

Unstructured Fisheries Related Activities in the Fishing Harbours of Kerala- The Need for Solid Extension Works

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Focal Points at a Glance: In this report, the authors present a study of the fishery related activities in five fishing harbours of Kerala, which includes loading, unloading, selling, icing and packing. The authors while giving a description of the wages earned by the persons working in different activities in the harbour share a concern for inadequate hygienic conditions in the harbours and suggest measures for its improvement.

Abstract

No agency in India hitherto made any effort to study the *modus operandi* of fishing harbours in India where huge quantities of fish are being handled for export and domestic consumption. The manner of handling of fish in fishing harbours determines the quality of seafood exported from India. Recognising the importance of the aforesaid aspect, a study on various fisheries related activities in fishing harbours was conducted in five major fishing harbours in Kerala, State. Both primary and secondary data in respect of the fishery related activities, taking place in these harbours were collected and compared. In this process it was found that activities such as auctioning, selling, loading, unloading, icing and packing vary from harbour to harbour. It was also observed that different groups of people engaged in fishery-related works were not specifically organised in this respect, and no step has been taken so far by any of the authorised agencies to regulate the activities in the fishing harbours. This study also highlights the need for monitoring and management of these activities in the fishing harbours to supply the best quality fish to the consumers. Strong extension activities are the need of the hour to educate and thereby organise the activities of the fishing harbours to improve the hygienic conditions prevailing in them.

Introduction

Fishing harbours play an important role in determining the quality of seafood produced as it is the main area where fish is handled after their landing at shore. There are 10 major fishing harbours in Kerala, another 8 are being constructed and 13 new proposals have been sanctioned by the Government of Kerala. Though these harbours are reportedly coming under the Department of Fisheries, Harbour Engineering Department (HED) controls most of them and carries out major harbour engineering works. The crafts and gears used to capture fish viz., trawlers, gill netters and purse seiners are more or less similar in those operated for fishing harbours. However, the fishery related activities are found to be different from harbour to harbour.

Fish being a quick and highly perishable commodity, care has to be taken in the entire chain of their handling and transportation and in order to export the best the quality products as well as ensuring supply of good quality fish for domestic consumption proper, post-harvest handling of catch is very important in the production of high quality finished products (Balasubramaniam, 2009). Many importing countries have already implemented strict and stringent rules and regulations with regard to the quality of the fish being imported by them.

These measures clearly indicate that utmost care has to be taken with regard to the hygienic handling and transport of fish right from its catch till it reaches consumer's table. Fishing harbours are the least attended areas in regard to the quality chain of fish even though it is the area where fish is landed first and intensely handled prior to transporting to processing factories and markets. A uniform pattern of fish handling practices is not seen in any of the fishing harbours in the country. The presently reported investigation is an attempt to give an insight on these various fisheries related activities in five major harbours of Kerala.

Methodology

Major fishing harbours in Kerala ie., Beypore and Puthiyappa in northern Kerala and Munambam and Thopumpady in the central Kerala and Sakthikulangara in the southern Kerala were selected for the study. Both primary and secondary data from these harbours on the fishery related activities were collected and compared. Primary data was collected from various stakeholder groups such as auctioneers, ice crusher groups, factory agents, loading and unloading workers and water supply teams through personal interviews with the help of pre-tested survey schedule (Jackie Singh *et al.*, 2012). Secondary data was collected from Department of Fisheries, Boat Owners Association,

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fishermen groups, merchants, and seafood factories.

Results and Discussion

The types of fishing vessels operating from the selected 5 harbours are given in Table 1. Soon after landing of fish in fishing harbour concerned, fish passes through various intermediaries until it is transported either to fish processing factories centres from where fish is exported to the various countries concerned or to the internal fish markets for local consumption. The major functionaries in the fishing harbours are: auctioneers, buying agents, packing workers, loading and unloading workers who have direct role in the movement of fish in harbour. In addition, there are some other functionaries like ice and water supply groups who also take part in the daily activities of the harbour concerned.

Auctioning of fish: Fish is sold by auction at these five fishing harbours and for this purpose fish are displayed in crates if the quantity is less but if the catch is of large quantity, it is displayed by spreading over the raised platforms or on floor in heaps. There are certain set of people called "Auctioneers" who lead the auctioning. There is no weighing of the material before auction but, by approximation, the auctioneers understand the quantity of the material and will start the auction with a base rate as decided. Accordingly, the buyer agents can increase the rate in the process of bidding until the highest bidder takes the material. Besides, in major fishing harbours like Thopumpady and Munambam, there are sub-auctioneers appointed by major auctioneers to carry out the auction during peak hours and in peak seasons. After auction, the material will be weighed and packed in crates with sufficient quantity of ice by workers and this will be transported to the various destinations like peeling sheds, seafood factories, markets, etc, by the concerned buyers/their men. The remuneration for auctioneer will be given by the boat owner.

The wage structure and time of auctioning of the five harbours of Kerala are presented in Table 2. The number of auctioneers varies from harbour to harbour and normally their number fall within the range of 20 to 100 based on the size and business level at the harbour. In all five harbours, these auctioneers have unions but these unions do not have any link with any of the political parties in the State. There is a virtual barrier to the

entry of new persons into this profession which is mainly inherited by the local fishermen community or association (Kumar *et al.*, 2008). The auction time at each harbour is fixed in advance by the auctioneers in due consultation with workers and boat owners based on the time of landing and also considering the space available in the auction hall, etc. In

big harbours the auction starts in early morning and lasts till evening. Catches will be displaced in the auction hall for understanding their quantity and quality. Auction is conducted at the specified time by the concerned auctioneer. The wage of the auctioneer is given on commission at all harbours except in Sakthikulangara harbour where one rupee for every

Table 1 Details of fishing vessels operating from the selected fishing harbours

S. No	District	Name of the harbour	Type of the vessel	Size of the vessels (OAL in feet)	No. of vessels
1	Beyppore	Kozhikode	Trawler	>60 (18.29m*)	100
			Trawler	<60 (18.29m)	350
2	Puthiyappa	Kozhikode	Trawler	>60 (18.29m)	130
			Trawler	<60 (18.29m)	180
			Traditional	<60 (18.28m)	50
3	Thopumpady	Ernakulam	Trawler	>60 (18.29m)	280
			Trawler	<60 (18.29m)	80
			Gillnetter	<35 (10.67m)	300
			Purse seine	<35 (10.67m)	80
4	Munambum	Ernakulam	Trawler	>60 (18.29m)	400
			Trawler	<45 (13.72m)	100
			Gillnetter	<35 (10.67m)	50
			Gillnetter	>20 (6.10m)	50
			Traditional	<60 (18.29m)	50
5	Sakthikulangara	Kollam	Trawler	>60 (18.29m)	330
			Trawler	<60 (18.29m)	1000

* Overall Length, # meter

Table 2: Time of auction & wage structure in different harbours

S. No	Harbour	Time of auction				Wage structure
		Trawlers	Gill netters	Traditional vessels	Purse seiners	
1	Beyppore	Round the clock	Round the clock	Round the clock	Round the clock	4-5% of the amount of catch
2	Puthiyappa	7-10 am & 12.30pm - 3 pm	4.30am - 7 am	Round the clock	7-10am 12.30-3pm	4% of the amount of catch
3	Thopumpady	5.30am - 8.30am	3.30 am - 5am	Round the clock	5.30-9am	4-6% of the amount of catch
4	Munambam	5.30 am - 4pm	5.30 am - 10am	Round the clock	Nil	1-2% of the total amount of catch
5	Sakthikulangara	5.00am - 9am	Nil	Nil	Nil	Rs.1/kg

kilogram of material auctioned is given to the auctioneer and in other harbours about 1-4% of the total revenue is earmarked based on the landed catches and demand. As mentioned above, in major harbours like Thopumpady and Munambam there will be sub auctioneers who carry out the auction for major auctioneers and their wages will be given by the major auctioneer. Generally, a sub-auctioneers will be given 0.5-3 % of the total revenue by major auctioneers. In addition to the sub auctioneers, there will be helpers for a major auctioneer who will also assist the major auctioneer in selling the catches even when landed in less quantity. Their appointment will also be done by the major auctioneer. He will also make payment towards wages too. The auctioneer sometimes advances money to the fishermen and in turn gets the right to auction their fish (Kumar *et al.*, 2008).

Buying agents: Buying agents are those who secure the catches in auction and transport them to the processing and pre-processing units. They are known as factory agents and normally there is no Union for them. There will be around 10-20 agents in each harbour. These agents are working on an understanding with the factory and they will collect commission for the catches they supply to the factories. There is no fixed rate for the catches obtained in an auction; normally the commission ranges from 0.5 to 2.5 rupees per kilogram of catches supplied to factories (Table 3). Agents procure the catches from harbour as per the requirement of the factories and even collect from other agents too considering the demand of the factory. In certain occasions agents may arrange the material from other sub agents and in this case the commission will be shared by them without any intimation to the factory.

Loading and unloading workers: The loading and unloading workers are the major work force in harbours who control the movement of landings from inside and outside the harbours. They have Unions associated with all major political parties in Kerala. Among these five harbours, loading charge including packing and loading into the vehicles is the same except in Thopumpady where an additional charge of Rs. 27 is taken for packing. In Thopumpady and Munambam harbours, workers take higher wages when compared to the other three harbours, where about 22-23 rupees per box is charged for packing & loading (Table 4). High value items like shrimps and cuttle fish are treated

Table 3 Wage structure of Buyer agents in different harbours

S.No	Harbour	Wages of the buyer agents (Rs./Kg.)
1	Bey pore	0.5-2.0
2	Puthiyappa	0.5-2.0
3	Thopumpady	0.6-1.5
4	Munambam	0.5-2.0
5	Sakthikulangara	2 for prawn 1 for fish

Table 4 Wage structure of loading and unloading workers of different harbours

S.No	Harbour	No. of workers and unions	Packing & Loading	Unloading	Packing
1	Bey pore	120-BMS,CITU and STU	Rs.12-15/box Box loading	Nil	Nil
2	Puthiyappa	60 -BMS union	Rs.10-15/box	Nil	Nil
3	Thopumpady	350-CITU	Rs. 23/box for fish Rs. 1.45 kg for shrimps/Cuttle fish and Squid Rs. 6000-8000 for fish loading in full track	2% for trawlers 2.5 % for gillnetters 3% Purse seine	Rs. 27 /box for fish
4	Munambam	250- CITU & BMS	Rs.22/box for fish Rs. 0.87 /kg for <i>Nemipterus</i> species Rs. 1.05 /kg for shrimps /cuttle fish	Rs. 15/ box for unloading fish from trucks	Nil
5	Sakthikulangara	50-AITUC	Rs. 3-5/box	Nil	

separately in Munambam and Thopumpady harbours for which the charge is taken according to weight and about 1-1.5 rupees per kilogram is charged in these harbours. In Thopumpady, when fish is loaded directly into the trucks, an amount of Rs. 6000-8000 is charged per truck, especially in the case of fish which are procured for 'Surumi' preparation; mainly small sardines and threadfin breams fall under this category. In Munambam, threadfin breams (*Nemipterus* species) are taken for Surumi preparation with loading charge of Rs. 0.87/kg. In Bey pore, Munambam and Thopumpady harbours, workers unload the catches from fishing vessels and they come on to the auction hall also. The charge for this is included in the loading and packing wage cost in the case of the first two harbours whereas in Thopumpady, an additional 2-3 % of the total value of the catches towards unloading charge. In Puthiyappa and Sakthikulangara fishermen themselves take the material to the auction hall. In Munambam, when trucks are coming from other harbours with catches during

the low landing days by merchants, workers charge Rs.15/box for unloading the materials from trucks and this practice is not seen in any of the other four harbours. Unloading of ice in Sakthikulangara harbour is also charged at Rs. 3 per block of ice and in other harbours ice is supplied by ice supply team at a specific rate. This clearly indicates that each harbour has separate and unique systems in practice and also has different wage structure too. No agency is employed at the harbours to monitor the personal hygiene and health status of the workers.

Ice supply team: There are certain groups of people in fishing harbours who are engaged in the supply of crushed ice. Normally there is no Union for this group except in Thopumpady harbour where they have separate Union associated with one of the political parties in the State. In other harbours, they act as a separate group of persons engaged in the regular supply of ice to each of the harbours from the nearby ice factories, crush it and supply it to the boats and to the auction



hall. Among the five fishing harbours, Beypore and Thopumpady harbours have ice crushers with conveyer attached, by which they can crush and supply ice directly to the fish hold for which they charge Rs 4 per block of ice in Thopumpady and Rs. 7 per block of ice in Beypore whereas in other harbours they supply crushed ice in boxes (Table 5). The rate of ice varies from season to season and normally it ranges from 50-60 per block and an amount of Rs. 4-7 is taken for crushing. A separate charge of 1.5-3.0 rupees is taken for unloading the ice from vehicles. Unfortunately, no quality check of the water and ice is taking place in any of the harbours.

Water supply team: In all harbours except Sakthikulangara, water is supplied by a separate set of persons and there are no Unions for this group except at Thopumpadyas noticed in the case of ice supply team also. In Sakthikulangara, water is supplied by diesel pump owners free of cost, when the vessels fill the fuel from the pump. In Munambam and Thopumpady, money is collected when the vessels return from voyage and 1-6% of the amount of catch is taken as the cost of water supplied. Normally about 500-1000 litres of water is taken in fishing vessels and it varies depending on the size of the fishing vessels and the days of fishing. In Thopumpady, the water supply charge is separate for different categories of vessels where 6% of the total catch is taken from the purse seiners and 3 % each is collected from the bottom trawlers and gill netters (Table 6). The water supply team arranges potable water from different sources and transport it in tankers for supplying to the fishing vessels. In Beypore and Puthiyappa fishing harbours, the rate is fixed per litre of water supplied whereas in Beypore only Rs.500 is charged for 5000 litres while in Puthiyappa an amount of Rs.300 is taken for 1000 liters. No quality check of the water is carried out by any of the agencies.

Other groups: In addition to the above mentioned groups of workers, there are certain other groups of workers like boat watchmen, who are engaged by boat owners association to monitor the boats moored at the harbour with Rs.50 per boat as wage and weighing balance operators who are engaged in the weighing of catches with a wage of Rs. 0.5 per kg of material weighed. There may be some other groups of workers also who are entrusted with minor activities/works in the harbours but are not widely noticed and get little attention.

Table 5 Details of ice suppliers and charges in different harbours

S.No	Harbour	No of persons	Ice supply & Charge (Rs.)
1	Beypore	20	57 /block 7 for crushing 3 /block for unloading from trucks
2	Puthiyappa	20	60 /block 3 /block for unloading from tucks 8-10 for crushing
3	Thopumpady	45	50/block 4 for crushing 1.5-2.5/block for unloading of ice from vehicles
4	Munambam	30	55 /block
5	Sakthikulangara	3-5	45-50/block 2 for crushing 3/block for ice

Table 6 Details of freshwater supply in different harbours

S.No	Harbour	No of persons	Cost of Water & supply system
1	Beypore	3	Rs.500 for 5000litre
2	Puthiyappa	4	Tanker supply Rs.300 for 1000 litres
3	Thopumpady	300	6% of the catch in purse seine 3 % of the catch for trawlers and gill netters
4	Munambam	75	1% of the catch
5	Sakthikulangara	Nil	Will be given by diesel pump on free of coast when taking oil from the pump

Fishing harbours are the major centers where fish is much handled before it is transported to fish factories for further processing before exporting and/or to fish markets for disposal for local consumption. Unfortunately, not much care is taken to look after the quality of the catches handled. Globally, importing countries are introducing strict guidelines to ensure that best quality products reach their markets and these rules and that regulations are strictly imposed in the exporting countries for ensuring improved quality of their exported products. In India, the Export Inspection Council, the competent authority which ensures the quality of products being exported from that country, inspect the factories in a routine manner to ensure that all steps are being taken in the factories to produce the best quality products and that only such products will be exported to global markets. Such type of arrangement has to be there in fishing harbours also. All fishing harbours of the country should be modernised fully abiding with the standards specified by the major importing countries like USA, Japan, and European Union etc. Hygienic handling

of fish in fishing harbours should be ensured by establishing proper systems and hygiene inspectors should also be posted in all fishing harbours of the country to ensure the hygienic handling of fish in harbours.

Marine fisheries sector forms the source of livelihood for over 7 million traditional fishermen inhabiting 3,600 coastal fishing villages in India, besides providing direct and indirect employment for several million persons in fishing, processing, trading and ancillary activities (Sathiadhaset *et al.*, 2011). Almost 75 % of the fish produced in the country is marketed domestically through wholesale, major and minor retail markets (ICAR, 2011) and the rest goes to exporting. The export from India is found to be increasing year by year (Nikita Gopalet *et al.*, 2009) and the share of Indian seafood in the world market has shown an increasing trend over the years since its inception in the 1950s and during 2001-06 the increase was 20%. India's seafood export during 2013-14 has been 9,83,756 metric tons valued at Rs. 30,213.26 crores (MPEDA, 2014). This clearly indicates that fish export is yielding

good foreign exchange for the country and, in view of this, much care has to be given to this sector for the hygienic handling of fish at the various point of supply chains, especially in the fishing harbours. Adequate steps need to be taken for the modernisation and upgradation of the fishing harbours in the country and to establish solid operational systems to ensure hygienic handling of fish in the harbours. Extensive extension training programmes have to be conducted among fisherfolk for educating them about the hygienic handling of fish and about the rules and regulations imposed by importing countries.

A series of fishery-related activities are taking place in fishing harbours of the State. The activities and *modus operandi* of persons engaged in these practices vary greatly from harbour to harbour. These systems in harbours are not enforced or controlled by any authorities but are self-evolved through ages. Since the number of people engaged in different activities is more in these fishing harbours, the hygienic handling of fish is adversely affected. Fisheries departments, Universities, NGOs, voluntary organisations etc. should come forward to conduct extension programmes at fishing harbours. Strong measures have to be taken by the concerned authorities to conduct regular extension programmes in fishing harbours to create

awareness about the quality management and the best handling practices to ensure the supply of good quality fish from the harbours. A regular system has to be established for the proper handling of fishes, auctioning, packing and transportation at the fishing harbours, rather following different systems that would be conducted to the local people. Uniform systems have to be established in the fishing harbours of the State on the lines of stringent rules and regulations imposed by importing countries and systems like catch certificates imposed by European Union. Government bodies as well as NGOs should come forward to educate fishermen and allied workers in the harbours about the need of inculcating hygienic handling practices at fishing harbours according to the various needs and regulations of the importing countries. Need for posting of hygiene Inspectors at fishing harbours is also important to look after the hygienic operation at the fishing harbours on the lines as specified by the European Union.

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Women Pick Up the Slack as Fishing Declines on India's Southern Coasts

immediately start getting involved in various activities," says Vasudha Gokhale, a Pune-based professor at the BN College of Architecture who has studied how women in Tamil Nadu's coastal areas coped with the tsunami.

But not all these self-help groups were successful because government officials chose their core activities. "Many of the women started micro-enterprises that they had little affinity for," says Madhavan Krishnakumar, who works for a non-governmental organisation called Avvai Village Welfare Society.

Some of the micro-enterprises that fizzled out were involved in making plastic doors, bricks and candles. Their products were initially sold under the 'Alaimagal' brand.

"The government gave them funding incentives, but their entrepreneurial skills were not properly developed. They were not able to do the marketing or face professional competition, so they failed," Krishnakumar explains.

A few NGOs such as the People's Development Association were also involved in developing micro-enterprises in the district earlier on, but have now limited themselves to skills training for youth, according to its director, Joe Velu.

"There were too many people doing it. There was a lot of duplication and overlap. We felt it was becoming too much like moneylending."

When IFAD came into the picture six years ago, the first thing they did was to conduct a survey. "We wanted to stabilise the movement," says Kumar. "We graded self-help groups based on their performance and found the weaknesses that needed to be addressed to make the groups viable. Then we restructured the weak ones."

Sufficient earnings, big savings

On average, the women in these self-help groups can take home about 5,000 rupees (about 80 dollars) per month, which a family of four can just about manage on thanks to the provision of

free housing for fisher folk affected by the tsunami.

Revathi Kanakaraj belonged to a self-help group that was formed as far back as 2000, but it disintegrated after the tsunami. Then three years ago, she joined a new one under the IFAD umbrella. She finds it rewarding. "I've learned about micro-credit and I've learned about savings," she tells IPS.

Financial literacy is one of the key components of the IFAD-assisted livelihood programme because its ultimate aim is to enable women to access credit on their own and encourage the habit of saving. "Previously, women in self-help groups didn't know about interest rates and banking. But they're managing their money very well now."

She makes an average of four dollars per day. Although not a lot, it's enough for subsistence. "I'm grateful for this because I can stand on my own feet," she tells IPS (Inter-Press Service).

