



Study on Social Profile of Trawler Operators from Ratnagiri block of Maharashtra

M N Nasre¹, S M Wasave^{1*}, K J Chaudhari¹, B M Yadav¹, A S Desai¹, S V Patil¹, S C Kamble¹, D R Palwe¹, and T Biswal¹

¹College of Fisheries (Dr. B.S. Konkan Krishi Vidyapeeth),
Ratnagiri, 415 629 (Maharashtra)

ABSTRACT

The socioeconomic study of trawler operators is crucial for comprehending the factors that influence their livelihoods, well-being, and the sustainability of resources. The study was conducted in Ratnagiri taluka of Maharashtra to assess the socioeconomic status of trawler operators. The exploration of socioeconomic status involved scrutinizing demographic features, assets holdings, and housing details. An interview schedule was prepared, and data were collected from 102 trawler operators selected through random sampling from December 2022 to April 2023. Data analysis was performed using Microsoft Excel and SAS software. The findings revealed that the majority of trawler operators belonged to the middle age group (57.84%) and had attained education up to primary and secondary levels (32.35%). Moreover, 93.14% of trawler operators were members of a cooperative society. The study concluded that the socioeconomic status of trawler operators was moderately good, evidenced by access to sanitation facilities, electricity supply in their homes, and ownership of immovable assets such as land, houses, boats, and essential movable assets, which collectively signify the wealth of their families.

Key Words: Fishers, Socio-personal, Trawler operators.

INTRODUCTION

The introduction of mechanized trawlers in the early sixties to Indian coastal fisheries was received enthusiasm because of the high returns and established as one of the dominant fishing techniques to exploit target resources from the sea bottom Menon (1996). Trawl net is one of the main fishing gears used in the world which is a dragged gear towed through the water either at the bottom or subsurface waters, the mouth of which is kept open horizontally using beams or otter boards and vertically through floats and sinkers Sterling (2005). Ratnagiri is one of the coastal districts of the Konkan region of Maharashtra with 167 km of coastline Anonymous (2018). Ratnagiri district has 71,620 fisher folks of which 35,957 are male and 35,663 are female. A total of 14416 active fishermen are residing in Ratnagiri district. Anonymous (2021).

Socio-economic status is a measure of the economic and social positions of an individual or

family concerning variables like age, education, income, occupation, assets, social participation, etc. Toraskar *et al* (2018). Socio-economic studies of fishers focus on investigating the crew and owner demographics like age, educational background, experience, fishing activities, fishing methods (fishing vessel, gear, season, duration, catch composition, value chain, and markets); contribution to nutrition, food security, and livelihoods; the role of women; trawling expenses and revenue; catch income sharing agreements; connections to other sector and perspectives (about the resource, participation, compliance, and future). Anonymous (2017), Sharma *et al* (2018).

Trawler operators form a crucial part of fishermen's communities, studying their social profile provides insight into diversity within the fishing community and thus allows us to understand human dimensions of fisheries encompassing demographic trends, and community dynamics. Shedding light, especially on their educational status, occupational status,

Study on Social Profile of Trawler Operators from Ratnagiri block of Maharashtra

and membership in organizations and studying socio-economic disparities such as housing details, and assets holding are essential for designing targeted interventions, policies, and programs that promote sustainable development. However, in the context of limitations, the study was undertaken in a limited study area *i.e.*, Ratnagiri Taluka to assess the social profile of trawl net operators.

MATERIALS AND METHODS

The present study was conducted in Ratnagiri taluka of Maharashtra. The villages selected for the study were Mirkarwada, Rajiwada, Purnagad, Shakartar, Kasarveli, Kalbadevi, and Jaigad. Sampling on Trawler operators and crew was carried out from December 2022 to April 2023 at both their workplaces and homes and also during their leisure time. The respondents were into three age groups: young (<40 yr), middle-aged (41-60 yr) and old (those who were 61 yr and older) Zytoon and Basahel(2017). By employing the purposive random sampling method, a total of 102 participants were studied.

The data were collected by using a cross-sectional study design with the interview schedule. The interview schedule was tested with 10 respondents before it was finalized to ensure its validity and content analysis.

Survey interview schedules were formulated in English and converted into Marathi language to record the responses Yadav *et al* (2020). Data were analyzed using percentage analysis. Gautam *et al* (2020).

RESULTS AND DISCUSSION

Socio-profile

Age

The results revealed that highest (59%) of trawler operators belonged to the middle age group (40-60 yr). Toraskar *et al* (2020), found that 28.92% of the family heads of rampan operators were between the age range of 50 yr and 60 yr. According to Chavan (2019), 31.08% of the retailers were in the 42–50 age range. A higher percentage of fishermen were found to belong to the middle age group as this was the earning group of families.

Gender

A majority (94.12%) of trawl net vessels were owned by males, while only 5.88% by females. Ucherwuhe *et al* (2018) found that the male fishers (84.70%) were higher than the females (15.30%) in Nigeria. In both studies male population dominated because males were observed to be involved in pre-harvest and harvest management as repairing their nets, maintaining the fishing vessels, procuring fishery requisites for fishing operations, managing the fishery activities, conducting fish capture activities, while females were involved in post-harvest management of fishes including cleaning, grading, salting, drying and selling activities.

Educational status

A total of 32.35% of trawler operators had completed their primary and secondary level education, and only (8.82%) were graduated. Only 2.94% of respondents were found illiterate. Saim *et al* (2020) reported that only 6% of fishermen had primary education, majority 72% of the total samples were illiterate. Results were in accordance with Khode (2018), Toraskar (2018) Ucherwuhe *et al* (2018). In all the studies most, fishermen were educated up to primary or secondary level because fishermen prefer to join their fishery business at an early age of their life as it is the main source of their income generation and livelihood of family.

Religion

It was observed that 34.31% of trawler operators were Hindu, whereas the remaining 65.69% belonged to the Muslim religion. This was due to the fact that selected sampling locations were dominated by Operators of Muslim religion. Results were in accordance with Kumar (2017), the majority of fishermen were of the Hindu religion (75.47), followed by Muslims and Christians. Khandare (2018) revealed that Hindu (62.35%) and Muslim (37.655) were the only religions involved in dry fish retailing.

Category and caste distribution of trawler operators

The majority (83.33%) of trawler operators belonged to the Other Backward Class

Table 1. Socio-personal aspects of trawler operators (N=102)

Sr.no	Characters	Category	Frequency	Percentage
1.	Age group (yr)	Young age < 40	29	28.43 %
		Middle age 40 -60	59	57.84 %
		Old age >60	14	13.73 %
2.	Gender of trawler owner	Male	96	94.12%
		Female	6	5.88%
3.	Educational status	Illiterate	3	2.94%
		Can sign only	9	8.82%
		Primary	33	32.35%
		Secondary	33	32.35%
		Higher secondary	15	14.71%
		Graduated	9	8.82%
4.	Religion	Hindu	34	34.31%
		Muslim	65	65.69%
5.	Category	OBC	85	83.33%
		SBC	17	16.67%
6.	Caste	Kharvi	15	15.69%
		Bhandari	22	21.57%
		Daldi	64	62.75%
7.	Marital status	Unmarried	11	10.78 %
		Married	86	84.31 %
		Widow	4	3.92%
		Separated	1	0.98%
8.	Family type	Nuclear	47	46.08%
		Joint	55	53.92%

category, while the remaining (16.67%) belonged to the Special Backward Class (SBC) category. The majority belongs to OBC because the population in the study area belonged to the *Daldi* and *Bhandari* castes, which belonged to the OBC category. Sen and Roy (2015) reported that the majority of fish farmers in Tripura were from the general category (46.9%), followed by scheduled castes (34.4%) and other backward classes (18.8%). Kumar (2017) found that the majority of families fishers of coastal India belong to Scheduled Caste (68.63%).

The trawler operators of Ratnagiri taluka were found to belong to the *Daldi* caste (62.75%) followed by *Bhandari* (21.57%) and *Kharvi* caste (15.69%). Ulamn *et al* (2008) found that the majority of fishermen in the Konkan region were

from the Hindu religion Koli (65%), *Kharvi* (15%), and *Bhandari* (15%) few fishermen were Muslim (5%).

Marital status

Trawler operators' marital status was divided into four categories: married, unmarried, widowed, and separated. Maximum (84.31%) of trawler operators were married. 10.78% were unmarried. Ucherwuhe *et al* (2018) found that 78% of fisherfolks were married whereas, 21% were single. Sharma *et al* (2018) reported that the majority of fishermen in the Amethi district of Uttar Pradesh were married (66%) and (34%) were single. The majority of fishers were married as individuals may prioritize building a family unit for mutual support.

Study on Social Profile of Trawler Operators from Ratnagiri block of Maharashtra

Table 1. Socio-personal aspects of trawler operators (N=102)

Sr.no	Characters	Category	Frequency	Percentage
1.	Age group (yr)	Young age < 40	29	28.43 %
		Middle age 40 -60	59	57.84 %
		Old age >60	14	13.73 %
2.	Gender of trawler owner	Male	96	94.12%
		Female	6	5.88%
3.	Educational status	Illiterate	3	2.94%
		Can sign only	9	8.82%
		Primary	33	32.35%
		Secondary	33	32.35%
		Higher secondary	15	14.71%
		Graduated	9	8.82%
4.	Religion	Hindu	34	34.31%
		Muslim	65	65.69%
5.	Category	OBC	85	83.33%
		SBC	17	16.67%
6.	Caste	Kharvi	15	15.69%
		Bhandari	22	21.57%
		Daldi	64	62.75%
7.	Marital status	Unmarried	11	10.78 %
		Married	86	84.31 %
		Widow	4	3.92%
		Separated	1	0.98%
8.	Family type	Nuclear	47	46.08%
		Joint	55	53.92%

Family type

The family type of trawler operators was classified as nuclear and joint. Based on the number of members, nuclear families were found to have less than five members and joint families had more than five members. It was observed that 46.08% had nuclear families while 53.92% of fishers had joint families. There was not much variation between the percentage of joint family and nuclear families, this may be due to the reasons that some move towards family planning, and some families still believe in working and living as a joint family. Similar results were found by, Gupta and Dey (2015) Maximum farmers live in joint families (75.5%) and the remaining (24.5%) live in nuclear families.

Fishing Experience

According to the fishing experience of trawler operators, the majority of operators (23.53%) had experience between 25 and 30 years, and a minimum (1.96%) had experience between 0-5 years. Similar results were reported by Akhand (2022) and Suryawanshi (2007). The experience was found higher among the fishers as the fishers are involved in fishing activities at a young age because of family occupation and due to discontinuation of education at an early stage.

The relationship between the experience and age group of trawler operators and it can be seen that there is a significant difference between the age group and experience as the experience increases with increasing age.

Table 2. Classification of trawler operators according to experience

Sr.No.	Experience	Frequency	Percentage
1	0-5	2	1.96
2	5-10	4	3.92
3	10-15	7	6.86
4	15-20	22	21.57
5	20-25	14	13.73
6	25-30	24	23.53
7	30-35	16	15.69
8	35-40	5	4.90
9	40-45	3	2.94
10	45-50	5	4.90
	Total	102	100.00

Type of Ration Card

The ration card serves as a proxy indicator for the economic status of trawler operators. It was resulted that 92.16% of trawler operators held orange ration cards, 2.94% of operators had yellow representing people who were living below the poverty line, while 3.92% had white ration cards. Khode (2018) observed that 90% of fresh fish sellers had orange cards, 88% had yellow cards, and 1.1% had white cards. Khandare (2018) nearly 84.71% of women working in the dry fish sales sector had yellow cards, while 15.29% had orange-colored ration cards. Observations from the study show that the majority of fishers hold orange ration cards and, thus were living just above the poverty line. As they have orange ration cards, they can get foodgrains at highly subsidized rates from their village ration shops as per the privilege of state government to support the families of low-income groups.

Employment and Occupation

Trawler operators were observed to be employed as owners and crew members. It

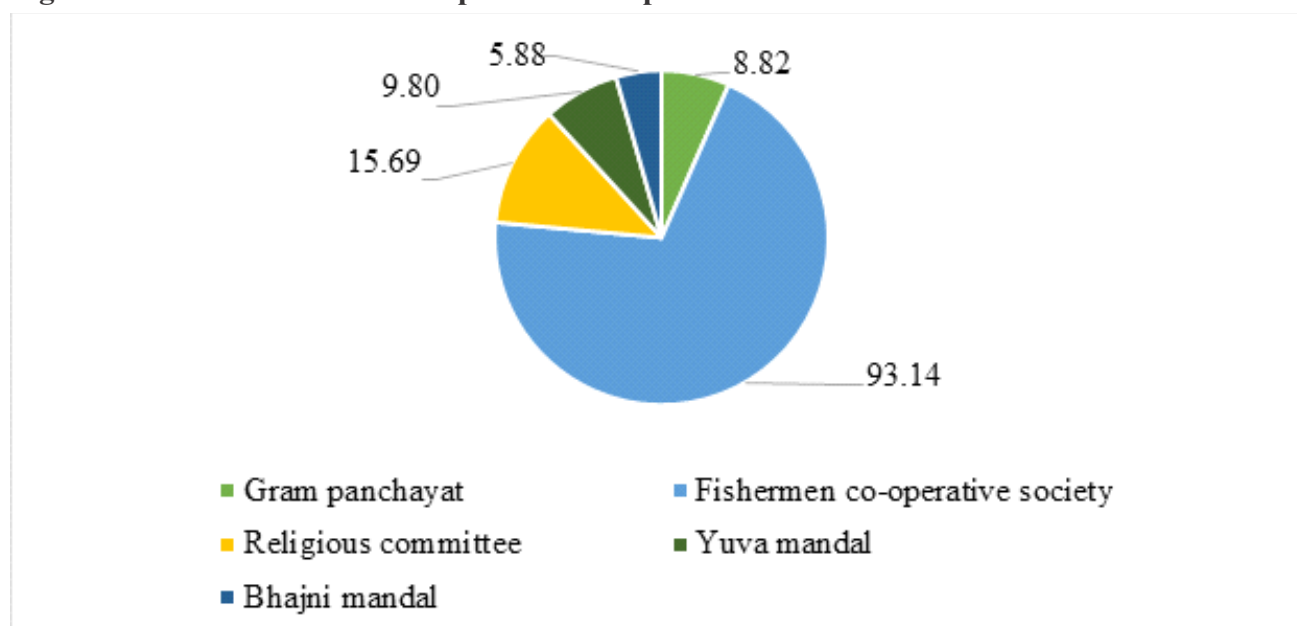
resulted that 90.20% of trawler operators were the owner and worked on their vessel and 9.80% of respondents were crew. The occupational status included primary and secondary occupations. It was found that 92.16% of trawler operators had fisheries as a primary occupation, and only 4.90% were involved in other occupations such as service (2.90%) and business (1.96%). Gautam *et al* (2020) reported fish farming was the primary occupation of 69.2%, while the secondary occupation of 56.1% of the respondents. Fishers were found to be involved in other occupations such as self-business and daily wage labor. Prabat (2021) in her study revealed that 95.83% of fishers had gillnet fishing as a primary occupation while 4.17% had it as a secondary occupation. Toraskar (2018) found that from overall samples 60% were active fishermen, 23.89% involved in fish marketing, 15.56% were in business, and 0.56% were engaged in service for their livelihood. The maximum fishers were found to be involved in the fishing occupation as the surveyed samples were fishers and their livelihood depends on fishing.

Study on Social Profile of Trawler Operators from Ratnagiri block of Maharashtra

Table 3. Occupational status according to primary and secondary occupation.

Occupation					
Primary	Frequency	Percentage	Secondary	Frequency	Percentage
Fisheries	95	93.07	Service	3	2.97
			Business	4	3.96
Total	102	93.07	Total	102	6.93

Fig 1. Distribution of membership of trawler operators



Membership

A maximum (93.14%) of trawler operators were found to be members of fishermen's cooperative society. Fig 1. represents distribution of membership of trawler operators. Similar results were observed by Suryawanshi *et al* (2014) and Toraskar *et al* (2020) Fishermen were found to be involved in cooperative societies because these are formed especially for fishers, and provide more benefits to fishermen.

Asset Holding

Assets are classified as immovable and movable assets.

Immovable assets

Every single trawler operator possessed immovable assets in the form of land, houses, and boats. Approximately 1.96%, owned shops, 3.92% had cultivable land, and 15.69% of fishers were

found to have tree plantations. Additionally, 7.84% of trawler operators had barren land as one of their immovable assets. Toraskar *et al* (2020) stated that 33.73% of rampan operators possessed agricultural land, followed by 85.54% of rampan operators who owned their own homes, and had their horticulture fruit plantations. Gautam *et al* (2020) found that 71% of respondents possessed agricultural land and 28.9% of farmers were without land. Although the average aquaculture farm area was 0.67 ha, the average pond size was just 0.55 ha, making up the greatest percentage of aquaculture landholders (88.1%).

Movable assets

It was found that gas stoves and cylinders, fans, fishing nets, fishing boats, mobile, and watch/clock, are the movable assets possessed by cent percent of trawler families. While other assets

such as television (58.82%), LCD/LED (36.27%), laptop (26.47%), radio (15.69%), DVD player (2.94%), mixer (77.45%), refrigerator (77.54%), water purifier (26.47%), sewing machine (13.73%), furniture (54.90%), geyser (7.84%), washing machine (43.14%), bicycle (37.25%), two wheeler (95.10%), three-wheeler (5.88%), four-wheeler (33.33%), machine (43.14%), bicycle (37.25%), two-wheeler (95.10%), three-wheeler (5.88%), four-wheeler (33.33%), steel almirah (80.39%), AC/cooler (10.78%), desktop (0.98%) are also possessed by trawler operators families. Himu *et al* (2020) revealed that most common assets owned by fishers were *stead/khat* (68.3%), showcase/almirah (58.3%) and chair/table (46.7%), mobile phones (56.7%). Most of the fishermen own boat (53.3%) and fishing nets (65%). Khandhare (2018) observed that 100% of families had a fan, and watch clock, followed by gas stoves and cylinders (91.76%), and mobile (89.41%). Few families were seen using laptops and tablets (1.18%). The moveable assets reported in this study are the common needs of the respondents and their families. However, some of the moveable assets are of luxurious category indicating the wealth and prosperity of the fishers under study.

Housing details

Housing details included aspects such as the nature of ownership, land area, house area, house type, number of rooms, source of electricity, source of drinking water, and latrine facilities. The overall analysis of housing details showed that all the interview responders had owned houses with sanitary facilities and they all received electricity from a common source M.S.E.B. The average land area possessed by a family was recorded as 2753.43 sq. ft. along with the average house area as 1451.98 sq. ft. Gautam *et al* (2020) reported that in selected regions of Uttar Pradesh, 30% of fisher families still lacked access to sanitation, although 66.7% did. 14.5% of families use kerosene lamps for lighting, 68.6% of families still cook using firewood, and 88.1% of families get water from tubes or bore wells.

According to housing type, the majority of trawler families (55.88) reside in *pucca* houses,

followed by *semi-pucca* houses (17.65%), bungalows (12.75%), apartments (8.82%) and few households reside in *kaccha* houses (4.90%). Gautam *et al* (2020) Fishermen were found to most often reside in semi-pucca houses (44%) and pucca houses (32.1%). Ujjania and Patel (2011) stated that 23.7% of fishermen had pukka houses, compared to 9.6% of kaccha houses and 66.7% of semi-pukka houses.

It had been found that most homes had 3 rooms (29.14%), followed by four (23.53%), five (17.65%), six (12.65%), two (9.80%), and very few houses had seven (3.92%) and eight rooms (2.94%). Toraskar (2018) reported that the majority of rampan operators' population residing along the Sindhudurg district with seven rooms (27.71%) followed by six rooms (25.30%), five rooms (16.87%), eight rooms (14.46%), three and four rooms (7.23%) each. In the study, maximum fishers were found to live in the pucca house and have three or more than three rooms this represents the economic well-being of the surveyed population.

CONCLUSION

The study concluded that the social condition of trawler fishers in the study area was moderately good as all respondents had their own houses with sanitation facilities and the majority of them had assets that represent good economic condition. However, the educational status was found low as only (8.82%) of fishers were graduated as they prefer to join the family business in early age and thus their involvement in service sector is low.

REFERENCES

- Akhand D M (2022). *Knowledge and compliance of Maharashtra marine fishing regulation act (MMFRA, 1981) by the trawl net operators of the Ratnagiri*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Anonymous (2017). Food and Agriculture Organization of United Nations Rome. Fisheries and Aquaculture proceedings. ISSN 2070-6103.
- Anonymous (2018). Department of Fisheries,

Study on Social Profile of Trawler Operators from Ratnagiri block of Maharashtra

- Government of Maharashtra, Mumbai. 199p.
- Anonymous (2021). Department of fishery government of Maharashtra, Mumbai. 109p.
- Anonymous (2022). *Standing Committee on Agriculture, Animal Husbandry and Food Processing*.
- Chavan S M (2019). *Socio-economic Status of Fresh Fish Retailers of Mormugao, South Goa*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli. 86p.
- Gupta T and Dey M (2015). Socio economic and cultural profile of fish farmers: A study in and around the Lunding town, Nagaon District of Assam. *Indian J of Environ Sci* **19**: 71-78
- Gautam P, Ananthan P S, Krishnan M and Tiwari V K (2020). Socio-economic status of fish farmers in selected regions of Uttar Pradesh. *J Krishi Vigyan* **9** (SI) : 267-275
- Himu S D, Hussain M A, Sumon T A, Sumon M A A, Ahmad M F, Talukder M R and Kunda M (2020). Socio-economic profile of fishermen: An empirical study from Sunamganj, Bangladesh. *Hindu* **38**: 31-7.
- Kumar D K, Ramasubramanian V, Krishnan M, Ananthan P S, Vinay A, and Kumar R S (2017). Socio-economic status of fishers of coastal India. *Int J Curr Microbiol Appl Sci* **6**: 2267-2280.
- Khode P C (2018). *Socio-economic study of fresh fish retailers of Ratnagiri, Maharashtra*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Kandhare R B (2018). Socio-economic study of dry fish retailers of Ratnagiri, Maharashtra. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Menon N G (1996). Impact of bottom trawling on exploited resources. Central Marine Fisheries Research Institute Indian Council of Agriculture Tatapuram p.o, Cochin-682014.
- Prabat S (2021). *Livelihood analysis of gillnet operators of Ratnagiri, Maharashtra state*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Sekhar N U, Raju K V, Manasi S, Latha N and Lenin B K (2006). Fisheries in Tungabhadra Basin. *India* **46**, 7.
- Siam H S, Hasan M R and Sultana T (2020). Socio-economic status of fisher community at Nijhum Dwip. *Asian J Med Biol Res* **6**(2): 351-358.
- Sterling D J (2005). *Modelling the physics of prawn trawling for fisheries management*. PhD Thesis, Curtin University of Technology, Perth, Australia.
- Suryawanshi U A (2007). *Adoption of improved practices by trawl net operators of Ratnagiri coast of Maharashtra state*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Suryawanshi U, Chaudhari K, Somashekara S, Kumar J (2014). Socio-personal information of trawler owner fishermen for adoption of improved practices in Mirkarwada landing center off Ratnagiri coast, Maharashtra. *J Exp Zool* **17**(2): 431-436.
- Sen A AND Roy M (2015). Socio-economic status of fish farmers in Tripura, India. *Int J Curr Res* **7**: 17090-17096.
- Sharma S, Kumar R, Kumar M, Gupta S, Maurya P K, Singh P (2018). A study on socio-economic status of fishermen of Amethi district, Uttar Pradesh, India. *Int J Fish Aquat Stud* **6**(4), 49-54.
- Toraskar D N (2018). *Socio-economic status of rampan operators of Sindhudurg district of Maharashtra*. M.F.Sc. Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli.
- Toraskar D N, Wasave S M, Shirdhankar M M, Chaudhari K J, Sawant S S, Wasave S S

- and Salunkhe A B (2020). Socio-economic status of rampan operators of Sindhudurg district of Maharashtra. *J Exp Zool India* **23**(1):787-791.
- Ulman Y N, Talathi J M, Naik V G (2008). Socio-economic status, income and expenditure pattern of fishermen in Konkan region of Maharashtra. *3*:251-254.
- Ujjania N C and Patel A N (2011). Socio-economic Status of fishermen Community Fishermen Community of Danti village in Valsad District (Gujarat) India. *Emerging Trends in Dev Res* **18**(1-2): 25-30.
- Ucherwuhe S I, Ashiko F T G, and Akang E T (2018). Socio-Economic analysis and fishing practices of the fisherfolks of Abinsi Settlement, Benue State, Nigeria. *Int J Res* **5**(17): 598-601.
- Yadav B M, Patil S V, Mandavkar S S, Wasave S M, Shirdhankar M M, Chaudhari K J (2020). Socio-economic Status of Fishers of Ratnagiri, Maharashtra. *Int J Curr Microbiol Appl Sci.* **9**(9):3011–21.
- Zytoon M, Basahel A (2017). Occupational Safety and Health Conditions Aboard Small- and Medium-Size Fishing Vessels: Differences among Age Groups. *I J E R P H [Internet]*. **14**(3):229. Available from: <http://www.mdpi.com/1660-4601/14/3/229>

Received on 16/4/2024 Accepted on 25/5/2024