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Technological, situational and policy constraints faced by fishermen in coastal Konkan region of Maharashtra

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Abstract

The present study was conducted in Palghar district of North Konkan Coastal Zone and Ratnagiri district of South Konkan Coastal Zone. Two tahsils were selected from each district and two hundred and forty fishermen were selected. Personal interview technique was used for data collection. An important aspect of the study was to identify the constraints operating against the Sustainable Livelihood Activities of the fishermen. The problems that are experienced by the fishermen for improvement in various Sustainable Livelihood Activities taken will be of immense help for training organization, policy makers, extension personnel, bank officials to plan future activities most effectively. The various technological, situational and policy constraints faced by artisanal fishing communities in their various Sustainable Livelihood Activities in the Coastal Konkan Region of Maharashtra state were studied to assess the poverty, food insecurity and vulnerability of artisanal fishing communities in the Coastal Konkan Region of Maharashtra state. "Lack of ready package of fish culture" (91.67 per cent), was the major constraint in fishing activities followed by "no drying and processing land" (66.67 per cent), "dominance of middlemen in marketing" (87.50 per cent), and "inefficient execution and implementation of government programmes" (77.92 per cent).

Keywords: Technological, Situational, Policy, Constraints, Fishermen, Sustainable Livelihood Activities

Introduction

Fisheries form the major source of employment, income and livelihood for most of the people inhabiting in the coastal region. Fishery is considered as one of the allied activities of agriculture. The Maharashtra State is endowed with a coastline of 720 km and the area suitable for marine fishing is 1.12 lakh sq. km. There are 15,716 marine fishing boats in operation, of which 13,002 are mechanized. In addition to this, the area suitable for inland and brackish water fishing in the State is 4.19 lakh ha and 0.10 lakh ha respectively. During 2016-17, share of Fisheries in GSDP (at current prices) was 0.3 per cent. During 2016-17, State's contribution in marine, inland and total fish production (provisional) of India was 3.49 per cent, 0.81 per cent and 4.30 per cent respectively. There are 173 fish landing centres on the coastline of the State. The State has 30 fish seed production centres and during 2016-17, about 2,414 crore fish seed were produced. Number of marine fishing villages/localities wherein fishermen reside is 456. Fishermen families are 0.81 lakh with population of 3.86 lakh. Traditional fishermen families are 91 per cent. Among the occupied 1.93 lakh, 39.5 per cent of the fisherfolk were engaged in active fishing, 57.6 per cent in fishing allied activities and remaining in other activities. Of the total 0.76 lakh active fishermen 0.63 lakh were full-time, 0.11 lakh part-time and the rest were engaged in fish seed collection.

Material and methods

The present study was conducted in Palghar district of North Konkan Coastal Zone which is situated at longitude 72° 45' East and latitude 19° 41' and Ratnagiri district of South Konkan Coastal Zone which lies between 16° 30' to 18° 04' north latitude and 73° 02' to 73° 52' east longitude as population of fishermen is maximum in these two districts. Based on the review of past studies and after thorough discussion with the academic staff of Extension Education, Social Scientists related to Fisheries Extension and by considering the need of the present study, the various technological constraints, situational constraints and policy constraints faced by artisanal fishing communities in their various Sustainable Livelihood Activities in the Coastal Konkan Region of Maharashtra state were studied. Ex-post facto research design of social research was used. Three stage sampling method namely, selection of districts, selection of tahsils and selection of villages was followed. By considering the criterion of having highest proportion of active fishing villages, 4 tahsils namely Dahanu,

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Palghar from Palghar district while tahsils namely Dapoli and Ratnagiri from Ratnagiri district were selected. 12 villages namely Dhakti dahanu, Dahanu and Gungwada from Dahanu tahsil and Satpati, Murbe and Datiware from Palghar tahsil while villages namely Paj, Oni Bhati and Boorondi from Dapoli tahsil and Rajiwada, Mirkarwada and Karla from Ratnagiri tahsil were selected based on the maximum active fishermen population. 20 fishermen from each village were selected by proportionate random sampling method, so that each of the two districts represents 120 active traditional fishermen. Personal interview technique was used for data collection. Door to door survey of 240 active traditional fishermen was carried out by the investigator himself, with the help of structured interview schedule developed for the study so as to collect information in line with the objectives of the study. The interview schedule was pretested by interviewing twenty fisherfolk from Mahad tahsil of Raigad district. The data collected from the respondents was processed and converted into standard scores, frequencies,

percentages, means and standard deviations etc. as per the need of the study.

Results and discussion

An important aspect of the study was to identify the constraints operating against the Sustainable Livelihood Activities of the fishermen. The important constraints faced by the fishermen in various sustainable livelihood activities have been sub-divided and presented under sub-headings such as technological constraints, situational constraints and policy constraints. They are presented in Table 1 to 3.

I. Technological Constraints

The technological constraints refer to the element, factor, or subsystem that works as a bottleneck. It restricts the fishermen (such as a fishing or decision making process) from achieving its potential (or higher level of output) with reference to its goal. The data regarding technological constraints of the fishermen are given in Table 1.

Table 1: Distribution of the respondents according to their technological constraints

Sl. No.	Technological Constraints	Respondents (N=240)	
		Frequency	Percentage
1	Lack of package of fish production	220	91.67
2	No training facilities	178	74.17
3	No timely information about fish catch	142	59.17
4	Inadequate resources and infrastructural facilities	138	57.50
5	Lack of modern equipment's	131	54.58
6	Lack of repair skill and technical know-how about gears / crafts	125	52.08
7	Lack of knowledge about fishing	103	42.92
8	Ban on fishing during the monsoon not followed	100	41.67

It is evident from Table 1 that, large majority of the fishermen reported "lack of package of fish production" (91.67 per cent), was the major technological constraint in fishing activities. "No training facilities" (74.17 per cent), "no timely information about fish catch" (59.17 per cent), "inadequate resources and infrastructural facilities" (57.50 per cent), "lack of modern equipment's" (54.58 per cent), "lack of repair skill and technical know-how about gears/crafts" (52.08 per cent), "lack of knowledge about fishing" (49.92 per cent), and "ban on fishing during the monsoon not followed" (41.67 per cent)

were other important technological constraints pointed out by the respondents in their sustainable livelihood.

II. Situational Constraints

The situational constraints refer to the factors or aspects of the work setting beyond the control of the fishermen that can act to facilitate or hinder performance by affecting both ability and motivation. The data regarding situational constraints of the fishermen are given in Table 2.

Table 2: Distribution of the respondents according to their situational constraints

Sl. No.	Situational Constraints	Respondents (N=240)	
		Frequency	Percentage
1	No drying and processing land	160	66.67
2	Natural conservation and cleanliness are not followed by the fishermen	159	66.25
3	Presence of aquatic vegetation near the creeks	159	66.25
4	No arrangement of jetty for self-protection during natural calamities	156	65.00
5	Bad smells from fishing harbor	153	63.75
6	Inadequate infrastructural facilities	138	57.50
7	Low lying coastal villages are prone to floods & water logging	136	56.67
8	Over exploitation of coastal resources by new entrants and other state fishermen with excess fishing capacity	126	52.50
9	Thermal power plant pollution	120	50.00
10	Depletion of creek resources due to hot water inclusion from chemical plants	120	50.00

It is observed from Table 2 that, "no drying and processing land" (66.67 per cent), "natural conservation and cleanliness are not followed by the fishermen" and "presence of aquatic vegetation near the creeks" (66.25 per cent), were the major situational constraints reported by the respondents, followed by "no arrangement of jetty for self-protection during natural calamities" (65.00 per cent) and "bad smells from fishing harbor" (63.75 per cent). While more than half of the fishermen opined that "inadequate infrastructural facilities"

(57.50), "low lying coastal villages are prone to floods & water logging" (56.67 per cent), "over exploitation of coastal resources by new entrants and other state fishermen with excess fishing capacity" (52.50 per cent), "thermal power plant pollution" (50.00 per cent) and "depletion of creek resources due to hot water inclusion from chemical plants" (50.00 per cent) were other situational constraints pointed in their sustainable livelihood.

III. Policy Constraints

The policy constraints refer to a rule or measurement or behaviour or *policy* that is inhibiting the fishermen from

improving performance. The data regarding policy constraints of the fishermen are given in Table 3.

Table 3: Distribution of the respondents according to their policy constraints

Sl. No.	Policy Constraints	Respondents (N=240)	
		Frequency	Percentage
1	Inefficient execution & implementation of Government programmes	187	77.92
2	Government grants are not properly distributed	168	70.00
3	Insufficient wages to Khalashi and Tandel	156	65.00
4	No serious efforts to control marine pollution	153	63.75
5	Loan given by NCDC and fishermen co-operative societies at high interest rates as compared to nationalized banks	130	54.17
6	Unfair practices followed by the fishermen co-operative societies	130	54.17
7	No development programmes for raising educational status	113	47.08
8	Shortage of diesel and kerosene during peak period	102	42.50
9	Inadequate Government support for basic needs	72	30.00
10	No ownership of their residential land, but they pay tax	60	25.00

It is evident from Table 3 that, majority of the fishermen reported “inefficient execution & implementation of government programmes” (77.92 per cent), and “government grants are not properly distributed” (70.00 per cent), were the main policy constraints in sustainable livelihood activities. Whereas, “insufficient wages to khalashi and tandel” (65.00 per cent), “no serious efforts to control marine pollution” (63.75 per cent), “loan given by NCDC and fishermen co-operative societies at high interest rates as compared to nationalized banks” (54.17 per cent), “unfair practices followed by the fishermen co-operative societies” (54.17 per cent), “no development programmes for raising educational status” (47.08 per cent), “shortage of diesel and kerosene during peak period” (42.50 per cent), “inadequate government support for basic needs” (30.00 per cent) and “no ownership of their residential land, but they pay tax” (25.00 per cent), respectively were other important policy constraints pointed out by the respondents in their sustainable livelihood.

The findings of the present study are in confirmation of the findings of Jha (2009)^[3], Sheela Immanuel and Rao (2012)^[5], Kabir *et al.* (2012)^[4], Das *et al.* (2013)^[1], Singh *et al.* (2012)^[6], Sivanesan (2014)^[7] and Jasna and Palai (2016)^[2].

Conclusion

A close perusal of these findings leads to conclude that constraints faced by the fishermen in their day to day life reduce their efficiency in the fishing activities. The lack of adequate infrastructure like cold storage facilities, drying & processing land, Jetty, weighing facility, etc. has forced the phenomenon of “distress selling”. This has been one of the crucial factors limiting the profitability of the fisherman. The fishing technology used by the fishermen community is outdated. The crafts with or without motors are a common parlance in both the districts. The use of modern fishing gears is negligible and hence the size of operation, manoeuvring for fishing gets severely impeded. The use of remote sensing and Geographic Information Systems is non-existent which otherwise would have helped in augment the capture by the fisherman. The low pricing of the catch is prevalent in both the districts. The traditional customs and traditions in a way come in conflict with the modern technology and thus impede the development of the fisherman. The class conflicts between the various communities prevent them from uniting and presenting a united front before their exploiters. Inefficient execution and implementation of government policies and programs, in a way has delayed the development of the fishermen. The snag between the planning and

implementation is obvious when ground triangulation” of various programs was done. The wasteful use of the resources on the part of the government has been a limiting factor in the development of the fishermen.

The lack of training was mainly due to lack of awareness of the fishermen for the need of training and lack of collaboration of the fishermen with the training institutions. During the off season the fishermen had to focus on repair and maintenance of the boats and trawlers which led to the unemployment during that period. Regarding the subsidy on diesel, oil, kerosene etc., the fishermen were getting it very late i.e. after 2-3 years and also the amount given was very low. Also the inclusion of foreign boats affected the life of the local fishermen.

Natural resource conservation, cleanliness, bad odour from the fishing harbour were major problem. To generate additional income some fishermen continued fishing even during the ban period. They did not carry out any hygiene and sanitation practices to maintain the natural balance of the shore. The thermal power plants and other chemical industries releasing harmful chemical effluents are also equally responsible for causing pollution in the coastal shores

In order to achieve the relevant and cost effective solutions to all the constraints of the fishers, a multi-organizational approach is highly required which will help in the implementation of new policies and strategies considering the opportunities and constraints prevailing on fishers and other stakeholders in the sector. While doing so, the varying technological, situational and political conditions need to be assessed under one umbrella.

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