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SOCIO- ECONOMIC STUDIES OF FISHERMEN FROM DEULGAON-RAJA, DISTRICT- BULDHANA (M.S).

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Abstract:

Present study deals with the Socio-economic condition of fishermen from Deulgaon Raja District-Buldhana. The Buldhana district is blessed with good potential of aquatic resources, Deulgaon raja fish market is a unorganized, unhygienic, small and the condition of fishermen is below poverty line. The annual income is less than 3 lakh and all the family is engage whole day doing fish and fishery as a primary source of income. 40% education is about secondary, 10% education is upto graduation and post graduation. The interference of cooperative societies and NGO are not working with their full efficiency. The study is an attempt to make a database of fishermen socio-economic status and try to solve out them from this present condition.

Key wards:- Socio-economic, Fishermen, Fish market

INTRODUCTION

Fish and fishery have been with us since time immemorial. World fish production has increased manifold in the last decade roughly crossing 168,429,000 million tonnes. India has witnessed a higher growth of fishery and ranks 7th among fish producing nations of the world. At present, fishery sector in India is providing gainful employment to 5.97 million people of which 2.40 million are full-time fishermen. Fishery plays an important role in Indian economy, but the economic conditions of the fishermen are very poor. Maharashtra state ranks 7th with around 5 % share in total fish production in India.

Due to lack of mechanized fishing, socioeconomic condition and technical illiteracy among the fishermen. The fishermen are separated into a different community. They are one of the backward communities in India. They spend their whole life in poverty due to uncertain prospects of income (Nandi & Parmanik 1994).

Ambili, C.S (2008) had defined that fisherman is a person who engaged mainly in fishing and related activities for their livelihood, Fishing is the profession which includes any industry or activity concerned with culturing, processing, preserving, storing, transporting, marketing or selling fish or its products. It is a form of occupation engaged by persons called fishermen.

. Their occupational outcome resulted in supply of fishes used for human consumption, bait and for other uses. This community has distinctive characteristics, geographically located in coastal areas and has their own way of life and culture, and share with the sea and the environment. Millions of people all over the world have been profitably engaged in fishing and fish trading over the years, which are known in different names. India has witnessed a higher growth of fishery and ranks 7th among fish producing nations of the world. At present, fishery sector in India is providing gainful employment to 5.97 million people of which 2.40 million are full-time fishermen. Fishery plays an important role in Indian economy, but the economic conditions of the fishermen are very poor.F PI(2016).Due to nonavailability of infrastructure facilities and sound marketing system, the fishermen are forced to dispose off their catch to middlemen at price dictated by them.

Maharashtra is the third largest state of the Indian union, both in population and geographical area, surrounded by the Arabian Sea in the west, Andra- Pradesh in the south East, and Karnataka in the south, Gujarat in the north west and Madhya Pradesh in the north. The state has three district physiographical regions viz., the costal belt (Konkan), the Western Ghats and the eastern plateau.

5 major water basins i.e. Painganga-Vardha-Vainganga, Tapi-Purna, Bhima, Godavari, & Krishna are the freshwater fish resource of Maharashtra which constitutes 6 orders, 25 families, and 160 species all under the inland water. Sakhare, (2001); Hiware, (2005); Talwar and Jhingran (1991); Jayaram (1981 and 1999), Day (1878); Datta Munshi and Srivastava, (1988).

Vidharba region is one of the six divisions of Maharashtra state comprises of nine districts, viz. Buldhana, Akola, Washim, Yavatmal, Vardha, Nagpur, Chandrapur, Gondia and Amaravati.

The total area of Vidharba region is 97,321 km². and is bounded by Andhra Pradesh on the east and south east, M.P on the south and by Western Maharashtra on the west. The entire region is situated at an average height of about 380-850 m. above mean Sea level gradually sloping from west to east, and is traversed by hill ranges originated from the Satpuda's ranges derive their names from local sources.

Where the large number of hilly regions gives rise to number of hill streams which lead to the major rivers like Painganga, Purna Vainganga and its tributaries which support the fish diversity and their species abundance from Vidharba region.

The socio-economic condition of the fisher folk in the state is pitiable, when compared to the general section of the population. Backwardness is the hallmark of fishermen. Globalization made an impressive growth of fisheries sector in India from a subsistence traditional activity to a well developed commercial and diversified enterprise. Fisheries Sector of Maharashtra contributes approximately about 5 to 10 % of the GSDP from the agriculture sector and occupies a significant position in the state economy

STUDY SITE

Deolgaon Raja market is a small fishery market, Taluka Deogaon Raja Dist-Buldhana .The location of Deolgaon Raja is on **Latitude**. 20.0186° north. **Longitude**. 76.0339° east.(Google Earth, 2009) forms the part of the vast Deccan plateau of India. There is no proper database available regarding the socioeconomic conditions of the fishermen community in the study area .

Objectives of the study

- 1. To examine the socio-economic conditions of the fishermen community in the study area
- 2. To investigate the problems faced by fishermen
- 3. To suggest suitable policy measures to improve the conditions of fishermen society

MATERIAL AND METHODS

To study the Socioeconomic study of fishermen earlier during June 2021 to May 2022 and local fish market and nearest landing center from the sampling site.

Primary Data were collected in the form of structured concise, Group Discussion and comprehensive questionnaire which contains quantitative and qualitative statistical method of fishermen at the time of fishing at landing centers, regular markets (weekly bazaar), nearest sampling station, taluka markets, district markets and market agencies which are associated with fish and fishery of Buldhana District.

The constraint analysis was developed to study the fish market techniques, problem and prospects of fisheries, marketing strategy, market system, and study of organization and working of co-operative private sector related to the fish and fishery in relation to Socioeconomic condition of fishermen from Deolgaon Raja Market, Buldhana District. Secondary data were collected from the Government sector officials of directories of fisheries, Assistant commissioner, private agencies, NGO'S, local markets Bayer's, group discussions with officials and members of trader association, wholesaler, fishery co-operative societies, Consumers market intermediates were interviewed.

RESULT AND DISCUSSION

The socio-economic characteristics, levels of employment, income and consumption and their pattern of various seasons are discussed for the motorized and the mechanised classes separately. The analysis is based on the primary data collected though interview schedule by contacting the respondents directly in the study area.

Socio economic condition of fishermen from Deolgaon Raja Market, Buldhana District. Present investigation is base on comparative study to make a database of socioeconomic status of fishermen from Deolgaon Raja Market, Buldhana District between June 2021 to May 2022. Eighteen profile characters of fishermen from Deolgaon Raja Market belonging to study sites are studied (Table 01).

No economic development has meaning if it is not associated with social development, the analysis of the age structure of the fishermen from Eighteen profile characters of fishermen from Deolgaon Raja are presented in (Table 01).

No economic development has meaning if it is not associated with social development, during the present investigation the analysis of the age structure of the fishermen from Deolgaon Raja Market shows that 50.00 % are middle age, 40.00 % are old, and 10.00 % young fishermen mainly engaged in fishing, below 21 years age group may be regarded as occasional working age group, and no work or less work was given by the middle age and old age group fishermen to the young group but the young group shows interest in the profession (Abdur Razzaq Joadder, 2008).

By analyzing the history of fisheries it shows that the fishing equipments and methods of fishing are improved for all over the world, mechanization came to fishing in the 20th century. The use of mechanical device for fishing boats was the first major technological development in the fisheries sector.

In the present study it was observed that 40.00 % of the total fishermen have obtained secondary and higher secondary level education, whereas 10 % are graduate, 20.00 % fishermen have obtained primary education, 10 % are illiterate fishermen, 20 % are post graduates.

In the present investigation it was observed that fishermen have big farm size 30 % and 70 % have medium farm size.

In the present study it was observed that 80.00 % fishermen have more than 5 years experience, 20.00 % have less than 5 years. All the dam study sites are on lease for at least 5 years under the fishermen cooperative societies and successfully run by respective cooperative societies. Family terms refers to all persons who are related to each other and ordinarily live together having a common cooking establishment or the term family commonly means a group of related people who share home. The family provides economic support for its members. It excludes domestic servants, boarders etc (Joadder Abdur Razzaq, 2008).

In the present investigation it was observed that 90 % fishermen are married, 10 are single. Family expenses of 60 % fishermen are in between Rs. 3,000 to Rs. 5,000/month, 40 % fishermen have family expenses of more than Rs. 5,000/month. 70.00 % fishermen have nuclear family, 30.00 % are living in joint family. 20 % are having annual income below 25,000. 80 % fishermen having annual income more than 25,000.

In the present study it was observed that 100 % fishermen sold their fishes directly in the market. Materials possessed by 80 % fishermen is good and marketable, 20 % of the material possessed was of high quality. In the present study it was observed that 30.00 % fishermen participate in social activity in full-fledged,30 % low and 40 % having medium participation in social activity respectively this may be due to the whole day busy schedule of fishermen.

In the present study it was observed that 30.00 % fishermen have high information seeking behavior, 60.00 % fishermen have medium information seeking behavior where as 10.00 % fishermen have low information seeking behavior. In the present investigation it was observed that 20 % fishermen have low extension contact with 70 % have medium extension contact, and 10 % have high extension contact like Government office, and educational institute.

20 % had low medium level economic motivation, 10 % had high and 70 % medium economic motivation.

In the present study it was observed that 90 % fishermen were observed to have medium level of risk orientation, 10 % fishermen had had low level risk orientation respectively. It was observed that 50 % fishermen had medium level of credit orientation where as 40 % had low and 10 % had high level credit orientation.

Swathi lekshmi *et al.*, (2005), studied socio economic condition of shrimp farmers with reference to 18 parameters, where young age group is least involved in fishing businesses and middle age and old age having more involvement in fishing businesses. Education status is not good where most of fishermen are studied up to secondary and higher secondary, only middle and old group having experience of more than 5 years, maximum group is having low annual income. It was observed that least fishermen are having low information seeking behavior, social participation and extension contact and it was observed that least fishermen are having high risk orientation in their fishing business.

These results are similar to the results obtained by Kumaran and Ponnusamy, (2001) reported similar result of socio economic condition of shrimp farmers in Nagapattinam district, Tamil Nadu. Khobragade and Sonawane, (2002) studied the socio economic status of marine fishermen from costal region of Maharashtra and reported similar finding. Immanuel Sheela, Kanagasabapathy and Balasubramaniam, (2006) studied social status of marine fishermen to the extension Personnel from Marine Fisheries of Kerala and reported low extension contact with low motivation. Bhaumik *et al.*, (2005) studied some socio - economic aspects of the fishermen of twin pronged floodplain wetlands in West Bengal and reported similar result.

Where fishing is the primary business and middle age group are successful in this business, the fishermen are educationally backward, where nuclear families are recorded with low income group. Fishermen are having low extension contact with least participation in social activities. Similar results were also reported by Biswas, (1991) who studied the socio economic status of fishermen in Sundarban. Senthiladeben *et al.*, (2008) studied socio economic status with their tradition in the selected fish landing centers of Thoothkudi district, Tamilnadu and reported the similar results; Sathiadhas and Panikkar, (1988) studied socio-economics of small-scale fishermen along Trivandrum cost, Kerala. Similar finding are found by Devi, V.V. and Krishnaveni, M. (2012). studied on Socio-economic appraisal of fishing community in Pulicat lagoon, south east coast of India. Bhuyan, S. and Islam, S. (2016). studied the Present status of socioeconomic conditions of the fishing community of the Meghna river adjacent to Narsingdi district, Bangladesh. Chakraborty, C.S., Datta, S. and Kathia, P. (2005). Fishery cooperatives in West Bengal. Datta,

S.K. and Kundu, R. (2007) studied Socio-economic appraisal of culture based fishermen and reported similar findings by P.T Jatsna (2016) studied Socio-Economic Conditions of Fishermen Population: With Special Reference to Chombala Harbour, Kerala.

Lakshman Nayak and Ajit Kumar Mishra (2008) found the similar results by studying Socioeconomic condition of fishermen and its effecton environment: A case study of Ganjam district, Orissa., A. S. Kulkarni, S. N. Kunjir and A. T. Markad(2018) Studies on socio-economic conditions of fishermen in Udgir in Maharashtra State.



The problems faced by the respondents in marketing have significant bearing on the profit realized them. Problems Motorized Mechanised Average score Rank Average score Rank 1. Exploitation by Middlemen . 2. Lower price for the Catch 3. Delay in Payment . 4.Limited availability of freezing facility.

CONCLUSIONS AND RECOMMENDATIONS

- During the study period from June 2021 to May 2022 it was observed that, the domestic fish market of Deolgaon Raja though having a huge potential but is still highly unorganized and unregulated.
- There is strict barrier for entry of any new professional in the domestic fish market.
- Involvement of intermediates in the processing from landing center to fish market, fishermen gets lower share in consumer rupee. Domestic fish markets are not hygienic.
- Migration of fishermen household from rural area to urban area in search of new employment is one of the causes for the crises of domestic fishing.

- Literacy rate of fishermen in the Deolgaon Raja is very low; the literacy rate is negligible at graduate and post graduate level.
- There are no proper facilities such as primary health centers to provide free medical facilities to the fishermen.
- Least interest of Government about the awareness programme about fish and fishery of that region.
- Fishermen are using the old and traditional craft and gears for fishing resulting in less amount of profit.
- Fishermen and fishermen cooperative societies are at dormant stage in rainy season.
- People are not aware about the nutritional value of fish and there is lack of communication regarding current or update price of fish. Fish consumption preference,
 - a. People of higher income group consume more fish than those of the lower income groups, though the proportion of the food budget allocated to fish expenditure is higher among low income groups.
 - b. Rural people consume more fish than urban dwellers.
 - c. Demand of fish is very sensitive to price change.
 - d. Variation of fish consumption according to the geographical area and religious beliefs and ethnic.
- During the study period the fish retail market need improvement, and it was also observed that fishing business is growing satisfactory and fish market is to be called as profitable market.

RECOMMENDATIONS

From the observations made during the study period the recommendation for the marketing of fish and fishery.

- Fish and fishery products should get reasonable price.
- Fisherman should get opportunities of foreign exchange for their product and by product.
- There should be involvement of NGO's and Government towards the fish and fishery.
- Fish being perishable so use of scientific technologies for preservation, processing, grading at consuming centers should be made available.
- There is considerable damage of fish during transport from landing center to retail market so there should be proper development of road for transportation of fish and their products.

- Create market awareness of all species than general fish at the consumer level and Introduction of modern fish quality measures.
- Recruitment of staff in department of directorate of fishery, Government of Maharashtra.
- Maximum utilization of water resources to fish and fishery should be made available.
- Encouraging of composite fish culture or composite aquaculture in inland fishery.
- Fish processing units should be set up.
- The hygienic condition of domestic fish market should be improved tremendously not only to attract the consumers to the markets but also to instill confidence among buyers to consume fish, which is regarded as a healthy food among animal products.
- Modern retail outlets have to be promoted vigorously through public /private partnership in every major city so that fish consumption becomes an easy proportion days to come.
- Banks should provide loan facilities, subsidy to the fishing assist and fishermen. Banks should not
 insist on higher down payments and also securities of various types while providing loans to need,
 and deserving fishermen. There should be proper follow-up action to make the fishermen use the
 loan amount for which purpose it is granted in order to ensure repayment of loans without much
 difficulty.
- Complete elimination of money lenders and middleman is not possible and undesirable from the social point of view. Therefore Government intervention and policies in this regards should be based on thorough knowledge of the actual role of informal sector.
- Increase medicinal facilities to the fishermen.
- There should not be any undue delay in the settlement of insurance claims, which may other wise push, the fishermen in to the clutches of money lenders.
- The Central and State Government should take necessary steps to provide permanent houses fishing craft and gears to generate employment and income.
- Increase the literacy rate of fishermen from Deolgaon Raja.
- Creating awareness through various camps regarding the fish and fishery.
- Government should provide mechanized boats and new improved gears to the fishermen on hire bases or at no cost.

- To solve the dormancy of fishermen and fishermen cooperative societies they should be activated by supplying finance and also training to the office bearers to serve better.
- Provision of basic facilities for landing, auctioning, processing, packaging, storage, power supply, water and ice supply, sanitation, facilities for grading, standardizing, weighing etc at landing centers.
- Extension education of general public about the nutritional importance of fish in order to increase the frequency and level of fish consumption.
- The transportation and storage of fishes need to be improved by creating and maintaining the infrastructure such as approach roads to the landing centers/fishing villages/pond-river-reservoir sites from the main domestic markets.
- Establishing cold storages at major collection points, ice factories etc.
- As I found that there is much weakness and threats in the fresh water fish marketing in Deolgaon
 Raja. The Government and fishermen should try to convert these weaknesses and threats into
 strength and opportunities for the benefit and welfare of fishermen.
- Suggestions for Enhancement of Fish catch
- Suggestions as given by the motorized sector respondents for enhancement of fish catch are to allot more funds as fuel subsidy.
- The other important suggestion given by this category is to offer free-of-cost repair and maintenance of fishing crafts, gears and provide proper freezing facility.
- The other suggestions were proper freezing facility and free repair and maintenance of fishing crafts and gears. Suggestions for improving Marketing efficiency.
- The middlemen were exploiting the fishermen by buying the fish at low prices and selling them at
 high prices to the consumers. The other suggestion given by the respondents were prompt payment
 of money and proper freezing facility.
- Suggestions for improving infrastructural facilities With the view to improve infrastructural facilities,
 the suggestions were given by the respondents are to provide proper resting facility of fishermen and
 to provide proper safe drinking water facility.
- Increasing employment and income forms the basic priority for economic development.

- The important suggestions given by the respondents are pay more wages for fishermen and also provide loan for buying fishing equipments and also starting new business.
- Other suggestions given by the respondents are to improve educational status and also reservation in Government services.

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INTERVIEW SCHEDULE FOR SOCIO ECONOMIC CONDITION OF FISHERMEN

Name of Fishermen

At. Post. -

House, No.

A.		DETAILS OF SAMPLING			
	1	Sample code no :-			
	2	Sampling date :-			
	3	Sampling time :-			
	4	Sampling station :-			

B. PERSONAL INFORMATION

Address

2

		Taluka -	Colony -			
		District -	Area -			
			Ta/ District -			
3		Age				
4	Gender					
5	Education	Primary (1-7 ^t	Primary (1-7 th class)			
		Secondary (8-1	.0 th class)			
		Higher Secondary	(up to 12 th			
		class)				
		Gradua	te			
		Post Grad	uate			
6	Are you doing servi	ce (If yes)			
	(Specify the job)					

7	Are you owner of	Pond/Dam/ Reservoir	(If No) then		
			specify		
	a) Individual				
	h) Partnershin				

c) Co-operative society

8 If Partnership or co-operative society specify the no of partner.

9 For co-operative society Yes/No (If yes)
a Name of society
b Address

c Registration year d Name of the chairman

5 40-50 years 6 50-60 years Above 60 years D **EDUCATION OF FAMILY MEMBERS** MALE **FEMALE** Illiterate 1 2 Can read and write Primary (1-7th class) 3 Secondary (8-10th class) 4 Higher secondary (up to 12th class) 5 6 Diploma 7 Graduate (Science/Art/Commerce) 8 Post graduate(Science/Art/Commerce) 9 Ph.D (Research Area) 10 **Others** OCCUPATION OF HOUSEHOLD FAMILY Ε MALE FEMALE ANNUAL INCOME MEMBERS AND INCOME Mechanical fishing 1 2 Traditional fishing 3 Crewmen 4 Fish marketing 5 Business 6 Private service 7 Government service 8 Other F **OTHER ASSETS** Area covered(Acres) 1 **Farming** Total land hold b Cultivable land С Barren land d No. of ponds e Sapling nursery Other HOUSEHOLD SAVING, AND EXPENDITURE G Monthly groceries 1 2 Medical expenses Vegetables 3 **Fruits** 4 5 Meat 6 Eggs 7 Milk 8 Milk product 9 Other product Schooling 10 11 Clothing 12 Housing rent (If No), Housing tax 13 Stationery 14 Insurance 15 Bank loan 16 Indian postage saving 17 Other savings **Festivals** 18 Social Fund 19 20 Maintenance of household appliance

Purchase of ornaments

21

SR N	0	TYPE OF GEAR	MESH SIZE		DEPT OPERA	-	DISTANC E OF OPERATI ON	SPECIES CODE	
1									/
		K CODES NO FOR FISH GROUP:-					OUP:-		
1		Maj	or carp			8		Mash	eer
2		Minor carp				9		/.1	
3		Grass carp				10		/ a. v	ŀ
4		Common carp				11		$C X_{\mathcal{F}}$	
5		Silver carp				12			
6		Exot	tic carp			13			
7		Clu	ipeids		1	14	- B.		
L		SUGGE 1	STION FOR DEV	/ELOP	MENT FO	R FISHE	RMEN		

Signature of Investigator DATE:

Name: MAnisha Ghonge

REFERENCE

A. S. Kulkarni, S. N. Kunjir and A. T. Markad(2018):Studies on socio-economic conditions of fishermen in Udgir in Maharashtra State and earning of traditional fishing unit along Trivandrum cost, Kerala. A case study. Seafood Export Journal 20(11): 35-36.

Bhuyan, S. and Islam, S. (2016). Present status of socioeconomic conditions of the fishing community of the Meghna river adjacent to Narsingdi district, Bangladesh. J. Fisheries Livest Prod.,4:192.

Chakraborty, C.S., Datta, S. and Kathia, P. (2005). Fishery cooperatives in West Bengal: A socioeconomic appraisal. Environ. & Ecol., 23(spl-1): 50-57.

Datta Munshi J.S and Shrivastava (1988): Natural History of fishes and Systematic of freshwater fishes of India. *Narendra Publishing House New Delhi-* 110006.

Datta, S.K. and Kundu, R. (2007) Socio-economic appraisal of culture based fishermen: Case study in West Bengal. J. Social Sci., 15 (3): 255-262.

Day Francis. (1986): The fishes of India, being A natural history of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon. Vol. I and II. *Today and Tomorrow's Book Agency New Delhi*.745 pp plate CXCVIII.

Day, F. (1878): The fishes of India, being A natural history of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon. Vol. I and II. Ceylon text and atlas in 4 pts., London.

Devi, V.V.& Krishnaveni, M. (2012). Socio- economic appraisal of fishing community in Pulicat lagoon, south east coast of India: J. Env. Sci. Engg., 54(4):558-569.

Economic status of Fishing community in marine fishing sector in Tamilnadu.:http://shodhganga.inflibnet.ac.in/bitstream/10603/56560/7/07_chapter%201.pdf. Date accessed: 09/04/2012.

Faishal Ibna Hossain Md. Idris Miah Md. Hafiz All Hosen Rubaiya Pervin Md. Rezoanul Haque (2015): study on the socio –economic condition of fishermen of the Punorvaba River under Sardar Upazila, Dinajpur., Journal of fisheries Volume 3 Issue 1 Pages: 239-244

Fisheries Profile of India(2016) http://www.dahd.nic.in/India %20profile%20updated.5.3.2013. 15/05/2016.

Govindan, T.K. 1985. Salt curing and drying of fish. In: Fish Processing and Technology, Oxford and IBH Publishing Co., New Delhi, pp. 137-159.

Hamilton F. (1822): An account of the fishes found in the river Gangas and its branches. I-VII. *Printed for Archibald constable and company, Edinburgh and Hurst, Robinson and Co - 90, Cheapside London.* pp: 405.

Hiware C.J.(2005): Ichthyofauna from four districts of Marathwada region, Maharashtra, India *Zoos Print journal* 21(1):2137-2139.

http://www. Google Earth.com (2009): Europe Technologies Data SIO, NOAA, U.S. Navy, NGA, GEBCO.

Immanuel Sheela, Kanagasabapathy .K and Balasubramaniam S. (2006): An Analysis of the Linkages Between Fishermen and Extension Personnel in Marine Fisheries in Kerala. Fishery Technology Vol.43 (2) pp: 230- 235. International Research Journal of Agricultural Economics and Statistics 9 (2) Sept., pp-300-304.

Jayaram K.C(1981): The freshwater fishes of India, Pakistan, Bangladesh, Burma and Sri lanka .A handbook. Zoological survey of India, Calcutta, 475 pp.

Jayaram K.C(1999): The freshwater fishes of the Indian region. Narmada publishing House New Delhi. 551 pp.© 2021 IJRAR June 2021, Volume 8, Issue 2

Jhingran, V.G. 1982. Fisheries in Indian Sea. In: Fish and Fisheries of India, Hindustan Publishing Corporation, Delhi, pp. 525-539.

Kerala Fishermen Welfare Fund Board.(2016) www. fisheries. kerala.gov. in/index. php?option=com_content&view=article&id=76&Itemid=44. Date 23 /04/ 2016.

Khobragade and Sonawane(2001): "Status and Strategies for Development of Fishery at Wohor Reservoir, A,bad (M.S) India" J. Fish Econ. Develop 4 (1): 57-72.

Khobragade. B.(2001): A study on marketing of Marine fish and fishery product in Maharashtra state. Thesis. Dr. B.A.M.University, Aurangabad.

Kumaran M. and Ponnusamy K.(2001): Training needs of shrimp farmers –An Assessment. Fishery Technology 2001, vol. 38(2) pp:125-128.

Lakshman Nayak and Ajit Kumar Mishra(2008): Socio economic condition of fishermen and its effect on Environment: A case study of Ganjam district, Orissa., Nature Environment and Pollution Technology, Vol-7, No- 01, pp 111-116.

Mahua Bhattacharya (2011): A study on the socio-economics of coastal fisheries with special reference to the Sundarbans of West Bengal, India., International Research of Current Research vol. 3, issue, 12, pp.286-291.

Mizanur Rahman, Syeda Ayshia Akter, Marriaya Sultan and Md. Shahidual islam(2018): Socio – economic condition of fishermen of Shanirhaor: A case study on TahirpurUpazila, Sylhet., Asian Research Journal of Arts, Commerce and Sciences7(2): 1-16.

Muhammad Saleem Hanif, Khalid Javed Iqbal, Arshad Javid, Noor Khan2, Irfan, Hamid Majeed Muhammad Altaf (2019): Socio economic status of fishermen community, south Panjab Pakishtan, Panjab university Journal of Zoology 34(2): 115-118.

Mukesh P. Bhendarkar, N. Sarang, Mangesh Bhosale, R.H.Rathod, Laxmi & H.K vidya (2017): A study on profile of socio-economic condition of fishermen in selected village in kabirdham district, Chhattisgarh state, India., International Jurnal of Educational Science and Research (ijesr) issn (p): vol. 7, issue 6, pp-49-56.

Nandi & Parmanik 1994)Crabs and crab fisheries of Sundarban. Publisher: Hindustan Publishing Corporation (India) ISBN: ISBN: 81-7075-034-2, June 2021.

Nandi, N.C. and Parmanik, S.K. 1994. Crab and Crab Fisheries of Sunderban, Hindustan Publishing Corporation, Delhi, pp. 130-143. Nayak, L., Mishra, A.K., Samantaraya, S. and Achary, S.M. 2006. Socio-economic condition of fishermen of Khirisahi of Chilika lagoon, Orissa. Proceedings of the Seminar on Environment Management of Chilika Lake and its Importance in Tourism, K.B.D.A.V. College, Nirakarpur, 24-25 November 2006, pp. 42-47.

P.T Jatsna (2016) studied Socio-Economic Conditions of Fishermen Population: With Special Reference to Chombala Harbour, Kerala., *Indian Journal of Economics and Development*, Vol 4 (4), pp-01-08. Lakshman Nayak and Ajit Kumar Mishra(2008) found the similar results by studying Socioeconomic condition of fishermen and its effecton environment: A case study of Ganjam district, Orissa., *Nature Env. and Pollution Technology* © *Technoscience Pub.*, vol -1, pp-111-116.

P.T Jatsna (2016): Socio-Economic Conditions of Fishermen Population: With Special Reference to Chombala Harbour, Kerala

Rao, S.P. 1998. Slum Dwellers in Vizianagaram Town: Socio-Economic and Demographic Characteristics.
Kurukshetra, 1998, pp. 24-27.

S.jayaselvi(2016): An Economic and health status of fishermen in Tiruchendur., Shanlax Int. journal of Arts, Science & Humanities, Vol-4, Issue ,I PP:1 - 18.

Saha, A.K. and Banerjee, K. 1991. Condition and Status of Rural Women-A Survey. Kurukshetra, August 1991, pp. 30-31.

Sakhare V.B. and P.K. Joshi.(2001): Studies on some aspects of fisheries management of Yeldari reservoir. Ph.D. Thesis. S.R.T.M. University Nanded.

Santhiadhas ,R ., and Panikkar K.K.P(1988) Socio-economics of small-scale fishermen with emphasis on costs

Sathiadhas R. and Narayankumar R. (1994): Price policy and fish marketing system in India. Biology Education .CIFE; Cochin: 225-238.

Senthiladeben .R ,M.Rajkumar and Sukumar .D(2008): Socio-Anthropological study of Fisher folk in the Selected fish Landing Centers of Thoothkudi district, Tamilnadu Journal of Fisheries Economics and Development Vol .9 no.2: 22-30.

Sujata, K. 1999. Visakhapatnam Coast: Contribution of fisherwomen in post harvest handling. Fishing Chimes, May 1999, pp. 28-32.

Swathi P.S. Chandrakandan Lakshmi K., Kumaran M. and Balasubramani N.(2005): Socio-Economic profile of shrimp farmers and its influence on the extent of adoption of shrimp culture Technologies. Fishery Technology, vol .42(2):225-230.

Talwar P.K. and Jhingran A. (1991): Inland fishes of India and adjacent countries, Vol. 1 and II. Oxford and IBH Publisher, New Delhi. 1158 pp.

Tripathy, D. 1991. Socio-Economic Life of Valayars of Tamil Nadu. Kurukshetra, May 1991, pp. 29-33.

Venktaramanujam, K. and R. Santhanam (1978): Why should we eat fish. Kisan World, 8 (4): 62-64.

Vijaya Khadar (2003) Role of fisherwomen in coastal eco-system of Andhra Pradesh, Karnataka, Kerala and tamil nadu., 22nd Annual Conference proceedings, Clearwater beach florida, vol-1, isuue –I., pp: 254-265.