Socio-economic Characteristics of Fishermen and Constraints in Adoption of Information and Communication Technology in Coastal Regions of Andhra Pradesh

Balaji Guguloth[1],   Ravi Gugulothu[2], and B S Viswanatha[3]

Krishi Vigyan Kendra, Mamnoor, Warangal Urban -506 166 (Telangana)

ABSTRACT

The study was conducted in the East Godavari and Visakhapatnam districts of Andhra Pradesh to determine Socio-economic characteristics of fisher folk and to explore the constraints for adoption of Information and Communication Technologies (ICTs) in marine capture fisheries. The data were collected through personal interview technique from 120 fishermen, who were actively engaged in marine fishing. The results revealed that the occupation of majority fisher folk was exclusively fishing. They spent 10-15 hr in fishing on each fishing day, undertook fishing for more than 20-25d in a month and with an average of 8-10m in a year. A majority of the respondents harvested more than 300kg of fish on a fishing day and sailing 20-60 Nm from the shore, operated their gears in the depth of 80-120 m and their vessels had more than five tones of fish holding capacity. For a majority of the fisher folk, the annual income was more than Rs.1.5 lakh, annual expenditure more than rupees one lakh and thus, the annual saving in the range of Rs. 15,000-45,000/- annum. Most of the respondents have operated mechanized fishing vessels and gears such as gillnet, hook and line and trawl net for fishing. The major constraints reported by the respondents were financial support for the purchase of high cost ICT instruments (97.50%), the language problem in understanding the application of ICT gadgets (91.67%) and lack of knowledge on operation of ICT tools.

Key Words: Constraints, Fisher folk, ICTs, Marine capture fisheries, Socio-economics.

INTRODUCTION

The information and communication technology (ICTs) has ushered in an era of knowledge explosion in all spheres of human development and has further accelerated growth and development in all sectors. Fisheries is one of the fastest growing sub-sectors of agriculture, considered as sunrise sector and holds the hope and promise for meeting out the food and nutritional security of a vast majority of the world's population. Marine fisheries are very important to the economy and well-being of coastal communities, providing food security, job opportunities, income and livelihoods as well as traditional cultural identity. In India, the estimated annual marine fishery resources potential is 3.93mt and provides a livelihood for 14.5m people (FAO, 2016). The modern technological equipment has made a significant contribution to changing the status of the marine fisheries sector in our economy into a vibrant one. The study was intended to address the constraints for adoption of ICTs in the marine capture fisheries with reference to the socio-economic profile of the fisher folk in the selected coastal regions in Andhra Pradesh.

MATERIALS AND METHODS

The study was conducted in the coastal regions of East Godavari and Vishakapatnam in Andhra

Corresponding Author's Email:gbalu002@gmail.com

[1]Fisheries Scientist, Krishi Vigyan Kendra, Mamnoor, Warangal Urban,Tealngana-506166

[2]Teaching Faculty, College of Fisheries Science, Pebbair, Wanaparthy, PV Narsimha Rao Telangana Veterinary University, Telangana, India

[3]Sceintist and Head, Matrix ANU Advanced Aquaculture Research Centre (MAAARC), Acharya Nagarjuna University, Guntur, Andhra Pradesh-522510, India

Table 1. Socio-Economic Profile of Fisher folk.

Sr. No.	Parameter	Category	Percentage
1.	Occupational status	Fishing as the only occupation	75.83
		Fishing as primary occupation	16.67
		Fishing as secondary occupation	7.50
2.	Average duration of fishing on each fishing day	≤ 5	22.50
		> 5 ≤ 10	21.67
		>10 ≤ 15	55.83
3.	Average number of fishing days per month	≤ 20	45.00
		> 20 ≤ 25	55.00
4.	Number of fishing months in a year	≤ 6	1.66
		> 6 ≤ 8	44.17
		> 8 ≤ 10	54.17
5.	Daily average fish catch	≤ 150	40.83
		> 150 ≤ 300	5.83
		> 300 ≤ 450	32.50
		> 450 ≤ 600	14.17
		> 600	6.67
6.	Fish holding capacity	≤ 1	22.50
		> 1 ≤ 5	20.83
		> 5 ≤ 10	49.17
		> 10	7.50
7.	Fishing distance	≤ 20	20.83
		> 20 ≤ 40	42.50
		8.> 40 ≤ 60	35.83
		> 9.60 ≤ 80	0.84
8.	Fishing depth	≤ 40	2.50
		> 40 ≤ 80	35.83
		> 80 ≤ 120	61.67
9.	Annual income	≤ 50,000	35.83
		> 50,000 ≤ 1,00,000	4.16
		> 1,00,000 ≤ 1,50,000	5.00
		> 1,50,000 ≤ 2,00,000	25.84
		> 2,00,000 ≤ 2,50,000	17.50
		> 2,50,000	11.67
10.	Annual expenditure	≤ 50,000	38.34
		> 50,000 ≤ 1,00,000	2.50
		> 1,00,000 ≤ 1,50,000	14.16
		> 1,50,000 ≤ 2,00,000	28.34
		> 2,00,000 ≤ 2,50,000	13.33
		> 2,50,000	3.33

11.	Annual saving	No savings	15.00
		≤ 15,000	10.00
		> 15,000 ≤ 30,000	21.67
		> 30,000 ≤ 45,000	32.50
		> 45,000 ≤ 60,000	12.50
		> 60,000	8.33
12.	Type of craft	Teppa	3.33
		Catamaran	4.17
		With inboard engine	5.00
		With outboard engine	28.33
		Trawler	21.67
		Sona	37.50
13.	Each type of gear possessed (n=120)	Gill net	100.00
		Hook and line	84.16
		Trawl net	59.16
		Trammel net	45.83
		Purseseine	5.00

Pradesh as the majority of the fisher folk and marine fisheries resources were available. The taluks covered under this study were Kakinada Rural and Kakinada Urban in East Godavari district and Visakhapatnam and Bheemunipatnam in Visakhapatnam district. A sample size of 120 fisher folk were selected from 12 fishing villages by using simple random sampling method. A well-structured, pre-tested interview schedule was used for the purpose of data collection including 26 independent variables for study. The data collection work was carried out during January to March 2016. The standard statistical tools such as percentage analysis, mean and standard deviation used with help of SPSS (21.0 ver.) for the purpose of analysis and interpretation of the data.

RESULTS AND DISCUSSION

Socio-Economic Profile of Fisher folk

The occupational status of the respondents had reported that more than three-fourths (75.83%) of the respondents keeping fishing as the sole occupation. The remaining respondents (24.13%) have involved in additional occupations (agriculture, backyard poultry) besides fishing, of which 16.67 percent of the respondents treated fishing as their primary occupation and 7.50 percent treating fishing as their secondary occupation. The average duration of fishing on each fishing day revealed that a majority of the respondents (55.83%) have engaged more than 10-15 hr in fishing on each fishing day and results were in accordance with the findings of Chauvin *et al* (2010) and Sundaram (2011). The majority of the fishermen (55.00%) were going for fishing for 20-25d in a month, followed by 45 per cent of them going for less than 20d for fishing in a month which coincides with Sivaraman (2009) who reported that 68 per cent of the fishermen undertook 21-25d of fishing in a month. About 53.34 per cent of the respondents average fish catch was more than 300kg per fishing day. However, nearly two-fifths (40.83%) of the respondents reported an average fish catch of less than 150 kg/fishing day. It has been found that more than three-fourths (78.33%) of the respondents, the fishing distance fall in the range of 20-60 Nm and only a meager proportion of respondents (0.84%) were going beyond this distance up to 80 Nm. The average annual income below Rs. 50,000 per annum had the maximum

Table 2. Constraints to the use of ICT tools in marine capture fisheries.

Sr. No	Constraint in the use of ICT application	Number	Percentage
1.	Finance constraints for the purchase of high cost ICT instruments	117	97.50
2.	Language is the problem in understanding the application of ICT gadgets.	110	91.67
3.	Lack of knowledge on operation of ICT tools	94	78.33
4.	Non-availability of service centre and experts for the repairs works of ICT gadgets in the fishing village.	86	71.67
5.	Lack of training support on properly using ICT gadgets	78	65.00
6.	Lack of service providers on ICT gadgets	75	62.50

proportion of respondents (35.83%), indicating that about one-third of the respondents had an annual income of less than Rs. 50,000/-. (Table 1).

The majority of the respondents (55.00%) incurred an annual expenditure up to Rs. 1,50,000/- with about two-fifths (38.34%) of the respondents incurring an annual expenditure up to Rs. 50,000/-. More than four-fifths (85.00%) of the respondents made annual savings out of their income and the remaining 15 per cent did not have any annual savings. Majority of the respondents (59.17%) have operated mechanized vessels comprising trawlers (21.67%) and sona (37.50%) vessels followed by one-third of the respondents (33.33%) operating motorized vessels comprising outboard (28.33%) and inboard (5.00%) engines. The maximum contribution to the total number was of gears from trawl nets (32.56%), followed by hook and line (28.57%), gillnets (27.95%) and trammel net (10.00%).

Constraints

Most of the respondents felt the constraints on financial support for the purchase of ICT tools (97.50%), language problem in understanding the application of ICT gadgets (91.67%), lack of knowledge on operation of ICT tools (78.33%) and no service centre and experts for the repair work of ICT gadgets in the fishing villages (71.67%). Removing these kinds of constraints could help the fishermen to overcome the problems during their fishing operation, these have to be addressed properly to improve the application of ICT tools. In addition to these, a considerable proportion of the

respondents felt the constraints like lack of training support on properly using ICT gadgets (65.00%) and lack of service providers on ICT gadgets (62.50%).

CONCLUSION

The Fisher folk who engaged solely on fishing are subjected to risks such as natural calamities and hence they need to be educated for overcoming the daily risks. ICTs has emerging as important practice for fisher folk in order to save them from various risks such as natural calamities, locating potential fishing zones, market information etc. Latest technological externalities like ICTs in the marine fisheries have brought about a great transformation in fisher folk population both in their personal life styles as well as in their livelihood activities. However, most of the fisher folk were still confronted with many constraints to afford ICT tools and hence they need to be linked with the concern departments for overcoming their constraints.

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