

Pradhan Mantri Matsya Sampada Yojana to bring “Aatma Nirbhar Bharat” in fisheries and aquaculture

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Fisheries and aquaculture is a sunrise sector in India, which is the fastest growing and the most profitable among agriculture and allied sectors that made impressive strides in achieving a robust average annual growth rate of 10.88% in the last five years. The sector provides vital livelihood directly to over 2.8 crore fishers, fish farmers, fish workers and fish vendors and indirectly to several crore people along the entire value chain. Apart from providing gainful employment, the sector contributed about 1.24% to National Gross Value Added (GVA) and over 7% to the agricultural GVA during 2018-19.

Keywords: Aatma Nirbhar Bharat, DARE-ICAR, Nutrients, Ornamental fisheries, PMMSY, Seaweed

INDIA is the second-largest fish producing country in the world and shares 7.58% of global production. Fish production in India has registered an average annual growth of 7.53% during the last five years and stood at an all-time high of 141 lakh tonnes during the year 2019-20. Since 2017, India has become the 4th major exporter of fish and fishery products, boosted by a steep increase in farmed shrimp production spearheaded by *Litopenaeus vannamei*. The major commodity of the export basket is frozen shrimp, which accounts for about 70% in terms of the value of the total fish and fishery product exports. Moreover, India has become the top country in the export of frozen shrimps all around the world, accounting for around 24.9% of the total global shrimp exports.

Recognizing the immense potential of the fisheries and aquaculture sector and acknowledging its significance to the economy, the Government of India has approved a new flagship scheme, the Pradhan Mantri Matsya Sampada Yojana (PMMSY) under Aatma

Nirbhar Bharat Package at an estimated investment of ₹ 20,050 crores in order to drive sustainable and responsible development of the sector while ensuring socio-economic welfare of fishers, fish farmers, fish workers and fish vendors. PMMSY, with the highest ever investment in the history of the fisheries sector, will be implemented in all States and Union Territories over a period of 5 years, from 2020-21 to 2024-25 as an ‘umbrella scheme’. Further, the scheme intends to promote focused fisheries development in strategic areas such as Jammu and Kashmir, Ladakh, North-East Region and Aspirational Districts by identifying community needs, leveraging local knowledge and building on area-specific strengths and capabilities.

In an endeavour to consolidate the fisheries’ sectoral gains and boost economic growth, PMMSY sets out ambitious goals for the next five years which include increasing fish production up to 220 lakh tonnes, increasing aquaculture productivity from the current national average of 3-5 tonnes per ha, doubling exports from ₹ 46,589 crores (2018-19) to

₹ 1,00,000 crores, generating sustainable employment for over 55 lakh people and doubling fishers and fish farmers’ incomes.

Scope for Aatma Nirbhar Bharat in the fisheries sector

Through the promulgation of the Aatma Nirbhar Bharat or Self-Reliant India, the honourable Prime Minister of India envisions the revival of the country’s socio-economic circumstances that got severely affected due to the COVID-19 Pandemic. Rebuilding India by making it self-reliant will be a critical task for India, since being the nation with the world’s second-largest population size, where more than 65% of the population encompasses the rural Indians. As the food production sectors are the backbone of the nation, strengthening the sectors like agriculture, animal husbandry and fisheries would have their pivotal roles to play to achieve the targets of Aatma Nirbhar Bharat in the coming years.

Over the years, fisheries and aquaculture have evolved from an informal and fragmented sector, to become a pivotal engine of the Indian

economy due to the remarkable intervention of the Government during the last decades, in form of policy and financial support under various schemes such as Centrally Sponsored Scheme- Blue revolution (CSS-BR, during 2015-20), Fisheries and Infrastructure Development Fund (FIDF-launched during 2018-19), *Kisan Credit Card* (KCC) to fishers and Fish farmers.

However, achieving Aatma Nirbhar in the Fishery sector in the country needs more focused attention on its various subsectors which are detailed below.

Aquaculture of food fishes

Presently, the Indian aquaculture is dependent on a few species of major carps and prawns, though there are a number of species in line for which the mass production methods are yet to be commercialized. Freshwater aquaculture is centered around the major carps, whereas the brackishwater aquaculture is almost synonymous to the shrimp aquaculture, exceptionally dominated by the exotic, Pacific white shrimp, *Litopenaeus vannamei*. The *L. vannamei* at present, contributes around 90% of the total cultured shrimp production in the country. Therefore, developmental strategies through PMMSY gives due attention towards diversification of aquaculture through indigenous varieties of finfish and shellfish species for furthering self-reliance in the farming sector.

Apart from species diversification, scaling up of production is the need of the hour, which is another crucial aspect, that the government is looking for, through the focused interventions under PMMSY. Recent estimates show that, there is a gap of about 30-35% existing between the actual seed requirement and availability in the Indian aquaculture sector. PMMSY addresses the stumbling blocks in upscaling the fish production throughout the country by the establishment of adequate number of brood banks, hatcheries, seed rearing units, feed mills and ensuring indigenous production of specific pathogen-free/resistant seed as well as genetically improved broodstock.

Fish consumption and Value chain development

India is witnessing a huge challenge in addressing the food security and malnutrition issues, scaled up by the population size and the huge proportion of around 60% of which resides in rural India. The existing production systems, as well as value chain may not be sufficient to ensure the availability and equitable distribution of nutritious food to the growing population. Fish is a superior and affordable source of protein to other animal source foods, and it is rich in essential nutrients such as vitamins and minerals. These are precisely the nutrients essential to prevent wasting and stunting of the human body. It is for that reason that the global initiatives have recently made pleas to put fish higher on the agenda targeting malnutrition.

Therefore, it is the Government through the interventions under PMMSY, envisages to increase the average per capita fish consumption in the country in the tune of 11-12 kg/person/year from the current levels of 5 kg/person/year. The attempts will direct towards the mission of alleviating hunger and ensure food security in the coming years through support for sustainable aquatic food production. PMMSY also targets a reduction in post-harvest losses from 25% to 10% in the coming years. The Government is working for achieving these targets by creating conducive environment in terms of food fish production systems, popularizing the health benefits of fish consumption and ensuring the fish availability all over the country. Along with increasing production to meet the domestic demand in the coming years, emphasis is also be laid on addressing critical gaps in the value chain through technology infusion, improved quality, hygiene of fish and fish products, value addition, demand-based branding and marketing.

Ornamental fisheries

Ornamental fisheries sector in the country has a huge potential in terms of unique varieties of fishes with high ornamental value and the increasing number of aquarium hobbyists in the country particularly in the urban

areas. It is estimated that, if the number of aquarium hobbyists in the country could be raised to approximately 3% of the urban households from the current level of 1.25% by 2025, the domestic aquarium trade can be raised manifold. As far as the aquarium industry is concerned, the ornamental fish contributes only about 20% to total domestic aquarium trade in India. It is mainly the aquarium and aquarium accessories that constitutes about 63% to domestic aquarium trade. But, the major requirement of aquarium accessories (about 90%) is met through imports.

The Government of India has recognized that, technological advancements in indigenous ornamental fish breeding and the accessories manufacturing sector and financial support to small and medium scale units in the country, could potentially scale up the production of quality offspring's combatable to trade and bring in more indigenous units of aquarium accessory manufacturing in the country. The intervention will result in a significant reduction in import of high value ornamental fishes as well as aquarium accessories and there by achieving self-reliance in the sector. Therefore, under the Pradhan Mantri Matsya Sampada Yojana (PMMSY), an investment of ₹ 576 Crore is proposed exclusively for the development of ornamental fisheries in the country in coming five years.

Seaweed cultivation

Seaweed farming is another area which has high potential in terms of mass employment generation and demands self-reliance in its various stages along the value chain. Seaweeds are the marine algae which are one of the potential renewable resources of the oceans. The utility offered by the seaweed bio-resources are mainly attributed by the phyco-colloid industries. Agar, algin and carrageenan are the three polysaccharides obtained from seaweeds, which have over 200 identified extensive industrial uses. Out of the global seaweed production of 32.4 million tonnes of fresh weight, India does not contribute much at present. Although there are number of seaweed-based industries in India,

which are not functioning up to their rated capacity due to short-supply of raw materials. It has been estimated that, only about 30% of the annual domestic agar requirement and 40% of alginates has been met by indigenous production. Rest of the domestic demand is still met by imports and present situation demands more self-reliance in the sector to align towards the slogan of Aatma Nirbhar Bharat in terms of seaweed-based industry and value chain.

It is therefore under PMMSY, envisaged to revolutionize the seaweed farming and value chain in the country with an increase in production manifold from the current levels to about 11.2 Lakh tonnes of wet weight in the coming 5 years. Under PMMSY, a total investment of ₹ 640 crores is exclusively earmarked for the development of seaweed cultivation and value chain in the country. Moreover, being an agricultural economy, products such as plant growth stimulant (liquid fertilizer) developed from fresh seaweed biomass have huge domestic demand in India. Biofertilizer and growth stimulant business currently represent 1,500-1,700 crore market in the country, where the lion's share of sea weed extracts required for the industry are imported annually. Hence, the targeted hike in the seaweed production under the PMMSY will result in a significant reduction in the imports in the biofertilizer and growth stimulant industry in India. Seaweed biomass is gaining prominence in food and nutraceuticals industry, wherein new emerging application in several bio-based and high value edible commodity products especially functional food is being developed. The ICAR – Central Marine Fisheries Research Institute (CMFRI) has successfully developed a series of Nutraceutical products indigenously for use against various life style disorders. Scaling up of production and industrialization of such products offer large scope in the coming years.

Deep sea fisheries

Given the low level of harnessing of deep-sea fisheries resources in EEZ and High seas, by our indigenous

fleet and artisanal fishers, support under PMMSY will be provided to traditional fishermen for acquiring deep sea fishing vessels, promotion of technologically advanced fishing vessels and fishing gear for fishermen/fishermen groups through State/UT governments. Training and capacity building for undertaking deep-sea fishing will also be supported under PMMSY, in collaboration with other important maritime nations.

Mobilization of Human resource and support to entrepreneurship in fisheries

The Government is considering the fact that scaling up production and making the sector self-reliant require engaging more new people in its various sub-sectors and capacity building of existing work force, that needs some levels of training, knowledge and exposure for achieving better results. Therefore, under PMMSY, special focus is given accorded for training, awareness, exposure and capacity building of beneficiaries which includes fishers, fish farmers, entrepreneurs, fish workers/vendors and fishery officials. A comprehensive action plan is being drawn up to train about 1.5 lakh beneficiaries with an amount of ₹ 100 crore under PMMSY.

Apart from the conventional subsidy-oriented support system, the PMMSY strives to create a conducive environment for private sector participation and promote the dynamic development of innovative entrepreneurial ventures and viable business models in the fisheries sector.

Collaboration with DARE/ICAR in training and capacity building

Most recently, the Department of Fisheries proposed to undertake a massive outreach program, in collaboration with ICAR, Department of Agricultural Research and Education (DARE) for disseminating the PMMSY scheme not only among fishers, fish farmers, fish workers, fish vendors and entrepreneurs but also among agriculture farmers, who undertake aquaculture activities as allied activities for additional income generation. The proposed program

is envisaged to reach out to over 10 lakh fishers and farmers through web-based training and awareness in a fixed time frame. Towards this end, 150 Fisheries potential districts including all 77 coastal Districts are proposed for taking up in the first phase by drawing the expertise of ICAR- fisheries Institutes, KVKs and Fisheries Universities/ colleges.

Strategies for Implementation

Committed to attaining its targets, PMMSY works in the domain of cooperative federalism, built on a structured and robust implementation framework which inter-alia includes institutional mechanisms for establishing Program Units, State level Approval and Monitoring committees in all States/UTs along with District and Sub-district level units for preparation of Integrated Fisheries Development Plans and fast-tracking approvals. Apart from that, PMMSY establishes effective linkages between farm production and retail chains, strengthening Fisheries SHG's and Cooperatives, Collectivizing fishers and fish farmers through Fish Farmer Producer organizations (FFPO's) to enhance competitiveness of the sector and increasing bargaining power of fish farmers leading to higher incomes and economic prosperity.

To the extent possible, PMMSY will adopt a 'cluster or area-based approach' integrating requisite forward and backward linkages to facilitate economies of scale, accelerate growth and expansion of the sector in an organized manner. It is also envisaged to encourage convergence with the schemes or programs of other Ministries/ Departments to facilitate holistic development and thus, amplify outcomes.

Through need based financial support to various sub-sectors, training and capacity development of large number of rural population and align them towards fisheries and aquaculture related livelihood activities, it is expected that PMMSY can significantly contribute towards the *Aatma Nirbhar Bharat Abhiyan*.

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