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Evaluation Of Socio-Economic Status And Demographic Characteristics Of Fishermen At Coastal Areas Of West Bengal, India

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ABSTRACT

Since the beginning of time, fishing has been the most traditional and significant source of income for those who live along the country's shore. The purpose of the current investigation was to evaluate the socioeconomic circumstances and demographic traits of fishermen in West Bengal, India. A well-structured questionnaire was used for this cross-sectional study, which involved 1202 male fisherman from West Bengal's coastal regions. This entire study includes participants with an average age of 39.15±10.37 years; whereas majority of individuals are Hindu (97%). A higher percentage of the participants (21.8%) were illiterate and 31% completed the primary school education. Around 50% of them belonged to the BPL (Below Poverty Line) category. Around 90% of them had family members four or more whereas 63.39% of them had only one earning member. More over 80% had a monthly per capita income of less than INR 2000, with only 3.24% earning more than INR 2500. A considerable number of the participants (74.71%) did not have access to water and had to rely on public tube-well water for drinking. Around 11% of them did not have access to a latrine. More than 90% of the population under study consumed alcohol, whereas around half of the individuals (50.58%) had tobacco chewing habits. Based on the outcomes of the current study, it can be concluded that various interventions, such as health promotion activities and educational concerns, need to be addressed in order to especially target and enhance the occupational lifestyle of fisherman.

Keyword: Fishermen; Socio-economic status; Demographic characteristics; Livelihood

INTRODUCTION

Fish and fishery have been around us for as long of time. Fishery is an oldest human occupation and also contributes the employment, economics and food supply of coastal area. It is regarded as a critical source of employment that ensures the coastal population's livelihood.[1] From the aspect of productivity and economic growth, it is an important sector in most developing and developed countries across the world and it is also recognized that

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fisheries and aquaculture is the fastest-growing industries in the world wide.[2, 3] In 2020, worldwide fish production is expected to reach 174.6 million metric tons, up from 148.1 million metric tons in 2010.[4] India is the world's second-largest producer of fish, accounting for 7.56% of worldwide output and providing 1.24% of the Gross Value Added (GVA) of the country and over 7.28% of agricultural GVA.[5] India also holds the rank third in fisheries and second in aquaculture and generating 5.43% of world fish production.[6] Fishery in India has grown rapidly and India secured 7th position in the world as marine catch fish producing nation. [7] Approximately 1.07% of the total national GDP and 5.30% of agriculture GDP come from fishing in India. [8] Nowadays fisheries sector contributes significantly to the growth of the Indian economy by contributing to national income, job creation, economic and social growth for rural coastal communities, foreign currency earning and vital source of nutrition such as providing optimal protein intake.[9] Fishing sector remains in good position in India with which 14.5 million people are involved.[10] Otherwise, 60 million people indirectly engaged with fisheries activities for their livelihood.[11] But fishing is a low-paying job in India, exercised primarily by members of backward uneducated communities who are superstitious and impoverished.[12] The variations in living standard, earning capabilities, other facilities, unemployment and malnourishment are causes of the reduction of participate in fishing at rural areas through engagement of local people.[13] In India, traditional fishing communities near coastal areas in marine states are generally neglected, while interior fishermen's interests are largely ignored.[14] Their issues have become too serious due to climate change and lack of job opportunities.[15] In India 65% people make their survival and income from agricultural and fishing being one of the most common occupations among them.[9] Although fish productivity has increased over time but the economic situations of fishermen have not improved, as roughly 61% of fishermen households remain in the BPL category, with an average family size of 4.63 members.[16] According to Manimaran and Suriyan (2021), 81% of the bulk of the respondents able to make more than Rs 10000 per month while, 19% were able to earn less than Rs 10000 per month. [1] On such a little income, they couldn't keep up with their family's expenses. As a result, their income is not steady and they earn with lower profit margin, that's why they also engage in other activities such as 41% made money from a secondary source like fish vending, 28% from money lending, and 31% from selling fish nets at their stores besides fishing. This occupation also does not last the entire year so they move another job as well as fishing. [1, 16] According to Panigrahi and Bakshi (2014) 31.16% of fishermen were illiterate, 47.08% were medium educated or drop-outs, 16.25% were Madhyamik passed, and only 2.08% were studied until higher secondary level.[17] The main causes of poverty of fishermen are high family members, lack of personal fishing gears and lack of infrastructure. Sub-standard housing conditions, improper sanitation facilities, lack of drinking water, lack of duration of fishing all over the year are noticeable in their life.[16] As per report of a study, a family with two to four members accounted for 18.75%, a family of five to six members for 37.50%, and a family of seven or more members for 43.75% of the fishermen.[18] Due to the lack of Sanitation, regular water supply, drainage system, and sufficient toilet facilities are all factors that help diseases spread. Annadurai et al. (2018) showed that 17.1% of fishery workers smoked tobacco and 22.9% used smokeless tobacco and alcoholism affects 28% of.[19, 20] The purpose of this article is to make an attempt to learn more about the socio-economic status and demographic characteristics of the fishing community in coastal areas of West Bengal, India. This survey work also represents the standard of living of the respondents, in addition to many features of their day-to-day survivable conditions. Despite the fact that fishermen are very vital to the economy of our nation, there has been relatively little research on the socioeconomic and

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demographic circumstances of fishermen in West Bengal. In contrast, we believed that our current survey work would serve as a pillar of support for future research on the socioeconomic circumstances of fishermen. Furthermore, this study has attracted the attention of policymakers and government administrators in order to improve the living conditions of West Bengal's fishermen.

MATERIAL AND METHODS

Study design and data collection

The socio-demographic landscape of the West Bengali fishing community is represented here by the survey works that were conducted. This study was based on a field survey in which primary data were collected from selected samples of fishermen in the study area. The survey was carried out among fishermen in the Purba (East) Medinipur district of West Bengal, India. Purba (East) Midnapore is positioned between the latitudes of 22°057'10"N and 21°36'35"N, and the longitudes of 88°12'40"E and 86°33'50"E. Shankpur, Tajpur, Balisai Digha, Jaldha, and Petuaghat are the specific locations in Purba (East) Medinipur district that will be the focus of this research. A total number of 1202 (n= 1202) individuals are participated in this survey work.

The responses were collected from the fishers through personal investigation using a questionnaire designed with the assistance of some reliable studies in this field. [21, 22]

Prior to actually beginning the questionnaire, the participants were provided with a concise overview of the survey as well as its aspirations, the protocol for the survey, and even a guarantee of their privacy and confidentiality in their responses. The participants in the study did not receive any kind of financial reward for their involvement in the research. The study subjects provided their informed consent. The study's purpose was explained to the subjects, who were all included if they volunteered to participate. All aspects of the study were carried out in accordance with the recommendations made by the Institutional Ethics Committee (Human) at the University of Gour Banga in Malda, West Bengal, India (Approval no: UGB/IEC (Human)/0011-21).

The questionnaire contained three distinct sections all its own. In the first part of the questionnaire contain, personal basic information and anthropometric measurement of the participants. This included information about their age, weight, height, and health status, such as their BMI. In the second part of the questionnaire, respondents were asked 22 questions about various aspects of their demographic information, including their caste, marital status, level of poverty, level of education, family composition, housing condition, sanitation facilities, electricity facilities, work duration, economic status, use of fishing craft and gear, marketing system, and more. This investigation's final section focused on the participants' socioeconomic situation.

Statistical analysis

The entire study is carried out based on the response given by 1202 individuals. All of the variables were qualitatively evaluated and expressed as frequency (f) and percentage (%). To evaluate the socio economic status of participated fisherman’s the modified Kuppuswamy scale analysis was performed. Statistical studies were carried out using IBM SPSS version 20 and Microsoft Excel (2019) statistical software.

RESULTS

The study included 1202 people who were chosen based on their occupation and was concerned with the socioeconomic and demographic status of fishermen. This study looked at a number of qualitative and quantitative characteristics. The information was gathered to assess the raw metric values. Throughout the process of the investigation, it was revealed that

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the typical age of the fishermen who participated in the experiment was 39 years old. According to the findings of the study, the usual height and weight of the participants were approximately 164 cm and 62 kg respectively. The average body mass index (BMI), a measure of overall health, was 23 kg/m2 among the groups surveyed **(Table 1)**.

This study also shows that fishermen were came from various caste categories. Majority of fishermen was belonged to Scheduled Caste/Scheduled Tribe (SC/ST) category accounting 63.48% followed by Other Backward Class (OBC) category 4.99% and 30.78% was general category. This study also revealed that due to discontinue season of fishing, they have worked as a farmer, labour and others etc. Farmers account for 20.38% of the population, while labour and others account for 12.15% and 0.33% respectively. The survey was conducted to learn about the condition of living of fishermen, and it was noted that the fishing community has been below poverty level from generation to generation. It was found that a number of fishermen belong to BPL categories, accounting for 49.0% of respondents, while 51.0% of respondents are APL categories. Those individuals who were surveyed, among whom 21.8% of the respondents were illiterate and 31% had completed their primary school education. Hardly a few people had completed 6^{th} to 10^{th} (31.28%) and some had gone above 10^{th} standard (7.82%). Through this study it was also found 85.44% of fishermen are married, while 14.56% are unmarried. The family size of the fishers was divided into four classes based on the number of family members. In the first class, there are less than 4 members in each family, which accounts for 10.82%. The second one was composed of 4-5 family members, which was 65.56%, and the third and the last one was composed of 6-7 and more than 7 family members.18.89% and 4.74%have 6-7 members and more than 7 members respectively in their family. The information gathered from the fishermen revealed that about 63.39% of the families of fishermen had one earning member. Two earning members were in 33.53% of fishermen's families, and more than two earning members were in 3.08% of fishermen's families. Over 80% of fishermen had a monthly per capita income of less than Rs. 2000, while only 13.73% had a monthly per capita income of Rs. 2001-2500. 3.24% of the respondents earned more than Rs. 2500 per month. The study area is a Bay of Bengal coastline area. Water is sufficient, but they must depend on public tube wells for safe drinking water. Here about 74.71% of fishermen use tube-wells, whereas 25.29% of fishermen use submersibles to drink water. The study also revealed that most of the respondents have sanitary latrines in their houses under the rural development scheme and provision of subsidized installation of sanitary latrines. 10.82% of respondents are not using any sanitary latrine. They use an open field for latrines. 96.17% of respondents are enjoying the household electricity connection. The few of respondents live a long distance away from these facilities. Most of the fishermen (96.34%) go to primary health centre and block level health centers, and there are no health facilities for 3.66% of the fishermen nearby. The state of someone's housing an important component in determining their financial situation. The housing conditions of fishermen were classified into three groups, such as katcha, semi-pacca and pacca and the study found that 13.81% of the respondents had katcha housing conditions, whereas semi-pucca houses accounted for 30.28% of fishermen, and 55.91% of fishermen had pacca houses. The study showed that the fishers use various types of fishing vessels and gears. It was revealed that 99.67% of the individuals in the populations that were surveyed did not possess any kind of fishing craft of their own. So those fishermen have to depend upon a neighbor, a retailer, and a wholesaler of fishing equipment low income. It has been also noted that 93.01% of the respondent fishers are engaged in motorized gears while only 6.99% of the respondent fishers are using non- motorized gears. The fishing season is

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not steady in all year round, especially marine fishing. 1.66% of fishermen catch fish for seven months or less, and 21.8% of fishermen catch fish for 8 months of the year. Most of the fishermen (74.96%) involved in fishing for 9 months out of the year. The smallest proportion of fishermen (1.58%) engaged in fishing for 10 months or more. Fishermen face lengthy hours of continuous labor in a hazardous occupation. Working hours are shown in a 24-hour period in this study. In a 24-hour period, 4.83% of fishermen work 12 hours or less than that. The majority of fishermen (66.89%) work 13–16 hours per day, and 28.29% work 17 hours or more per day. It was reported during the study that 97% of fishermen was no health schemes and only 3% was having health insurance. Only 2.83% of fishermen visit a doctor for medical check-up, while 97.17% do not. The study also pointed out that 92.6% of fishermen consumed alcohol, 43.09% of them smoked, 50.58% and 27.12% were tobacco and betel leaf chewers, respectively. Approximately 19.3% of fishermen have been addicted for less than 10 years and 40.85% fall into these type of addictions between the duration of 10-20 years; whereas interestingly 26.04% and 11.81% of fishermen were found addicted for a long time respectively 21-30 years and more than 30 years **(Table 2**).

As per outcomes of the modified Kuppuswamy Scale, it was observed that the vast majority of the populations that were investigated (93.51%) socioeconomically belong to the middle class. Intriguingly, it was revealed that the upper class socioeconomic position had far higher Kuppuswamy Scale scores (>25) than the other socioeconomic groups under study. Followed by this higher score, only 1.08% of individuals are found in the upper middle class category **(Table 3)**.

DISCUSSION

There are a number of elements that can have an effect on the socioeconomic standing of an individual or society. The current research focuses on the socioeconomic profile and demographic profile of the population. The study's most active fishing age group was those between the ages of 39 and 50. These kinds of reports were identified, which had a good correlation with our observation regarding the most productive age group of fishermen.[23] According to Kalita and Deka (2015), the majority of people (37.5%) involved in fishing are between the ages of 41 and 50 in Assam, India. [23] From another similar kind of study it was reported that young and potent age group of fishermen. This prior study also suggested various religions are involved in the occupation of fishing but the majority of individuals are belongs to the backward classes.[14,16] Based on the result obtained of the CMFRI census in 2010, there were 75.47% Hindu fishermen families, 15.21% Christian fishermen families, and 9.28% Muslim fishermen families across the entirety of India. However, interestingly enough, none of the Christian fishermen were found among the total population that was investigated in our study. The present study indicates that the majority of fishermen (63.48%) belong to the SC/ST category, which was followed by the OBC category (4.9%) and the general category (30.78%). Sharma et al. (2018) also reveals almost the same finding, which is that the numbers of individuals in the ST/SC category, OBC category, and general category were respectively 55%, 35%, and 10% in Amethi district, Uttar Pradesh, India.[24] As just a matter of fact of the fishing season being shuttered, fishermen have to find other ways to make a living, including working as farmers, labourers, and in a variety of other occupations. The majority of the people in our participants who were asked about their temporary jobs listed farming (20.38%), manual labour (12.15%), or another occupation (0.33%) as their primary source of income in the off season of fishing. A previous research report also brought

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attention to this phenomenon of fisherman's life in relation to the cessation of fishing among the population that was under study in West Bengal, India.[25]

A lack of education is equivalent to disregarding the need to take preventive actions.[26] Despite this, education is the primary requirement for holistic development in order to combat social injustice and a lack of technical and economic information about their line of work.[14] Due to their being illiterate, fishermen have a greater risk of being taken advantage of by brokers or moneylenders.[27] The average literacy rate of fisherman in our study population is 21.80%, while the overall literacy rate of the Purba Medinipur district is 87.02%.[28]

The composition of the family, in terms of both size and number of members, is an essential component in socioeconomic analysis since it has an impact on factors such as household income, educational attainment, health and nutritional standing, the quality of housing, and living standards. Several studies have shown that a significant portion of the population is part of the fishing community.[18, 23] According to this current study, the majority of families (65.56%) consisted of 4-5 people, while 23.04% belonged to families with 6–7 of the people. While 10.82% of fisherman have families of fewer than four people, 65.56% have 4-5 people, 18.89% have 6-7 people, and the lowest percentage, 4.74%, have more than seven people.

Present study reveals that more than 80% of the fishermen had monthly per capita income less than Rs. 2000. The level of income of fishermen is way below the national average income (149,848) published by Indian government in 2021-2022. They spend their whole lives in risk and they far away from refreshment. Their social status is also very low. Their occupation is backward in social system. The present finding is more or less similar to the previous studies where they show the annual income of subsistence fishermen (93%) varies from INR 1501 to 6000.[2] Economic status is boosted by the number of earning member. Large family size but less earnings member of fishermen causes economically backward. In this study, large portion of fishermen family (63%) was under one earning member and finding is less earning member.[2] The source of drinking water is a critical determinant and is strongly correlated to the health status of individuals. Study area is a coastal area of Bay of Bengal. There is sufficient of water but they depend on public tube-wells for hygienic drinking water.[2] Most of the respondents is having sanitary latrine in their house with under rural development scheme and provision of subsidized installation of sanitary latrine. 10.82% respondents are not using any sanitary latrine. They use open field for latrine. 96.17% of respondents are enjoying the household electricity connection. Least respondents are far away from these facilities. Another essential component of an individual's socioeconomic standing is their current state of health. The availability of health plans and medical checkups is a pipe dream for them because they lack adequate medical facilities, as well as inadequate sanitation and drinking water amenities. A significant number of fishermen do not participate in health plans or have regular medical examinations. They rely on the government-run main health centre or the health centre at the block level for assistance with their medical issues. Housing condition is the vital factors to evaluate the economic status.[16] It has been demonstrated that 13.81% of the respondent's house is in katcha condition, while 30.28% is in semi-pucca condition. Housing in Pucca accounted for 55.91%. The majority of Pacca house was constructed with financial assistance from the government.
The majority of the fishermen who participated in this study were involved in maritime fishing, which is why this study focused on their interests in motorization vessels and gear.

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Only in rivers and areas of shallower water in the ocean do fishermen utilise traditional fishing gear and nets. Only 0.33% of the respondent fishers are having their own vessel and 99.67% are having no vessel of their own. It has been noted that 93.01% of the respondent fishers are engaged in motorized gears while only 6.99% of respondent fishers are using non-motorized gears. An earlier survey found that just 16% of vessels are privately owned, 25% are jointly owned, and 59% are on the leasing system.[9]

Fishing seasons is not steady in all over year especially marine fishing. In spite, fishermen have prolonged hours of continuous work in a hazardous occupation.[16] This study lists the working hours during a 24-hour period. 4.83% of fishermen work less than 12 hours per day. The majority of fisherman (66.89%) work 13 to 16 hours per day, and 28.29% work less than 17 hours per day. Long-term employment can cause physiological exhaustion, psychological stress, and other factors that increase the risk of falling, illnesses, and fatal accidents from heavy machinery accidents.

Present study revealed that habits of fishermen were 92.6% goes to alcoholic and 43.09% goes to smoking. This study also pointed out that among the fisheries 50.58% were tobacco chewer and 27.12% betel leaf chewer. It is also noted that long duration (10-30 years) of addiction. Alcohol consumed in trawler in deep sea may lead to accident. In other study found that among the fishermen community 86% get addicted to drinking and smoking habits (liquor and tobacco).[9] In the Turkish study, 68% of the fishermen consumed alcohol which is low from our study.[29]

CONCLUSION

With increased knowledge of the socioeconomic and demographic circumstances of fishermen, better decisions regarding fishing policy needed to be made. The current study investigates a wide range of questions concerning the socioeconomic and demographic standing of coastal fishermen in the district of West Bengal. The study makes clear that the socioeconomic status of the fisherman in the study region is middle class. They were only partially participating in the catching of fish because the fishing season had been shortened and fish production had decreased. Even though the fishermen in the area studied had alternative to other occupations, their living conditions have not improved, and they continue to battle for survival. When it comes to the economics of emerging countries, the fishing industry is a bright spot. In contrast, their living conditions, housing conditions, poverty level, educational status, and economic standing are all at deplorable levels. For the sake of their own safety on the water, fishermen should be strongly encouraged to abstain from drinking alcohol, quit smoking, and increase the amount of fruits and vegetables they consume.

Ethical approval

The design of the study was given clearance by the Institutional Ethics Committee (Human) of the University of Gour Banga, Malda, West Bengal, India. The approval was given under the number UGB/IEC (Human)/0011-21.

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Declaration of competing interest

Authors have no conflicts of interests.

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REFERENCE

1. Manimaran, S., and Suriyan, K. (2021). A Study on Socio-Economic Condition on Fishermen in Cuddlore District. *The Journal of Indian Arts History Congress*, 26: 78-83.
2. Mathew, M.J., and Joseph, R. (2020). Socio-economic status of fishermen community in Kerala. *EPRA International Journal of Economic and Business Review*, 8(12): 2347 – 9671.
3. Tacon, A.G. (2020) Trends in global aquaculture and aquafeed production: 2000–2017. *Reviews in Fisheries Science & Aquaculture*, 28(1): 43-56. https://doi.org/10.1080/23308249.2019.1649634
4. https://www.statista.com/statistics/264577/totalworldfishproductionsince2002/#:~:text=The%20volume%20of%20global%20fish,million%20metric%20tons%20in%202010.Fish Production worldwide 2002-2021 (Accessed on 12th September 2022).
5. Year Ender review 2021 on highlight key Initiatives and achievements pertains to Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying for the year 2021. https://pib.gov.in/PressReleasePage.aspx?PRID=1786303. (Accessed on 12th September 2022).
6. Rajani, M., and Balasubramanian, A. (2021). R-Software for the Assessment of Structural Changes in Fisheries Production of Andhra Pradesh and Tamil Nadu for Indian GDP. *International Journal of Bio-Resource & Stress Management*, 12(6). https://doi.org/10.23910/1.2021.2582
7. Rao, G.S., Sathianandan, T.V., Kuriakose, S., Mini, K.G., Najmudeen, T.M., Jayasankar, J., and Mathew, W.T. (2016). Demographic and socio-economic changes in the coastal fishing community of India. *Indian Journal of Fisheries*, 63(4): 1-9. http://eprints.cmfri.org.in/id/eprint/11406
8. Ngasotter, S., Panda, S.P., Mohanty, U., Akter, S., Mukherjee, S., Waikhom, D., and Devi, L.S. (2020). Current scenario of fisheries and aquaculture in India with special reference to Odisha: A review on its status, issues and prospects for sustainable development. *International Journal of Bio-Resource & Stress Management*, 11(4):370-380. https://doi.org/10.23910/1.2020.2126a
9. Prabhavathi, K., and Krishna, P.V. (2017). Socio-economic conditions of fishermen community in some selected areas of Nizampatnam area, Guntur district, Andhra Pradesh. *International Journal of Zoological Studies*, 2(5):212-215.
10. Lauria, V., Das, I., Hazra, S., Cazcarro, I., Arto, I., Kay, S., Ofori-Danson, P., Ahmed, M., Hossain, M.A., Barange, M., and Fernandes, J.A. (2018). Importance of fisheries for food security across three climate change vulnerable deltas. *Science of the Total Environment*, 640: 1566-1577. https://doi.org/10.1016/j.scitotenv.2018.06.011
11. Bhargavi, K., Chirwatkar, B.B., Das, A., Behera, S., and Bhakta D. (2020). Socio-economic status of fisherwomen community in coastal Vizianagaram district of Andhra Pradesh, India. *Journal of Fisheries*, 8(1):741–745. https://doi.org/10.17017/j.fish.10
12. Bhaumik, U., Vettal IC, Das P and Paria T. (2005). Some socio-economic aspects of the fishermen of twin pronged floodplain wetlands in West Bengal. *Journal of Indian Fisheries Association*, 32: 119-133. http://hdl.handle.net/1834/33308
13. Datta, S.K., and Kundu, R. (2007). Socio-economic appraisal of culture based fishermen: Case study in West Bengal. *Journal of Social Sciences*, 15(3):255-262. https://doi.org/10.1080/09718923.2007.11892590

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 8, Dec 2022

14. Sheikh, S., and Goswami, M.M. (2013). Socio-economic condition of fishers of Chandakhola wetland, Dhubri, Assam, India. *Bulletin of Environment, Pharmacology and Life Sciences*, 3(1):257-261.
15. Antony, M (2011). Communication parameters in the marine fisheries sector of Kerala (Doctoral dissertation, Ph. D. Thesis submitted to the Cochin University of Science and Technology, Kochi, Kerala, India), 2011.
16. Rahaman, S.N., Samanta, S., Banerjee, J., Dash, S.K., Giri, B., Das, S., Ali, K.M., Mondal, B. (2021). Socio-demographic profile, nutritional and health status of fishermen: A Review. *Bangladesh Journal of Medical Science*, 20(4):707-13. https://doi.org/10.3329/bjms.v20i4.54124
17. Panigrahi, A.K., Bakshi, A.V. (2014). A study on profile of fishing community of the river side villages of river Churni, Nadia, West Bengal with special reference to socio-economic and technological appraisal of fishermen. *International Journal of Research in Applied, Natural and Social Sciences*, 2(3):97-102.
18. Kumar, D., Mehta, R., Yadav, R., Kumar, S., and Kumar, M. (2018). Studies on fisheries status and socio-economic conditions of fisher community in Dholi region, Muzaffarpur, Bihar, India. *Journal of Entomology Zoology Studies*, 6(3):76-80.
19. Annadurai, K., Balan, N., and Ranaganathan K (2018). Non-communicable disease risk factor profile among fishermen community of Kancheepuram district, Tamil Nadu: A cross sectional study. International Journal of Community Medicine and Public Health, 5(2):708-13. http://dx.doi.org/10.18203/2394-6040.ijcmph20180255
20. Mutalik, A.V., Bhosale, S.B., Pawar, A.T. (2017). Risk assessment of type 2 diabetes mellitus among fisherman community in Beypore area of Kozhikode. *International Journal of Community Medicine and Public Health*, 4(9):3196. http://dx.doi.org/10.18203/2394-6040.ijcmph20173629
21. Mathew, J.M., and Joseph. R. (2020). Socio-economic status of fishermen community in Kerala. *EPRA International Journal of Economic and Business Review*, 8(12): 1-11. https://doi.org/10.36713/epra5867
22. Goswami, M., Sathiadhas, R., Goswami, U.C. & Ojha, S.N. (2002). Socio-economic dimension of fish farming in Assam. *Journal of the Indian Fishery Association*, 29: 103-110
23. Kalita, P., Deka, P. (2015). Socio-Economic condition and livelihood status of Fisher around the landing sites of Motapung-Maguri Beel of Tinsukia District of Assam, India. *India International Journal of Fisheries and Aquatic Studies*, 3(2):55-57.
24. Sharma, S., Kumar, R., Kumar, M., Gupta, S., Maurya, P.K., and Singh, P. (2018). A study on socio-economic status of fishermen of Amethi district, Uttar Pradesh, India. *International Journal of Fisheries and Aquatic Studies*, 6(4):49-54.
25. Bhuyan, S. and Islam, S. (2016). Present status of socioeconomic conditions of the fishing community of the Meghna river adjacent to Narsingdi district. *Bangladesh Journal of Fisheries Livestock Production*, 4:192.doi:10.4172/2332-2608. 1000192
26. Frantzeskou, E., Jensen, O., and Linos. A. (2014). Prevalence of Health Risk Factors among Fishermen – A Review. *Occupational Medicine and Health Affairs*. 2(157). https://doi.org/10.4172/2329-6879.1000157
27. Bhaumik, U., Pandit, P.K. (1991). Socio-economic status of fishermen in some beels of West Bengal. *Environmental Ecology*, (3):600-603.
28. Census, 2011. https://censusindia.gov.in/census.website/data/population-finder. (Government of India)

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29. Percin, F., Akyol, O., Davas, A, and Saygi, H. (2012). Occupational health of Turkish Aegean small-scale fishermen. *Occupational Medicine (London)*, 62: 148-151.

Table 1: The physical characteristics of the fishermen (n = 1202)	
Variables	Mean±SD
Age (years)	39.15±10.37
Weight (kg)	61.94±9.66
Height (cm)	163.83±5.91
BMI (kg/m^2)	23.04±3.11

Table 2: Socio-demographic characteristics of the fishermen (n = 1202)

Variables	Category	f (%)
Religion	Hindu	1173 (97.59)
	Muslim	29 (2.41)
Caste	General	370 (30.78)
	OBC	60 (4.99)
	SC/ST	763 (63.48)
Allied occupation	Farmer	245 (20.38)
	Labour	146 (12.15)
	Other	4 (0.33)
APL/BPL	APL	613 (51.0)
	BPL	589 (49.0)
Year of Education	Illiterate	262 (21.8)
	1-5 years	376 (31.28)
	6-10 years	470 (39.1)
	>10 years	94 (7.82)
Marital status	Yes	1027 (85.44)
	No	175 (14.56)
Family members	<4	130 (10.82)
	4-5	788 (65.56)
	6-7	227 (18.89)
	>7	57 (4.74)
Earning members	One	762 (63.39)
	Two	403 (33.53)
	More than two	37 (3.08)
Per capita Income	INR <1000	62 (5.16)
	INR 1000-1500	518 (43.09)
	INR 1501-2000	418 (34.78)
	INR 2001-2500	165 (13.73)
	INR >2500	39 (3.24)
Source of drinking water	Submersible	304 (25.29)
	Tube well	898 (74.71)

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Sanitation Facilities	No	130 (10.82)
	Yes	1072 (89.18)
Electricity facilities	No	46 (3.83)
	Yes	1156 (96.17)
Health facilities	No	44 (3.66)
	Yes	1158 (96.34)
Types of housing	Katcha	166 (13.81)
	Semi-pacca	364 (30.28)
	Pacca	672 (55.91)
Fishing vessels types	Non motor	84 (6.99)
	Motor	1118 (93.01)
Owner of Vessels	No	1198 (99.67)
	Yes	4 (0.33)
Fishing duration in month of a year	≤7 months	20 (1.66)
	8 months	262 (21.8)
	9 months	901 (74.96)
	≥10 months	19 (1.58)
Working hours in 24 hours	≤12 hours	58 (4.83)
	13-16 hours	804 (66.89)
	≥17 hours	340 (28.29)
Availability of health schemes	No	1166 (97.0)
	Yes	36 (3.0)
Medical check up	No	1168 (97.17)
	Yes	34 (2.83)
Addiction habit	Alcoholic	1113 (92.6)
	Smoking	518 (43.09)
	Tobacco chewing	608 (50.58)
	Betel leaf chewing	326 (27.12)
Duration of addiction habit	<10 years	236 (19.63)
	10-20 years	491 (40.85)
	21-30 years	313 (26.04)
	>30 years	142 (11.81)

Table 3: Socioeconomic status of the fishermen according to the modified Kuppuswamy Scale

Socioeconomic Status Class	Score	f (%)
Upper Class	>25	-
Upper Middle Class	16-25	13 (1.08)
Middle Class	11-15	1124 (93.51)
Lower Middle Class	5-10	65 (5.41)
Lower Class	<5	-