



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## ROLE OF FISHERIES SECTOR IN INDIA

L.VENU SOWJANYA LAKSHMI

Research Scholar, Department of Commerce,  
Vikrama Simhapuri University Post-Graduate Centre, Kavali,  
SPSR Nellore District

Prof.P.VENKATA RAO

Professor and Head  
Department of Commerce  
Vikrama Simhapuri University Post-Graduate Centre, Kavali,  
SPSR Nellore District

### Abstract

*The marine fisheries sector is dominated by the socio-economically backward artisanal and small-scale fishers whose lives are closely intertwined with the oceans and seas. However, 75 percent of the total marine fish production comes from the mechanized sector, 23 percent from the motorized sector, and only 2 percent from the artisanal sector. Despite stagnation in the growth of marine capture fish production over the years, the dependency of traditional marine fishers on marine capture fisheries for livelihoods has been increasing and it is only imperative that sustainable alternative livelihood opportunities like mariculture activities are developed and promoted. The Indian fisheries sector is set in a unique and diverse set of resources ranging from the pristine waters of the Himalayas to the sprawling Indian Ocean. The fisheries biodiversity of the country encompasses a wide spectrum of physical and biological components that support the livelihoods of millions of people. Fisheries resources are set in different ecosystems.*

**Keywords:** Fisheries Sector in India, Fish Production in India

### INTRODUCTION

The Indian fisheries sector is set in a unique and diverse set of resources ranging from the pristine waters of the Himalayas to the sprawling Indian Ocean. The fisheries biodiversity of the country encompasses a wide spectrum of physical and biological components that support the livelihoods of millions of people. Fisheries resources are set in different ecosystems. With the growing population and the increasing demand for fish protein, the need for sustainable development of aquatic resources is now felt much more than ever before. To meet the compelling demands and to ensure a growth trajectory that fulfills the requirements of

today and leaves an equally better fishery for tomorrow, it is necessary to develop a sound National Fisheries Policy (NFP) framework, which is based on the cardinal principles of equity and equality and adopts a people-centric and participatory approach; mainstreams gender, and maintains inter-generational equity.

The National Fisheries Policy 2020 would offer a strategized way forward to develop, harness, manage and regulate capture and culture fisheries responsibly and sustainably. The Policy will ensure a productive integration with other economic sectors, such as agriculture, coastal area development, and eco-tourism, to meet the goals of the 'Blue Economy'. While center-state and inter-state cooperation, socio-economic upliftment, and economic prosperity of fishers and fish farmers' especially traditional and small-scale fisheries are at the core of the Policy. The Policy mirrors national aspirations and the developmental goals set before the nation.

## **FISHERIES SECTOR IN INDIA**

Fisheries are an important source of food, nutrition, employment, and income in India. The sector provides livelihoods to about 16 million fishers and fish farmers at the primary level and almost twice the number along the value chain. Fish being an affordable and rich source of animal protein is one of the healthiest options to mitigate hunger and malnutrition. The sector has immense potential to more than double the fishers and fish farmers' incomes, as envisioned by the government.

Commencing as a purely traditional activity, fisheries have now transformed into a commercial enterprise. The share of the fisheries sector in the total GDP (at current prices) increased from 0.40% in 1950-51 to 1.03% in 2017-18, recording an increase of 157%. The sector contributed Rs. 1, 75,573 crore to the GDP (at current prices) during FY 2017-18 (Ministry of Statistics and Programme Implementation, 2020). The sector has been showing steady growth in the total Gross Value Added and accounts for about 6.58 percent share of Agricultural GDP.

The sector has been one of the major contributors of foreign exchange earnings with India being one of the leading seafood exporting nations in the world. The marine exports stand at about 5% of the total exports of India and constitute 19.23 % of Agri-exports (2017-18). During 2018-19, export of marine products stood at 13, 92, 559 metric tons and valued at Rs.46, 589 crore (USD 6.73 billion). The rapid increase in the growth of seafood exports has been mainly due to a boom in brackishwater aquaculture.

India has rich and diverse fisheries resources ranging from deep seas to lakes, ponds, rivers, and more than 10% of the global biodiversity in terms of fish and shellfish species. The marine fisheries resources are spread along the country's vast coastline and 2.02 million square km Exclusive Economic Zone (EEZ) and 0.53 million sq. km continental shelf area. The inland resources are in the form of rivers and canals (1.95 lakh km), floodplain lakes (8.12 lakh hectares), ponds and tanks (24.1 lakh hectares), reservoirs (31.5 lakh hectares), brackish water (12.4 lakh hectares), saline/alkaline affected areas (12 lakh hectares), etc. The unutilized and underutilized vast and varied inland resources offer great opportunities for livelihood development and ushering economic prosperity.

The total fisheries potential of India has been estimated at 22.31 million metric tons (in 2018), of this, the marine fisheries potential stands at an estimated 5.31 million metric tons, and the inland fisheries potential has been estimated at 17 million metric tons. In recent years, fish production in India has registered an average annual growth rate of more than 7%. The fish production in the country has shown continuous and sustained increments since independence. The total fish production in the country rose from 0.752 million metric tons in 1950-51 to 13.42 million metric tons (provisional) during FY 2018-19. Of this, the marine fisheries contributed 3.71 million metric tons and the inland fisheries contributed 9.71 million metric tons. During FY 2018-19, 71% of marine fisheries potential has been harnessed and the inland fisheries potential harnessed during the same period stands at 58%.

### **FISHERIES MANAGEMENT STRUCTURE**

Fisheries Management Structure in Asian nation Fisheries being a State subject, the States play a important role in fisheries governance. The role of the Central Government is to enhance the former's efforts during this regard below the guiding principles of cooperative ideology. whereas landlocked Fisheries square measure absolutely managed by State Governments, Marine Fisheries square measure a shared responsibility between the Central and Coastal State/UT Governments. Coastal States/UTs square measure accountable for the event, management, and regulation of fisheries within the ocean waters within the twelve transportation miles (22 km) territorial limit. the govt of Asian nation is accountable for the event, management, and regulation of fisheries within the EEZ waters on the far side twelve transportation miles and up to two hundred transportation miles (370 km). Therefore, it's imperative that the middle effectively manages and regulates this common property resource for its property and accountable utilization in shut collaboration with States.

### **VISION**

Vision is to develop an ecologically healthy, economically viable, and socially inclusive fisheries sector that donating towards economic prosperity and wellbeing of fishers and fish farmers, and provides food and nutritional security to the country sustainably and responsibly.

### **MISSION**

Mission is Fisheries resources are to be developed, managed, regulated, and preserved responsibly and sustainably, harnessed and utilized for recovering livelihoods, generating gainful employment, enhancing incomes, food and nutrition security, economic prosperity, and socio-economic well-being of stakeholders, especially artisanal and small-scale fishers and fish farmers through appropriate strategies and partnerships in a participatory manner.

## OBJECTIVES

The main objectives of the policy aims at the great development of the fisheries sector through acceptable interventions to deal with the crucial gaps with Associate in Nursing overarching goal for growth in exports, increase in farmer's financial gain, and more sensible choice for customers. the assorted objectives of the policy ar to:

- Optimally harness the capture and culture fisheries potential of the country by enhancing fish production and productivity responsibly and sustainably.
- Robust management Associate in Nursingd restrictive framework with necessary legal backing for effective fisheries resource management through an system Approach of Fisheries (EAF) management at intervals the framework of relevant national and international instruments, policies, and standards.
- Modernize, rationalize (infuse science and technology) and diversify fishing practices in oceans and seas with the property of resources because the core philosophy.
- Promote landlocked fisheries and cultivation through standardized SoP's, inputs, and farming systems for property and accountable culture and capture fisheries.
- Conserve and manage native fish genetic stocks and associated habitats and ecosystems.
- Strengthen and modernize the worth chain as well as the creation of fisheries infrastructure to extend time period, reduction of post-harvest losses, and production of added product.
- Market, trade, and export worldly|of worldwide} competitive fish and added fish product benchmarked with global standards.
- Access to institutional credit as priority disposal on the lines of crop sector particularly to little and marginal fishers and fish farmers and laid-off youth.
- Promote community partnerships, personal participation, and therefore the effective cooperative movement within the fisheries sector.
- Generate profitable employment and entrepreneurship opportunities on the worth chain resulting in higher financial gain of fishers and fish farmers, improve their living standards, and inaugurate economic prosperity.
- Ensure food and nutritionary security by increasing the per capita availableness of safe, affordable, and quality fish.

Towards this finish, the National Fisheries Policy 2020 makes the subsequent recommendations for policy intervention in marine and landlocked fisheries furthermore as mariculture, cultivation, and post-harvest.

## FISH PRODUCTION IN INDIA

From a production level of 0.75 million tonnes during 1950-51 fish production has reached 10.79 million tonnes during 2015-16 with a share of 6.30% in global fish production and 5% in global trade, India is the 2<sup>nd</sup> largest fish producer in the world in terms of total production and also ranked 2<sup>nd</sup> in aquaculture production. While the growth in the marine sector is striating with a CAGR of 2.55 the inland sector has been

growing at a CAGR of 5.74% supported by the growth in aquaculture production especially carps, pangasius, and shrimps.

The marine fisheries sector contributed 3.58 MT (36%) While the inland sector 7.21 MT (64% to the total production. While the inland sector is a major contributor in India, the globally marine sector contributed the major share of 66% indicating the preponderance of the inland sector in India.

The shift from marine fisheries to the inland sector has occurred due to stagnation and overcapitalization in the marine sector which is mainly capture-oriented while the inland sector has expanded at a faster rate due to aquaculture.

Within inland fisheries, there is a shift from capture fisheries to aquaculture during the last two and half decade freshwater aquaculture with a share of 34 percent in inland fisheries in the mid-1980s has increased to about 80 percent in recent years, while the overall share of aquaculture is more than 50% of the total fish production of the country.

Further India is the second-largest producer of fish in the inland fisheries sub-sector (7.21 million tonnes) and aquaculture approximately 5.3 million tonnes after china. Contrary to the production growth of just 125% from marine capture fisheries during the last 35 years, 1.55 million tonnes in 1980-81 to 3.58 million tonnes 2015-16 or annual growth rate of 5.8% the growth from aquaculture at the same time has been stupendous 1420% (0.37% MT in 1980-81 to 5.63 MT in 2014-15 or annual growth rate of 111.4% which is more than significant. Therefore aquaculture is the most viable option for enhancing the fish production in the country at a stage when there is absolutely no growth or even a decline of fish catch from the open water resources especially the reservoirs and marine fisheries sector.

Among the states, Andhra Pradesh continued to be the leading state in total fish production followed by West Bengal and Gujarat, and Kerala.

Though India is the second-largest producer of fish through aquaculture it is accounting for only one-tenth of the number of producers i.e china. The aquaculture of open waters largely remains untapped because of a lack of technology and suitable policies. This is best explained by considering a marginal utilization of 1% of the water spread area of our reservoirs estimated to be 3.15 million ha and production potential of 200 mt/ha/year. The estimated potential would work out to 6 million tonnes per month this could lead to almost doubling of fish production of the country. Similar production could be tapped through the utilization of our coastal waters through cage fish culture.

As many are seen Indian aquaculture is dominated by freshwater fishes (88%) followed by marine crustaceans (10%) lack of species diversification in aquaculture is an important issue that needs to be addressed by the research and development agencies and planners.

The estimated fisheries resource potential of 4412 million tonnes could be classified into the following broad categories each requiring specific technologies, crafts and gear, and scale of investment for their exploitation.

- Pelagic resources: oil sardine, ribbon fish, mackerel, etc accounting for 48% of the potential. demersal resources: shrimps, cephalopods, perches, croakers, etc. accounting for 47% of the potential.
- Oceanic resources: tuna billfishes sharks etc. accounting for 5% of the potential.
- The resources could also be classified based on the depth range as given below as may be seen more than 86% of the potential resources are in the depth range of up to 100m only, which is the zone fully exploited.

Any effort to go beyond the 200 m depth range entails technology and capital intensive and needs resource-specific. For fishing interventions, there is a need for suitable infrastructure in the form of fishing harbors, fish landing centers to support the fishing operations. The state-wise marine fish landing infrastructure given below

**Table 1**  
**Marine Fish Landing Infrastructure**

S.No.	State/Union Territory	Approximate Length Of Coastline	Number Of Landing Centers
1	Andhra Pradesh	974	271
2	Goa	104	34
3	Gujarat	1600	123
4	Karnataka	300	88
5	Kerala	590	178
6	Maharashtra	720	152
7	Odisha	480	57
8	Tamilnadu	1076	352
9	Westbengal	158	44
10	Andaman & Nicobar islands	1912	25
11	Dana & Diu	27	7
12	Lakshadeep	132	19
13	Puducherry	45	25

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

The fishing infrastructure includes fishing harbors, landing centers the Indian coastline can be delineated into 22 zones based on the ecosystem structure and functions. The fishing sector in India is essentially traditional and technologically underdeveloped as it is dominated by small fishermen. The sector has a pyramid structure with a large number of subsistence fishermen at the bottom mechanized vessels, deep-sea fishing vessels, cold storage units, and processing units make up the successive layers in the structure.

## SUSTAINABILITY OF THE MARINE FISHERIES

In order to improve the marketing of fresh fish internally, a number of cold storage. Ice plants and cold chains have also been established. Export trade is complete with the private sector. Despite attempts to reduce post-harvest losses. Handling fresh fish with a minimum of spoilage is a difficult task in view of the poor infrastructure at the landing centers and lack of adequate cold chain facilities. The marine fisheries sector as has been seen above is mostly confined to coastal areas, is an open-access multi-species and multiyear activity. Concerns of overcapacity in coastal fishing and over-exploitation leading to declining profitability poor infrastructure at fishing harbors and landing centers, lack of adequate linkages for domestic marketing, underutilization of oceanic resources like tuna, emerging inter and intra sectoral conflicts exacerbated by impacts of climate change need to be addressed to sustainably manage the sector. To address these concerns appropriate policy interventions, technology and investments are the need to the hour.

**Table 2**  
**State-wise potential and current status of development of coastal aquaculture**

State	Estimated potential in HA	% of State share in potential	The area developed in HA	% of the available potential area developed	Shrimp production (Tonnes)	Average productivity tonnes /HA
West Bengal	4,05,000	34.01	51,980	13	68,774	1.3
Orissa	31,600	2.65	8,991	28	28432	3.2
Andhra Pradesh	1,50,000	12.60	42,437	28	2,99,071	7.0
Tamilnadu and Puducherry	56,800	4.77	8024	14	45,556	5.7
Kerala	65,000	5.46	8,328	13	3,564	0.4
Karnataka	8,000	0.67	2,281	29	1727	0.8
Goa	18,500	1.55	10	0	33	3.3
Maharashtra	80,000	6.72	1,359	2	6,124	4.5
Gujarath	3,76,000	31.57	4,552	1	34,189	7.5
Total	11,90,900	20.87	1,27,962	11	4,87,470	3.8

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

Because of its high commercial value giant tiger was the dominant species in commercial production, although Indian white prawn with a lower share was also formed in several places.

Aquaculture, particularly shrimp farming is now regulated by the Coastal Aquaculture Authority (CAA) of India by licensing, of late, the culture of exotic, white-leg shrimp, *L. Vannamei*, has the farmers attention because of its fast growth, low incidence of native diseases, availability of Specific Pathogen Free (SPF) domesticated strains and culture feasibility in wide salinity range. With the production levels of 10- 12 tonnes/ha/crop of three to four months duration, the production of this species has reached a level of 406.04 tonnes during 2015-16.

The SPF vannamei has emerged as a dominant candidate species for shrimp production with a 46% share in the area under culture and accounting for 83% of shrimp produced through culture. Shrimp farming is synonymous with export production. Export-oriented aquaculture production continues to increase year

over year and the increased production contributed significantly to the seafood exports from the country. Aquaculture production has increased to 5, 00,581 MT during 2015-16.

Shrimp Aquaculture production, mainly comprising of two species of shrimps and one species of freshwater prawn has reached 5.00.51 MT during the year 2015-16 comprising the tiger shrimp of 81,452 MT from 68,846 ha van names of 4,06,018. MT from 59,116 ha and Scampi of 10,152 MT (the majority being traditional farm of WB/Odisha, reservoirs /village ponds of Maharashtra/ Gujarat/ Andhra Pradesh. Production of the pacific white shrimp has taken the lead with a total production of 406018 mt. Contributing about 81% of the total export-oriented aquaculture production in the country. The increase in export production has occurred. With the enactment of the coastal aquaculture authority act in 2005, substantial improvement has been noticed in the coastal aquaculture activities through the implementation of good management practices (GMP) and also through group farming, furthermore of the farmers are small farmer based like 87% of the farming area are owned by farmers owning less than are and scope for organizing them into clusters of farmer producer organizations for realizing the economy of scale and adopting the management practices.

It is estimated about 283 hatcheries are functional in the coastal States of which about 215 hatcheries are located in Andhra Pradesh and 51 in Tamil Nadu. However major issue being faced by the shrimp farmers is the quality seed. Similarly many large feed mills have been established to meet demand which has been estimated to grow at about 6-7 per annum.

In addition to shrimp farming the coastal areas also provide immense opportunities for taking up commercial agriculture of fin fishers. Crabs and other crustaceans' dissemination of technology for taking up these activities as a commercial proposition involves large-scale demonstration and organized training programs. Crab fattening and culture have been successful with seeds being supplied from Rajiv Gandhi Center for Aquaculture (RGCA).

Culture production of 15,883 MT of their exportable finfish and selfish species, Vizag, crab, genetically improved farmed tilapia (GIFT), and sea bass are reported during 2015-16. Some quantity of cobia, promising marine fish is also tried successfully.



**Table 3**  
**State-wise aquaculture production of other species during 2015-16**

State	Crab		Sea bass		Tilapia	
	Area (ha)	Production (mt)	Area (ha)	Production (mt)	Area (ha)	Production (mt)
West Bengal	3360	936	6327	3884	3338	2848
Orissa	444	242	62	26	45	24
Andhra Pradesh	3975	1687	1314	776	18	128
Tamilnadu	254	92	261	98	223	191
Kerala	65	23	5	16	115	123
Karnataka	347	197	0.6	31	120	200
Maharashtra	1225	521	2344	762	5322	3078
<b>Total</b>	<b>9670</b>	<b>3698</b>	<b>10314</b>	<b>5593</b>	<b>9061</b>	<b>6592</b>

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

To realize the potential of brackishwater aquaculture in a sustainable manner the State governments could consider setting up aquaculture estates with necessary infrastructure facilities and leasing out the production facilities to the prospective aquapreneurs NABARD partnered with TERI and had organized a training workshop to encourage the fishing community to belong to a cluster of Villages of Goa Velha, Siridoa and Batim to cultivate Green mussels using the Hack & rope/ren cultivation technique. The members of the Agri aqua club formed by TERI under the NABARD'S farmers of the Club program in Siridao and Curca, members of Mayem Panlot Sangha, and other stakeholders from Sirida, Goa Vetha, Batim, and Curca villages participated in the workshop.

The broad objective of the training program was to create awareness on mussel farming to supplement the earnings of the fishing community and improve their socio-economic conditions while simultaneously conserving local ecosystems. Mussels are in good demand locally due to the tourist visits to the State and their preference for fish and shellfish gourmets. The rope seeded with naturally collected spat was hung from a rack erected in a pond adjacent to the creek. Mussels were grown naturally in the pond for a period of four months and were monitored regularly by the members to examine the growth as also the health. The project was Cage Culture of sea bass, cobia, etc are emerging as potential activities with support provided through NFDB. Submerged cage culture potential is still not explored as the same is practices successfully in many other countries.

The infrastructure for export is well developed as India has the largest number of processing units in the world approved to the European Union standards with a capacity of 3 million tonnes per year. There are around 700 registered exporters in the country. However, around 20-30% of the capacity in processing plants is being presently used.

**Table 4**  
**Region-wise fish processing infrastructure**

S.No	Region	No. of fish processing infrastructure	% of total No. of fish processing infrastructure	Capacity (T)
1	Mumbai	59	10.99	4640.74
2	Veraval	83	15.46	4197.56
3	Kochi	100	18.62	3396.44
4	Mangalore	44	8.19	3347.86
5	Bhimavaram	37	6.89	1868.27
6	Chennai	38	7.08	1571.59
7	Kolkata	42	7.82	1424.56
8	Porbandar	26	4.84	1393.34
9	Tuticorin	35	6.52	944.5
10	Bhuvaneshwar	29	5.40	939.6
11	Goa	14	2.61	923.46
12	Visakhapatnam	14	2.61	612.9
13	Quilon	16	2.98	534.2
	<b>Total</b>	<b>537</b>	<b>100.00</b>	<b>25795.02</b>

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

Table 6 reveals that the Region - wise Storage Facility with Capacity there are 13 regions, storages like cold storages are 572 numbers with the capacity of 281001 tonnes, chilled storage 32 numbers with 14975 capacity tonnes, dry fish storage 66 with the capacity of 16427 and other storages are 39 with the capacity of 15590 tonnes.

**Table 5**  
**Region-wise Storage Facility with Capacity**

Region	Cold storage		Chilled Storage		Dry fish storage		Other storages		Total
	No	capacity	No	capacity	No	capacity	No	capacity	
Kochi	123	57753	1	861	3	23	7	2413	61050
Mumbai	60	43915	1	10	8	5400	2	4700	54025
Veraval	89	41970	0	0	13	1196	0	0	43166
Chennai	39	28027	1	804	2	175	1	46	29052
Bhubaneswar	28	15787	17	10568	0	0	0	0	26355
Mangalore	26	10572	0	0	6	1220	20	7414	19206
Tuticorin	34	14939	7	1295	4	1775	6	752	18761
Bhimavaram	40	17486	0	0	10	897	0	0	18383
Vizag	25	12033	1	50	2	3030	0	0	15113
Porbandar	21	12598	4	1387	4	484	1	5	14474
Kolkata	47	10944	0	0	13	1308	1	60	12312
Quilon	26	8796	0	0	0	0	0	0	8796
Goa	14	6182	0	0	1	920	1	200	7302
<b>Total</b>	<b>572</b>	<b>281001</b>	<b>32</b>	<b>14975</b>	<b>66</b>	<b>16427</b>	<b>39</b>	<b>15590</b>	<b>327993</b>

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

The narrow range of processed products being made in India includes frozen, breaded, and battered shrimp individually quick frozen (IQF) products, pre-cooked products, accelerated freeze-dried products (dehydrated), cooked and stuffed meat, and surimi. The production of the processed or value-added product is less than 10% by volume and less than 15% by value. About 125 processors have IQF facility and 75 of them have a cooking facility and there are 12 registered surimi units.

However, the domestic market is transforming, based on the increasing demand of the upwardly mobile middle class in India for processed and semi-processed fish and fishery products. The scenario is evident from the stock of these products in hypermarket stores. This has opened up opportunities for small-scale fishermen to involve in value addition. Capacity building of these fishermen/women in preparation of value-added products, as well as the creation of common facility centers for processing at the landing sites with required cold chain infrastructure, could facilitate fish processing for the domestic market. The export industry has upgraded its infrastructure to meet the export standards like HACCP, EU norms, etc. However, there are still issues with the sourcing of raw material and traceability. Value addition, promotion of domestic marketing, convenience foods, online marketing with proper cold chain facilities is having potential for development.

Table 7 depicts that the Marine products export has been growing at a CAGR of 8.37% in volume terms and 17.13% in terms of value over the past 50 years. The share of marine exports to the total exports of the country is around 2% while the share of marine products to the agricultural exports is around 14%.

During the financial year 2016-17, exports of marine products reached an all-time high of US \$ 5780 million. Marine product exports crossed all previous records in quantity, rupee value, and US \$ terms. Exports aggregated to 11,34,948 tonnes valued at 37,871 crores / US \$ 5780 million.

**Table 6**  
**Year-wise Export details**

Export details	2015-16	2016-17	Growth %
Quantity tonnes	945892	1134948	5.98
Value Rs crore	30420	37870	60.23
Value US\$ Billion	4.69	5.78	42.6

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

Compared to the previous year, seafood exports recorded a growth of 5.98 in quantity, 60.23% in rupee, and 42.6 95 growth in US \$ earnings respectively. The unit value realization also reached a record high from USD / KS 3.78 during 2012-13 to USD Kg 5.09 during 2013-14 and recorded growth of 34.55 the increased production of Lvannanie shrimp has helped to achieve higher exports.

Historically, the share of credit to fisheries in total agricultural credit has been quite low, and further, it has been steadily declining over the last several years, particularly the last 10 years. From a share of 1.31% in 2003-04, it dipped to 0.3% during 2013-14 (sub-sector-wise disaggregated figures not available after 2013-14). While credit to agriculture recorded an impressive growth of 22.04% during the period 2003-04 to 2013-14, credit to fisheries recorded negative growth of 11.83%. Commercial banks had a dominant share of 90% in credit flow. The ground level credit flow to agriculture and allied sectors for the years 2012-13 to 2015-16 is given below:

**Table 7**  
**Credit flow to Agriculture and allied sectors for the years 2012-13 to 2015-16**

S. No	Sector	2012-13	2013-14	2014-15	2015-16
I	Crop Loan (ST)	181,393	210,461	276656	335550
II	Term Loan LT&MT	73,265	91,447	107,858	132741
1	MI	2,840	3,180	5,197	4363
2	LD	2,553	2,887	3669	3615
3	FM	8,303	8,334	10211	12800
4	PH	5,910	6,045	6407	6610
5	AH	9,034	10,398	10260	12773
6	Fish	1,248	1,281	1854	1931
7	Hi-Tech	33,325	41,694	50797	82774
8	Others	10,052	17,628	19,463	7875
<b>Total</b>		<b>2,54,658</b>	<b>301,908</b>	<b>384,514</b>	<b>468,291</b>

**Source:** Sectoral paper on Fisheries and Aquaculture 2018.

Director of Fisheries and State Government/UTs Administration 2017-18

### Conclusion

I conclude that the Fisheries are an important source of food, nutrition, employment, and income in India. The sector provides livelihoods to about 16 million fishers and fish farmers at the primary level and almost twice the number along the value chain. Fish being an affordable and rich source of animal protein is one of the healthiest options to mitigate hunger and malnutrition. The sector has immense potential to more than double the fishers and fish farmers' incomes, as envisioned by the government

### References

1. Indian Council of Agricultural Research The Central Marine Fisheries Research Institute, online.
2. Sambhu Dayal, Fishermen in India, the Economic Times February 13, 2013.
3. Srivastava and et al, Management of Marine Fishing Industry, oxford and I.B.H. Publishing Company, Bombay, 1982 P.13
4. R., Bondad-Reantaso, M., Salazar, M. & Subasinghe, R. 2018. Facts, truths, and myths about SPF shrimp in aquaculture. Reviews in Aquaculture, online. Cited 12 February 2020.
5. Asche, F., Bellemare, M.F., Roheim, C., Smith, M.D. & Veterans, S. 2015. Fair enough Food security and the international trade of seafood. World Development, 67(2010): 151–160.
6. Auchterlonie, N. 2018. The continuing importance of fishmeal and fish oil in aquafeeds Presented at the Aquafarm Conference, Pordenone, Italy, 15–16 February. In: IFFO online. Cited 25 February 2020.
7. M., Bahri, T., Beveridge, M.C.M., Cochrane, K.L., Funge-Smith, S. & Poulain, F., eds. 2018. Impacts of climate change on fisheries and aquaculture: synthesis of current knowledge, adaptation and mitigation options. FAO Fisheries and Aquaculture Technical Paper No. 627. Rome, FAO. 628 pp.