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FISHERIES SECTOR IN INDIA AND ANDHRA PRADESH: AN OVERVIEW

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Abstract

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. 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: Indian fisheries sector Marine Fishing Industry in Andhra Pradesh

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 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 fulfils 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 in a responsible and sustainable manner. 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 up-liftment 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 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 a steady growth in the total Gross Value Added and accounts for about 6.58 per cent 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 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 boom in brackish water 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 the recent years, the 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%.

Trends show that over the years there has been a significant shift in terms of increasing contribution from inland fisheries sector propelled by freshwater aquaculture and fluctuations in brackish water aquaculture. Aquaculture production has increased to 6.2 million metric tons in FY 2017-18 from 1.9 million metric tons in 2000-01. About 88% of the farmed fish comes from freshwater aquaculture. In spite of its rapid growth, aquaculture today is beset with several issues impacting production and productivity such as disease, absence of species diversification and genetic improvement, poor brood and seed, high input cost, lack of access to institutional credit, credit guarantee and insurance, environmental sustainability etc.

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 per cent of the total marine fish production comes from the mechanized sector, 23 per cent from the motorized sector and only 2 per cent from the artisanal sector. In spite of 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. Mariculture is the fastest growing subsector of aquaculture and the success of the development of inland and brackish water aquaculture in India also corroborates with the prospects of the emergence of the agriculture sector. The projected annual mariculture production potential based on area available in the Indian region ranges from 4 to 8 million tons, whereas the current mariculture production is negligible.

The rapid growth of culture fisheries has enhanced the sector's vulnerability to aquatic diseases which are trans boundary in nature. The mitigation and control of aquatic diseases necessitates a coordinated and concerted effort between the center and states and among the states. The fisheries sector is gradually moving into a globalized environment with emphasis on issues of sharing of water basins, inter-EEZ movement of migratory fish species, trans-boundary movement of aquatic animals, fisheries trade and India's commitments to international instruments. The regional dimensions also need adequate attention to ensure coordinated and cooperative management of shared fisheries resources and their long-term sustainability.

Since the sector is extremely diverse and dynamic, the scope of the National Fisheries Policy, 2020 encompasses development, management and regulation of inland and marine fishery resources including aquaculture in marine, freshwater, brackish water and saline/alkaline areas and their post-harvest management, strengthening and modernization of the value chain.

Fish occupies an important place in the Indian mythology, history, and tradition. Fish and fishermen community have been intimately interwoven with the Indian population from pre-historic times. Despite its distinct tradition and significant trade, fisheries of the country received scant attention in the last century as well as the first half of the current century when the rest of the world marched ahead with its development.

The important event that took place in the history of fisheries of India was the enactment of Indian Fisheries Act of 1897. This act delegated to the states, the responsibility of development and conservation of fisheries in the inland and territorial waters of the respective state. It also empowered the states to formulate their own rules and laws for the safeguarding of fisheries. Thus the development, management and conservation of fisheries became principally a state subject.

Since the inception of planning in India, special attention has been paid to the development of fishing industry, particularly in recent years, because of its contribution to national income, foreign exchange and employment with the declaration of 200 mile exclusive economic zone of the sea area of 2.3 million sq. Miles added to the national jurisdiction which is almost equal to the agricultural land in the country.² The projection has the estimated value of about Rs.14,400 crores at the landing centre price and about Rs.17,800 crores at the retail level. During the last year the export of marine fishery products earned about Rs.5,300 crores foreign exchange.

Fisheries development in India demands large scale investments. Merchant's capital stands in the way of development of the Indian fishing industry by perpetuating the traditional system of production. The solution lies in breaking the control of merchant capital over the industry and in liberating the fishermen from the clutches of the money lenders and fish traders.⁴ This can be achieved only by a re-organisation of the finance and trade of the fishing industry. Re-organisation of fishery credit system depends upon the understanding of the dynamics of the existing credit structure. Scale fishermen and the rapid development of Indian Fishing Industry to reach its new heights. Hence, an attempt is made in this study to analyze the institutional finance for marine fishermen in Nellore district of Andhra Pradesh.

Several studies have been under taken in the field of fish production, exports and socio-economic conditions of fishermen by the F.A.O., Agencies of Central Government and State Governments and the Indian Institute of Management, Ahmadabad. However, studies on the institutional finance for marine fishermen are very rare. Such studies are of great significance in policy formulation for the improvement of financial conditions of the small.

MARINE FISHING INDUSTRY IN ANDHRA PRADESH

Andhra Pradesh came into existence on 1st November, 1956, following the linguistic reorganization of the states in India. It is the fifth largest State in India, both in terms of population and area. The state of Andhra Pradesh is situated between latitudes 13^o 40^o and 19^o N and longitudes 80^o and 85^o E. it is bordered by the Bay of Bengal in the East, Orissa and Madhya Pradesh in the North, Maharashtra in the North-west, Karnataka in the west and South-west, and Tamilnadu in the south. The State is divided into 3 regions, viz., Coastal Andhra. Rayalaseema and Telangana. There are 23 revenue districts of which 9 are coastal. The coastal districts are Srikakulam, Vijayanagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore. It is predominantly an agricultural state and contributes a considerable share to the national food grains output and all important crops grow in the state.¹ It is one of the important fish producing coastal states in the country. It is also called the river-state because two most important inter-state rivers, viz., the Godavari and the Krishna flow through the heart of the state along with their numerous tributaries. These rivers, streams, and ponds provide ample scope for development of Inland fisheries.

Development of fishing industry in the state may solve some of the basic problems of the poor fishermen mainly living near the coast of Bay of Bengal. The development of fisheries may earn much needed foreign exchange to the state and also help in solving the problem of malnutrition.

MARINE FISHERY RESOURCE

Andhra Pradesh is endowed with considerable marine fishery resources. The state has a coast line of 974 km., along the Bay of Bengal with a continental shelf extending over an area of about 33247 sq km., the continental shelf is about 33 kilometers wide on the average. the 0.5 mt, depth range area covers about 16600 sqkms. the bottom of the shelf is mostly sandy and muddy, except for a few places of rocky ground. Rich fishing grounds are believed to exist in the offshore waters. Important varieties of marine fishes in the state are sardines, sciannids, ribbon fish, clupeids, pomfret, seer fish, perches leiognathus, elasmobranchs, cat fishes, anchovilla and penacid and non-penacid prawns.

Seasonal climatic and oceanographic variations are determined by the two monsoon periods (The South West Monsoon April - September and the North - East Monsoon October - March), which largely influence the fisheries. Unlike the situation on the west coast, the South – West Monsoon does not render marine fishing completely impossible since the monsoon here only reflects in the form of cyclonic spells lasting for 3 to 4 days. The peak season for fishing is from October to April, when 59 percent of the total annual marine catch is landed. May to September is the lean period. except for cyclonic spells, fishing can be conducted at varying degrees throughout the year.⁴ The shallow waters less than 40 meters depth are intensively fished all along the coastal line. The concentration of fishing effort on prawn fishing has resulted in some of the other inshore stocks being under exploited or unexplored. As per the Report of the National Commission on Agriculture, 2016, the estimated potential yield for the Andhra Pradesh fisheries is 983756 tones. This estimate was based on production records from 2016.

There are 555 Marine Fishing Villages in 65 Mandals and 353 Marine fish landing centres. There are 301956 Marine fishermen. Out of whom 150868 are active fishermen who are actually engaged in the exploitation of marine fishing resources in Andhra Pradesh as per the survey conducted by the Department of Fisheries, Government of Andhra Pradesh during 2010 .There are formal landing facilities for mechanized boats at Visakhapatnam, Kakinada and Nizampatnam.

FISHING CRAFT AND GEAR

The livestock census 2014 made a count of about 31,741 marine fishing crafts in Andhra Pradesh. The details of fishing fleet of Andhra Pradesh are given in Table 3.1

Table 1
Fishing Fleet in Andhra Pradesh during the Years 2005 and 2016

Sl.No.	Type of the Craft	No.	Total no. for the year 2016	Total no. for the year 2005
1	Traditional Craft			
	Catamarans	834		
	Non-Motorized	17,003	17,837	24,386
2	Motorised Craft			
	Catamarans Motorized	203		
	Motorized	10,534	10,737	14,112
3	Machnised Boats			
	Catamarans Machnised	162		
	Machnised	3,005	3,167	2,541
Total			31,741	41,039

Source: Government of Andhra Pradesh, Hand book on Fisheries Statistics of Andhra Pradesh, 2015-16, P.9-10

The Non-Motorised Craft are operating mainly in inshore areas whereas 21 mechanise craft are operating in off-shore areas. 3167 mechanised craft are also deployed in deep sea areas. The 21 mechanised craft account for around 10 percent of the total craft. But their contribution to the total fish landings is around 27percent. Out of the traditional craft catamarans predominate and account for 56 percent of the total craft followed by plank boats, canoes and others. Catamarans are very popular with the traditional fishermen. Visakhapatnam and Srikakulam districts have the largest number of catamarans.

Mechanised boats are not expected to operate within 5 km. From the cost as this strip of water is reserved for non-mechanised craft. The Andhra Pradesh Fisheries Corporation owns and operates deep sea trawlers but the majority of the trawlers are operated by the private sector.

The main tool for catching fish is the gear (Net). A Variety of fishing gear is used in Andhra Pradesh. These include Gill Nets, Trawl Nets, Ring seinners and others. The distribution of fishing gear owned or shared by fishermen according to the livestock censuses 2011 is shown in table 2.

Table 2
Distribution of Fishing Gear Owned / Shared by Fishermen in Andhra Pradesh
(in lakhs)

	Districts	Trawl Nets	Gill Nets	Ring seinners	Total mechanized	Motorized	Non-motorized	Total
1	Srikakulam	0	0	0	0	691	4880	5571
2	Vizayanagarm	0	0	0	0	522	758	1280
3	Visakhapatnam	579	0	0	579	2480	4960	8019
4	East Godavari	487	526	182	1195	1314	2222	4731
5	West Godavari	0	6	0	6	8	75	89
6	Krishna	85	924	0	1009	121	1516	2646
7	Guntur	150	141	0	291	212	52	555
8	Prakasam	40	47	0	87	1396	1367	2850
9	Nellore	NA	NA	NA	NA	3993	2007	6000
Total for the year 2016		1,341	1,644	182	3,167	10,737	17,837	31,741

Source: Marine fisheries census 2011

Most of small scale fishermen still operate traditional fishing craft but use in increasing numbers improved gear such as gill nets, trawl Nets, and Ring seinners. Of the total number of marine tackle of about 3.167 Lakhs, gillnets are maximum and account for 51.91 percent. Trawl nets are the maximum in the districts of Visakhapatnam 43.18 percent, and East Godavari 36.32 percent though they are used in all 5 coastal districts. This type of net is operated by mechanized boats for catching prawns.

PRODUCTION

Andhra Pradesh ranks sixth among the ten Maritime states of India and second among the Five East Coast States in marine fish production. The marine fish landings in the state are presented in Table 3.

Table 3
Marine Fish Production in Andhra Pradesh

Year	Quantity in thousand tones	Value Rs. In lakhs
2004-05	1,815.81	2,478.86
2005-06	1,920.67	2,622.01
2006-07	2,071.12	2,827.39
2007-08	2,188.15	2,987.16
2008-09	2,449.24	3,343.58
2009-10	2,465.44	3,365.70
2010-11	2,518.26	3,437.81
2011-12	3,264.72	4,456.84
2012-13	3,515.85	4,799.67
2013-14	3,733.38	5,096.63
2014-15	4,062.49	5,545.92
2015-16	4082.36	5863.25
2016-17	5002.25	6325.62
2017-18	5052.65	6852.72
2018-19	5088.48	7325.46

Source: Department of fisheries, Government of Andhra Pradesh, online

In Andhra Pradesh in the year 2004-05 the marine fish production is 1,815.81 tones and it is 2,478.86 lakhs worth. The production is increased upto 2018-19 in the 5088.48 tones worth of 7325.46 lakhs. The growth rate between the years 2004-05 and 2018-19, both in production (280.23) and value (295.51) shows the similar growth rate both in quantity and value.

An analysis made with the data from the years 2005-06 to 2018-19 showed that the share of non-mechanised craft in the total marine landings had steadily decreased between 2005-06 and 2018-19 from around 59.42 percent to about 56.19 percent. But mechanized craft are increased from 40.58 percent to about 43.81 percent. The trend is as shown in Table 4.

Table 4
Contribution of Non-Mechanised and Mechanised Craft to Fish Landings in Andhra Pradesh

District	Non Motorized	Motorized	total
Srikakulam	4880	691	5571
Vizayanagarm	758	522	1280
Visakhapatnam	4960	3059	7440
East Godavari	2222	2509	4731
West Godavari	75	14	89
Krishna	1516	1130	2646
Guntur	52	503	555
Prakasam	1367	1483	2763
Nellore	2007	3993	6000
Total for the year 2015-16	17,837 (56.19)	13,904 (43.81)	31,741 (100.00)
Total for the year 2005-06	24,386 (59.42)	16,653 (40.58)	41,039 (100.00)

Source : 1. Government of Andhra Pradesh, Commissionerate of Fisheries, Fisheries Statistics of Andhra Pradesh, 2015-16, P-7.
2. Marine Fisheries Census, 2010, P-19.

When compared to the vast marine fishery resource potential especially with the extension of the exclusive economic zone up to 200 miles, the production in Andhra Pradesh is low. There is possibility to raise substantially the level of production. The low level of production is mainly due to the non-suitability of fishing craft for intensive and extensive exploitation of off-shore and deep sea areas. It seems there is a gap in the number of mechanised boats required to exploit fully. Development of marine fisheries in the state mainly depends, to a large extent, on the introduction of mechanised fishing crafts. There is an urgent need to introduce more mechanised fishing boats and vessels to exploit fishery resources in the state without affecting the interests of small-scale fishermen.

DISTRIBUTION AND MARKETING

It is estimated that about 40 percent of the marine catch is consumed fresh and the bulk of the balance dried or salted. About 60 percent of the people in Andhra Pradesh are fish eaters. At present the national fish consumption is 11 kgs and in AP, it is estimated at 7.4 kgs. The world fish consumption is 21.0 kgs. Hence, there is a huge gap in consumption which can be filled up by A.P by promoting domestic market.

The existing marketing system involves both public and private sectors. Andhra Pradesh Fisheries Corporation (A.P.F.C) represents the public sector in the marketing system. It has marketing units in coastal districts with fish and prawn procurement centres along the coast to procure fish and prawn directly from the small scale fishermen. The aim is to offer the fishermen a reasonable price for their catch so that they are not exploited by middle-men. The private sector has the major share of fish marketing. A large number of private traders, small and big, handle the marketing in a complex labour intensive operation. There is generally a large gap between the price paid by the consumers and the price paid to the fishermen.

Dried fish is distributed to both coastal and internal district markets. A quantity of 58730 tonnes of fish valued at Rs.72166.50 lakhs and 10045 tonnes of prawn valued at Rs.21094.50 lakhs was exported from

Nellore district to other neighbouring states, and 33046.17 tonnes of marine products have been exported to various foreign countries, valued at Rs.29273.20 lakhs during the year 2015-16.

The states fish exports in 2013-14 amounted to nearly 5.98 percent and 60.23 percent respectively of the total quantity and value of marine products exported from India. Table 5 presents the value and quantity of fish exported from Andhra Pradesh.

Table 5
Value and Quantity of Fish Exports 2005-06 to 2015-16

Year	Quantity in tonnes	Percentage of total exports from India	Value Rs.in crore	Percentage of total exports from India
2005-06	5,12,164	11.02	7,245.73	9.05
2006-07	6,12,643	19.62	8,363.52	15.43
2007-08	5,41,701	-11.58	7,620.93	-8.88
2008-09	6,02,834	11.29	8,607.95	12.95
2009-10	6,78,436	12.54	10,048.53	16.74
2010-11	8,13,091	19.84	12,901.46	28.39
2011-12	8,62,021	6.02	16,597.23	28.65
2012-13	9,28,215	7.68	18,856.26	13.61
2013-14	9,83,756	5.98	30,213.26	60.23
2014-15	10,51,243	5.24	33,441.61	10.69
2015-16	9,45,892	4.96	30,420.83	-9.03
2016-17	9,55,432	6.22	32,320.55	10.20
2017-18	10,82,321	7.12	33,252.46	11.35
2018-19	11,85,621	8.35	34,821.64	12.52

Source: Marine products exports development Agency (MPEDA)

In the year 2018-19 the exports are increased with 8.35 percent in quantity and 12.52 percent in value. But in the year 2018-19 exports are decreased to 4.96 percent in quantity and -9.03 percent in value. There is a non-uniform trend both in quantity and value of fish exports from the state. Frozen shrimp constitute the bulk of the products exported. The entire export is handled through Chennai and Visakhapatnam port.

Conclusion

I conclude that the 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. Since the sector is extremely diverse and dynamic, the scope of the National Fisheries Policy, 2020 encompasses development, management and regulation of inland and marine fishery resources including aquaculture in marine, freshwater, brackish water and saline/alkaline areas and their post-harvest management, strengthening and modernization of the value chain.

References

1. Government of Andhra Pradesh, Principal Secretary of Fisheries Fisheries Department- Fisheries Policy of Andhra Pradesh 2015-20.
2. Government of Andhra Pradesh, Commissionerate of Fisheries Annual Administration Report of Fisheries Department, 2015-16.
3. 10 .New Fisheries Policy of Andhra Pradesh, 2015-2020 P.No 11.
4. Silas, E. S.Indian Fisheries, 1947-1977, Central Marine fisheries Research Institute, Cochin, 1977. P.1.
5. Fishing Chimes, February, 1982, P.3.
6. Marine fishery tatistical system in india – issues and approaches – central marine fisheries research institute, cachin.2014
7. The Economic Times, September 10, 1983, P.6.

