMFO has become the most expensive commodities in animal and aquaculture feeds in recent years.

Indian marine fisheries largely practiced as costal fisheries, is an open access, multi-species and multi-gear regime. Juvenile fish losses mainly occurs when they are caught as non- targeted species in trawls, include small sized fishes as well as juveniles of large growing, commercially important species that are classified as low value by-catch (LVB). With the increased demand for aqua-feed on a global scale, the demand for juvenile fishes and LVB for fish meal production has also increased in recent years.

For sustainable development of marine fisheries, much effort is being undertaken at global and regional scale including finding ways of reducing the fish meal and oil inclusion rate in aquaculture feeds. These efforts involve use of plant meals and oils, animal processing wastes, and fish offal meal and oil. In the recent years, a growing share of fishmeal and fish oil is being produced using fish by-products from capture and aquaculture processing with a positive impact on waste reduction. In addition, in order to avoid juvenile fishing, the

States like Kerala, Karnataka and Goa have declared minimum legal size for selected fish species. Further, to avoid the catch of juveniles and small fishes in trawls, States like Kerala, Karnataka, Maharashtra and Gujarat are implementing mesh size regulations as per their Marine fishing Regulation Acts."

1.33. The Committee further wanted to know as to whether the Department has undertaken any study to assess the dangers posed by the Fish Meal industries and about the steps being taken to mitigate the effects of these industries to the environment due to overfishing. The Department submitted the following reply:

"Fishmeal and fish oil are the protein-rich byproducts of smaller forage fish or low tropic level species like anchovy, herring, and krill that gather in immense schools on coastlines and in the open ocean. FMFO are easily digestible products used in fertilizers and animal feed, ranging from beef and chicken (livestock) to salmon and tilapia (aquaculture). Fishmeal is an excellent source of protein and essential amino acid mainly used as feed ingredient for aquaculture species and livestock. Fish oil is produced whenever fatty fish is processed into meal. It is 100% marine oil with high content of omega-3 fatty acids.

Aquaculture utilizes about 43% of global fish meal production and 85% of fish oil, which are the major ingredients for aqua feed production. The increased demand for aquaculture feed mills with the exponential increase in the production of *L. Vannamei* shrimp has propelled mushrooming of fish meal and fish oil factories in India over a decade. The FMFO units mostly use by-catch/trash fish or small forage fish for production of fish meal and fish oil.

In this regard, for the conservation and effective management of fishery resources, the Ministry is imposing a 61-days uniform ban on fishing by all fishing vessels in the Indian EEZ beyond territorial waters on the East Coast and West Coast. To conserve the marine resources and its sustainable utilization the Department is bringing a Marine Bill which is in advanced stage. Additionally, the Department periodically issues the advisories to all the maritime States/ UTs for prevention of juvenile fishing, mesh size regulation and use of sustainable fishing methods. In addition, in order to avoid juvenile fishing, the States like Kerala, Karnataka and Goa have declared minimum legal size for selected fish species. Further, to avoid the catch of juveniles and small fishes in trawls, States like Kerala, Karnataka, Maharashtra and Gujarat are implementing mesh size regulations as per their Marine fishing Regulation Acts. Further, as a measure to control the over-utilization of fish resources, MPEDA implemented a moratorium on the registration of new fish meal and fish oil units w.e.f. 1st January, 2020."

1.34. On being asked about the details of the actual employment generated State/UT wise through various Fish Meal Fish Oil industries set up in the Country up to till 2022, the Department gave the following reply:

"As reported by MPEDA, the total number of Fish Meal and Fish Oil (FMFO) units registered is 102. However, the actual employment generated through various FMFO industries in the country is not maintained with the Department and the details have been sought from respective states/UTs."

1.35. The Committee sought to know the underdeveloped Aquaculture Activities, in the country, if any, due to technical/financial/commercial constraints along with reasons for the same and proposed new activities to utilize the vast available Marine Resources of the country. In this regard, the reply of the Department of Fisheries is reproduced below:-

"For development of aquaculture activities and realize the full potential of available resources, the major challenges include availability of quality seed and feed, disease outbreaks. In addition, Water Quality, Technology Adoption, Access to Credit and Insurance, Lack of Skill Development, Research and Development, Climate Change Impact, Market Access etc. are the other issues before this sector.

Further, New initiatives and economic activities being undertaken for holistic development of the available vast marine fisheries sector are as under:

- i. **National Roll out of Vessel Communication and Support System on Marine Fishing Vessels for Safety of Fishermen at sea:** The Government of India, under the Pradhan Mantri Matsya Sampada Yojana, approved Rs. **364 crore** for installing satellite-based Vessel Communication and Support System on **one lakh** fishing vessels for implementation through New Space India Limited, a Central PSU under the Department of Space, Government of India. These devices will ensure the safety and security of fishermen at sea, enabling them to stay connected with their families and seek assistance during cyclones and storms and while fishing near international borders. This transformative project for the welfare of traditional fishermen is an **Aatma Nirbhar Bharat** initiative would be completed in next 18 months.
- ii. **Installing Artificial Reefs and Sea Ranching for enhancing fish stocks:** **Artificial reefs** are man-made or natural objects placed in selected areas of the marine environment functioning as underwater artificial habitats for marine life that help in rebuilding of fish stocks and in