SOCIO-ECONOMIC STATUS OF FISHERS OF RIVER GANGA

ICAR-Central Inland Fisheries Research Institute
Barrackpore, Kolkata – 700 120

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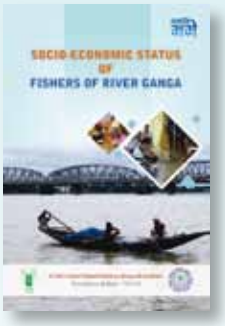

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PREFACE

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Fish and fishery resources of Ganga River provide enormous ecosystem services to a large number of fishermen families and the relation of fishers with riverine fisheries have been recognized widely. The fisheries of Ganga provide income, as well as nutritional security, is a matter. The decline in hydrological and ecological conditions of river Ganga is a matter of great concern. For the last few decades, the fisheries of Ganga River have declined very rapidly due to pollution, siltation, overexploitation, use of destructing fishing gear and other anthropogenic activities and this situation leads a negative impact on the daily livelihood of fishermen communities along the river.

This publication entitled 'Socio-economic Status of Fishers of River Ganga' attempts to throw light on the present status of the socio-economic condition of fishermen and several issues related to the fishing activities of Ganga river system. A number of 3795 fishing villages (based on GIS mapping) covering five states and 47 districts were observed along Ganga stretches. A survey was conducted across the lower, middle and upper stretch of the River Ganga in 24 selected districts and 4 states namely Uttarakhand, Uttar Pradesh, Bihar and West Bengal. Overall 141 villages were surveyed and a total of 1059 fishermen were interviewed to understand the present scenario of the socio-economic situation of fishers. The study describes the details of educational level, household pattern, job opportunity, involvement in fishing, income generation, and trend of fisheries and livelihood pattern of fisherman communities at Ganga River stretch. The document study will be helpful for the researchers, students and policymakers as it reveals the real picture of the Ganga river fishermen who happens to be one of the neglected communities of our country.

(B. K. Das)

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सत्यमेव जयते

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन,
नदी विकास और गंगा संरक्षण विभाग
GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION

FOREWARD

In India the Fisheries sector occupies a very significant role and contributes to the socio-economic development in the country. Besides being an important employment generator, by stimulating growth in a number of subsidiary industries, the Fisheries sector is also a source of cheap protein for the vast population of the country. There is a direct relationship between conservation of natural resources as well as the livelihood of the fishers. Healthy and thriving fishery is indicative of improving health and rejuvenation of river and is also important for energizing economic activity along Ganga, thus fulfilling the aim of linking economic development with Ganga conservation under Arth Ganga.

For long, the Ganga fisheries have been declining due to several natural and man-made factors and the obvious sufferers are fishers as they depend on the fisheries resources of Ganga. This impacts the social, cultural and economic growth of fishermen which directly affect their daily livelihood, as the fishermen belong to economically weaker sections and are unable to deal with the situation. There is an urgent need to address the problems of the fishermen to improve the socio-economic status of the fishing community to make it a vibrant sector in the contribution to the state economy.

This publication entitled **'Socio-economic Status of Fishers of River Ganga'** describes the issues related to socio-economic condition of fishermen of the entire Ganga river stretch. This is a culmination of a two year-long scientific study undertaken systematically to understand the present socio-economic status of fishers. The study gives detailed information about literacy, occupational pattern, fishing experience, income, the trend of fish catch, gear and craft operation as well as living standards of fishermen communities along the Ganga river stretch. The study also throws light on hilsa fishery along with the socio-economic condition of fishers specially involved in hilsa fishing at the lower stretch of Ganga. I am sure the findings of the researchers and scientists will help to identify the constraints and the way forward to realize the potential of the fishery industry.

Rajiv Ranjan Mishra

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Introduction

The Ganga basin is recognized as one of the most populated river basins in the world and nurture vast biodiversity. A significant number of fisher populations depend on fisheries of river Ganga to sustain their daily livelihood and nutritional security. According to Govt. of India Census (2011) report, the rich riverine ecosystem of Ganga supports around 2.82 million fisherfolk population. The Ganga river system has been experienced of habitat degradation of fish fauna due to several anthropogenic activities which may leads to rapid biodiversity loss including fish stock declination (Sarkar et al. 2012).

Fish along with fisheries resources provide an important role in improving social and economic status, besides generating employment opportunities (Akther et al. 2017). Fishing is considered as main occupation of fishers and contributes approximate 70% of total income of family in Bhagirathi-Hooghly stretch of river Ganga (Pandit et al. 2019). Livelihoods define the way of lifestyle which allows the people to live according to their needs through different activities (FAO, 2007). The studies on diversification of livelihood from a different country like Nigeria (Adeleke et al. 2013), Brazil (Giesbrecht, 2011), Bangladesh (Akther et al. 2017) indicate the issues related to artisanal fisheries and the economic vulnerability of small scale fishers. Insufficient information regarding social, cultural and economical aspects leads to a serious issue related to social as well as economical conditon for the weaker section of fisher and creates difficulties in the improvement of their daily livelihood. By studying both the social and economic aspects of communities, we can manage fisheries and protect species in a way that works best for everyone. Economic and socio-cultural analyses help managers evaluate the benefits and costs of different activities, prioritize needs, and encourage policies that maximize societal benefits from natural resources. The present study described in details of educational level, household pattern, job opportunity, involvement in fishing, fishing experience, income generation, trend of fisheries and livelihood pattern of fisherman communities at Ganga River stretch. The present study also focused on social and economical aspects of fishers of river Ganga as well as fisherman involved in hilsa fishing at the lower stretch of Ganga.

Methodology

The ICAR-CIFRI conducted this economic and socio-cultural research on the communities that depend on river Ganga resources.

Sampling Methodology

Focus-group discussion, community meetings were conducted to collect

general information. A semi-structured interview schedule was developed and was used to collect data related to socio-personal and socioeconomic variables and the data thus obtained were statistically analyzed. The distribution of sampling stations and the sample size is described in Table 2.

Survey Period

The survey was conducted during September, 2017 to December, 2019. The present survey was planned to study the social, cultural and economic aspects of the fishermen community, specifically those involved in fishing activities in river Ganga. Semi-structured schedules were prepared and finalized after pretesting in some nearby villages.

Targeted Variables and their measurements

Table 1. Variables & Their Measurements

Sl. No.	Variables	Measurements
A	Socio-economic & Personal variables	
1	Age	Direct questioning
2	Education	Direct questioning
3	Occupation	Direct questioning
4	Family size and Family Type	Direct questioning
5	Experience in Fishing	Direct questioning
7	Family income	Direct questioning and schedule developed
8	Social participation	Schedule developed

Study Area Coverage

A significant number of fisher populations depend on fisheries of river Ganga to sustain their daily livelihood and nutritional security. Based on GSI information the total number of fishing villages in the Ganga river stretch is 3795 which covers five states and 47 districts. The study was conducted across the lower, middle and upper stretch of the River Ganga in 24 selected districts from Uttarakhand to West Bengal (Fig. 1). Overall 141 villages were surveyed and a total of 1059 fishermen were interviewed during the survey (Table 2). A combination of direct observation, household surveys with semi-structured interview schedule, focused group discussion with key informants (community leaders and resource users); and data collected from secondary sources, such as state-wise fisher's population censuses (fig. 2) and fisheries records, were used to gather information and triangulate results.

Table 2. State-wise sampling station at Ganga river stretch

River Stretch	State	Station	Sample size
Upper stretch	Uttarakhand, Uttar Pradesh	Roorkee, Haridwar, Bijnor, Bulandsahar, Amroha	53
Middle stretch	Uttar Pradesh, Bihar, West Bengal	Farrukhabad, Kanauj, Kanpur, Kaushambi, Fatehpur Varanasi, Mirzapur, Prayagraj, Buxar, Patna, Bhagalpur	561
Lower stretch	West Bengal	Farakka, Murshidabad, Behrampore, Jangipur, Rejinagar, Jiaganj, Balagarh, Nabadwip, Swarupganj, Bally, D. Harbour, Godakhali, Fraserganj	446

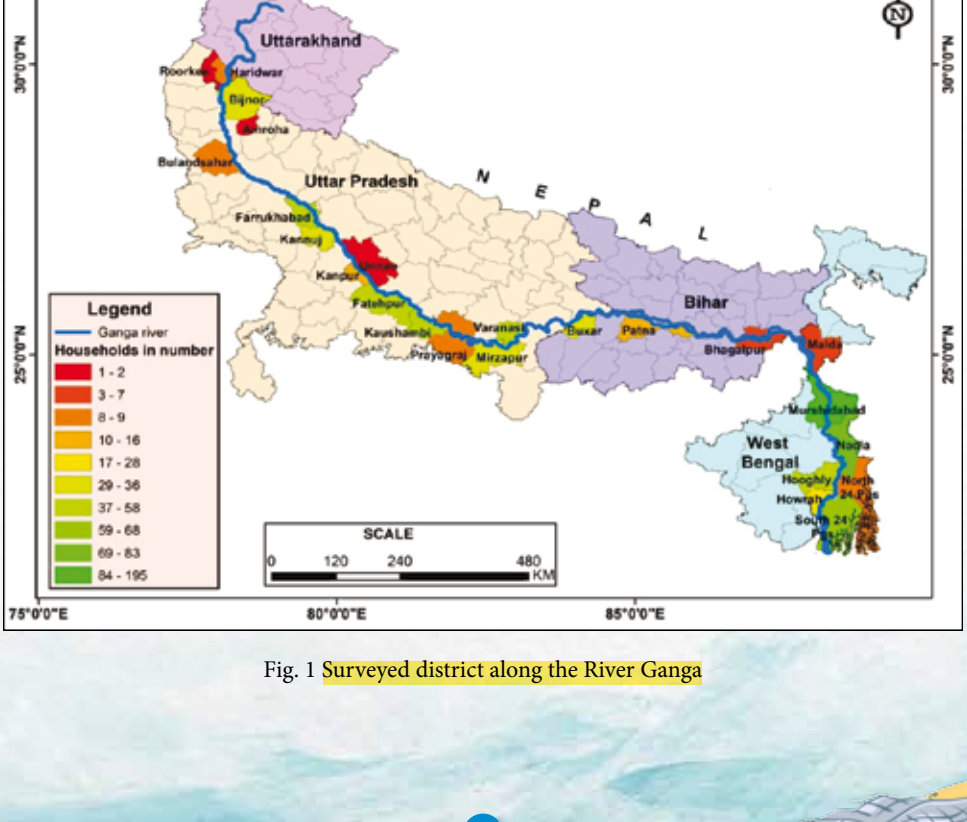


Fig. 1 Surveyed district along the River Ganga

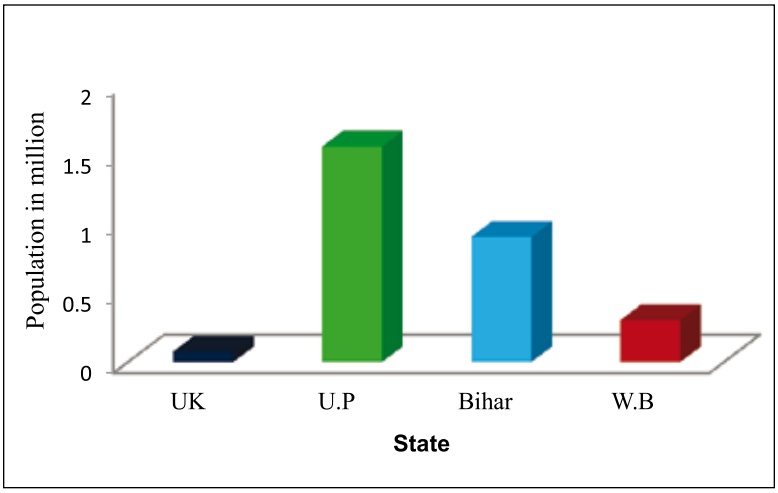


Fig. 2. Fisher's population along river Ganga (Source: Govt. of India Census report, 2011)

Demographic Characteristics

Table 3. Summary of Socio-economic Status of Fishers in Lower, Middle and Upper stretches

Sl. No	Variables	Lower Stretch	Middle stretch	Upper stretch
1.	Average age	44.06	43.67	49.20
2.	Average years of education	3.17	3.55	1.47
3.	Average no of members in a family	6.15	7.9	7.09
4.	Average no male members in a family	2.56	3.16	2.63
5.	Average no of female members in a family	2.23	3.38	3.47
6.	Average no of children below 10 years in a family	1.67	1.71	1.37
7.	Average no of earning members in a family	1.86	2.24	1.1
8.	Average no of years in the fishing	29.04	24.48	29.97
9.	Average income of fisherman	Rs. 7283	Rs. 5866	Rs. 4345

Age Structure of Fishermen

The average age of fishermen in lower, middle and upper stretch of the river was found to be 44.06, 43.67 and 49.20, respectively. In all the stretches maximum percentage of fishermen fell in the category of 40 to 50 years of age (Fig. 3). Extent of youth (15 to 30 years of age) participation was less in all the three stretches with least youth participation found in the upper stretch. Uncertainty of income from riverine fishery may be the main reason behind it.

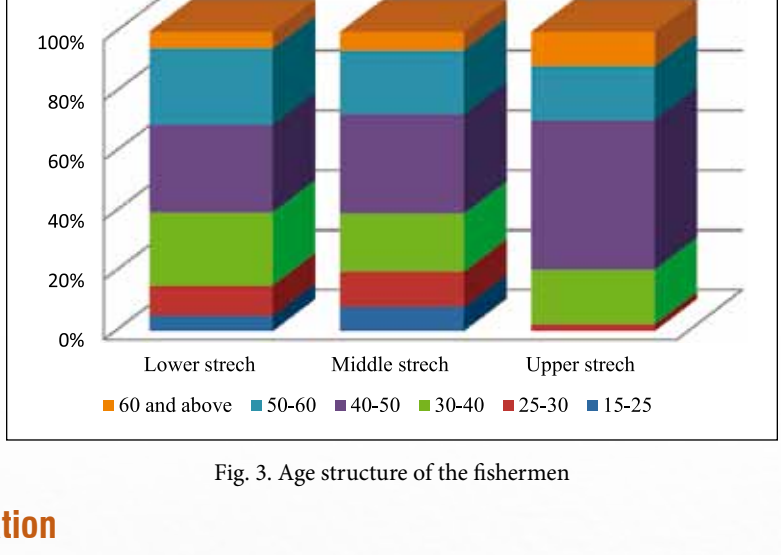


Fig. 3. Age structure of the fishermen

Education

The average years of education received by the fishermen were 3.17 years, 3.55 years and 1.47 years respectively in lower, middle and upper stretch of the

Fig.4. Education level of the fishermen

river. About, 36.21%, 37.3% and 67.44% of fishermen belonged to the category of illiterate in lower, middle and upper stretch respectively (Fig. 4). Around 21% of respondents were just literate in the upper stretch while in middle and lower stretch around 25% and 23% respondents respectively were found to have attended high school. Only in middle stretch three respondents were found to be graduates.

Fishing Experience

Fishing experience indicates the degree of association of the fishermen with the fishery. On average, fishermen of lower, middle and upper stretch had 29.04, 24.48 and 29.97 years of fishing experience. The maximum proportion in lower and upper stretch had 21 to 30 years of experience while for the middle stretch the highest proportion of fishermen had 11 to 20 years of experience (Fig. 5.)

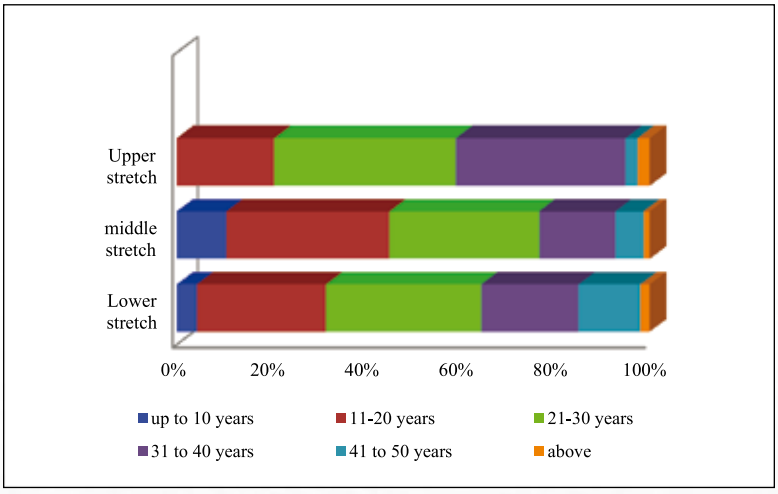


Fig. 5. Years of fishing experience

Income

Average monthly incomes of the fishermen were Rs. 7283, Rs. 5866, and Rs. 4345 in lower, middle and upper of the river, respectively. In upper stretch, all of the respondents stated to have income in the range of Rs. 0 to Rs. 5000 per month. Majority of the respondents in the middle and lower stretch reported to have monthly income in the range of Rs. 2000 to Rs. 6000 and Rs. 3000 to Rs. 12000 respectively (Fig. 6). Average monthly incomes of fishers were analysed in district wise (Fig. 7).

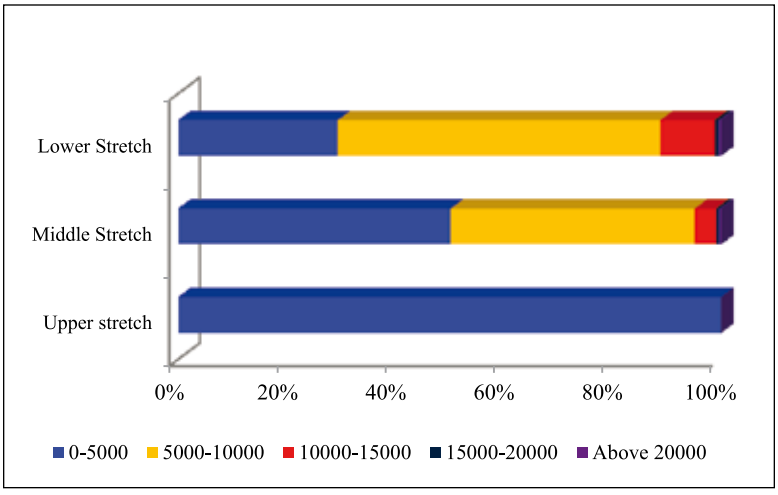


Fig. 6. Monthly income of fishermen

Income from fishing activities were estimated Rs. 243, Rs. 196 and Rs. 145 per day per fisherman from lower, middle and upper of the river, respectively. Whereas, income from river fishing was reported as Rs. 40.03 per day per fisherman at the Bihar and Uttar Pradesh stretch of river Ganga (Tyagi, 2009). From the above mentioned study, it is observed the income from middle stretch of Ganga has been increased by Rs. 155.97 over a decadal period.

Fig.7. Average monthly Income of fishers District wise at Ganga River Stretch

Fishing Gear wise Income

Income from different fishing gear along Ganga river stretch was estimated during the study. Major portion of income has been contributed from gill net (51%) followed by seine net (17%). Other major gears were like meen jaal, hook and line, bag net and miscellaneous gear also contributed in income of fishers of entire river stretch.

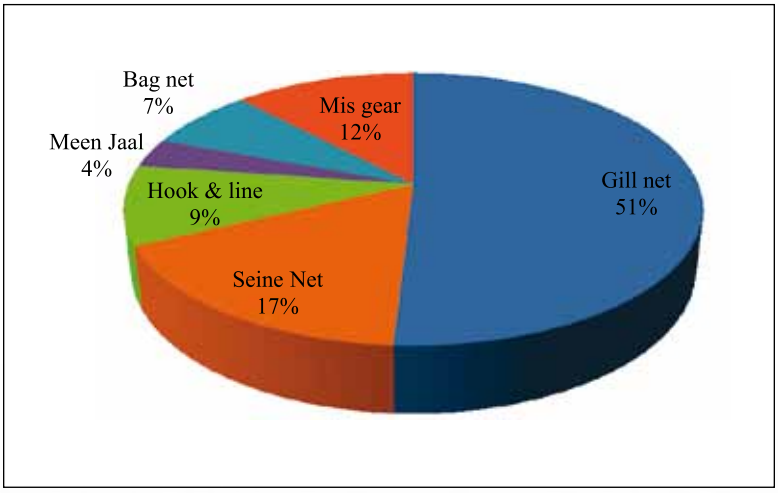


Fig. 8 Fishing Gear wise Income per month

Occupational Pattern

Fishery is the primary occupation of the respondents. But, income is uncertain and seasonal in nature. In lower stretch 23.33% fishermen dependent on various types of work for earning additional money for their family. Most of the fishermen (25%) had fish selling as their secondary occupation followed by agricultural labourer (17.8%), other labour work (10.7%) and driving (10.7%) (Fig.8). In middle stretch (Fig.9), 29.37% fishermen had secondary sources of income. Most of the fishermen were associated in labour work (41%) followed by spawn collection (16%) and agriculture (7.44%). In upper stretch (Fig. 10), 85% fisherman engaged with daily labour activities followed by 9% in different agricultural activities and 6% in small business.

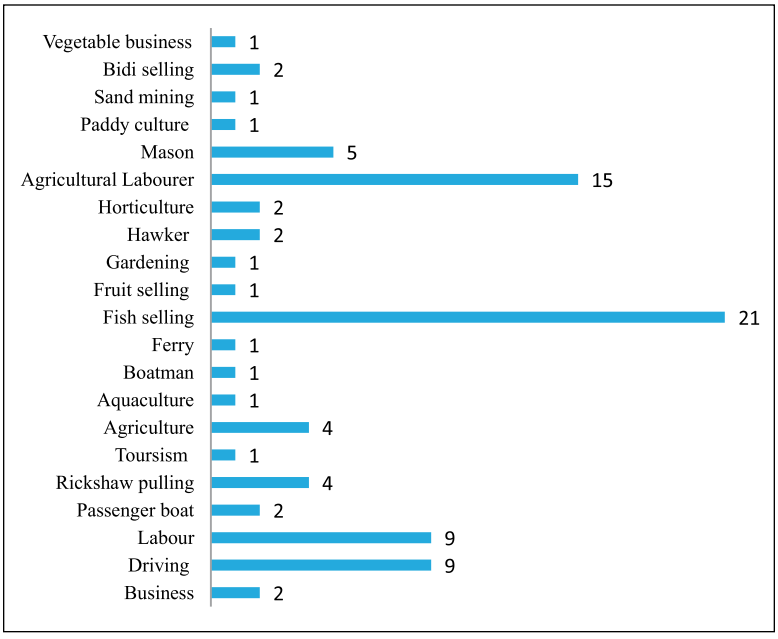


Fig. 9. Secondary Occupation of Fishermen at Lower Stretch (%)

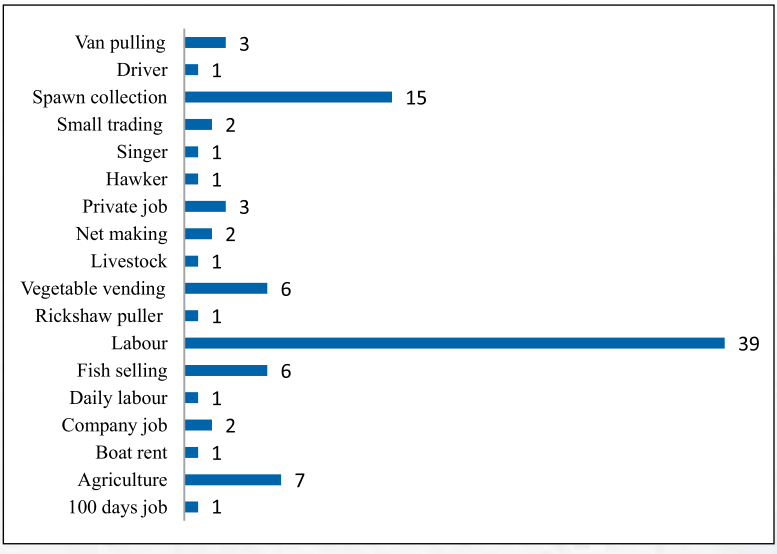


Fig. 10. Secondary Occupation of fishermen of Middle Stretch (%)

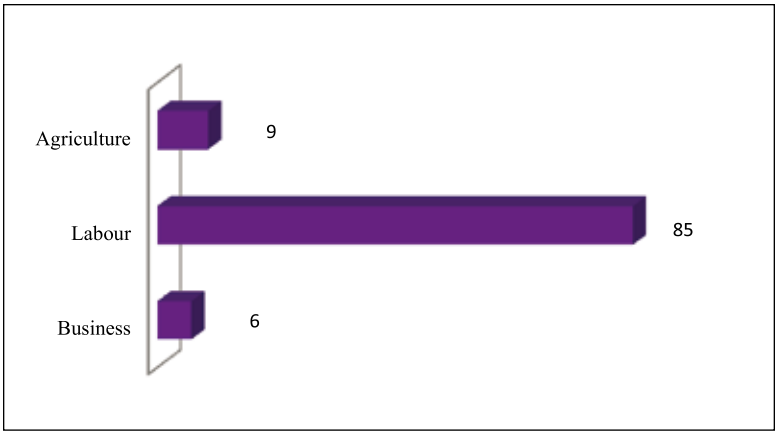


Fig 11. Secondary occupation of fishermen of Upper Stretch (%)

Fishing Gear Operation in River Ganga

Different type of fishing gear is operated at entire stretches of river Ganga. The operation depends on various aspects like targeted fishing group, water depth, tidal flow, etc. but the multispecies gear is most prevalent in middle and lower stretches of Ganga (Fig. 11). Hook and line is the most popular technique used in Uttarakhand where no other fishing gear was observed during the present study.

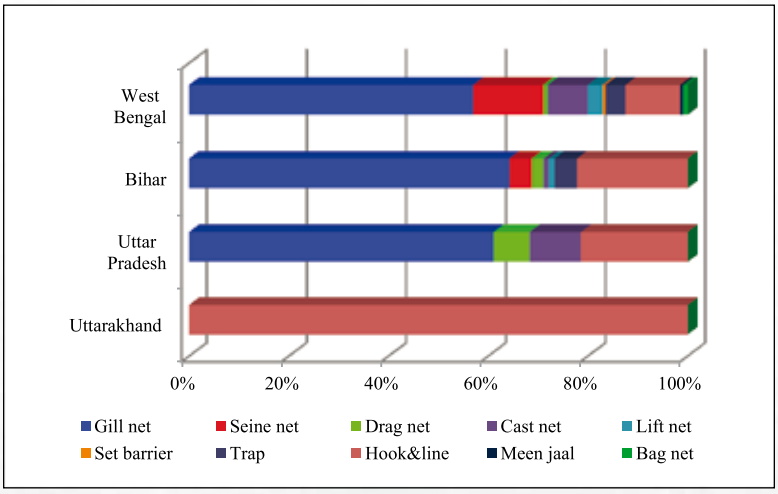


Fig. 12. State-wise Fishing Gear Profiling on River Ganga

Gillnet, dragnet, cast net and hook & line were observed in Uttar Pradesh and Bihar along with seine net. Different types of traps were also operated in the Bihar stretch of river Ganga. Several types of fishing gear were observed in the lower stretch of river Ganga. Gillnet, seine net, dragnet, cast net, lift net, set barrier, meen jaal, bag net, traps as well as hook and line were observed in West Bengal stretches. Various traps like Ghuni, Chokhia, Chai, Britti, Atal etc. are quite prevalent in lower stretch of Ganga.

Fishing Crafts in River Ganga

Different shape of fishing boats are used in River Ganga viz. wooden built indigenous boat, plank built boats, mechanized and non mechanized fishing boats (Fig. 11). Sometimes small primitive type of raft or tin made fishing boats called donga are used also. Tube is mostly used for fishing in Uttarakhand. However wooden boat of large, medium and small sized were found in Uttar Pradesh, Bihar and West Bengal as well as tin made donga also used for fishing.

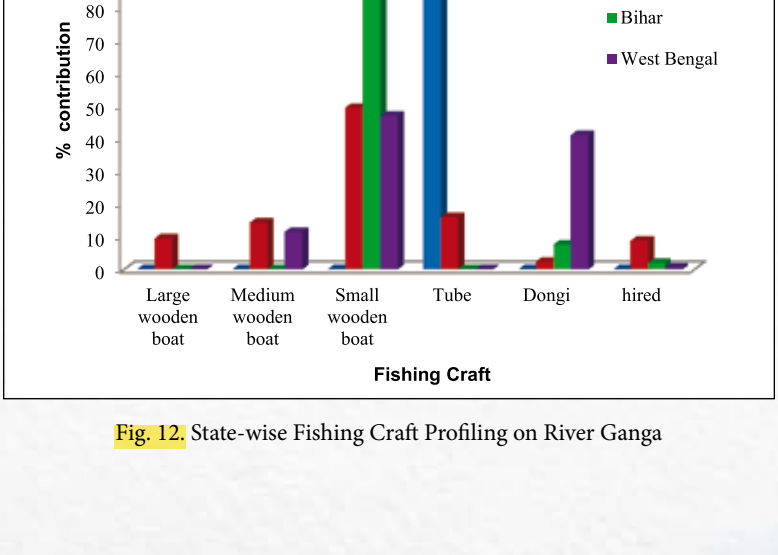


Fig. 12. State-wise Fishing Craft Profiling on River Ganga

Annual Freshwater Fish Catch Trends in River Ganga

The important fish species landed from the river Ganga were identified and commercially important fish grouped as Major carp (IMC), Catfish, Exotics and local major fishes. Catch per unit effort (CPUE) was analysed in station wise. Year-wise CPUE (freshwater fish catch) comparison revealed that catch from river Ganga has increased from 3796.57 t (2018-19) to 4263.55 t (2019-20). Based on the CPUE middle stretch (from Allahabad to Farraka) contributing 47.5 % of total fish catch from river Gnaga in 2019-20 (Fig. 13).

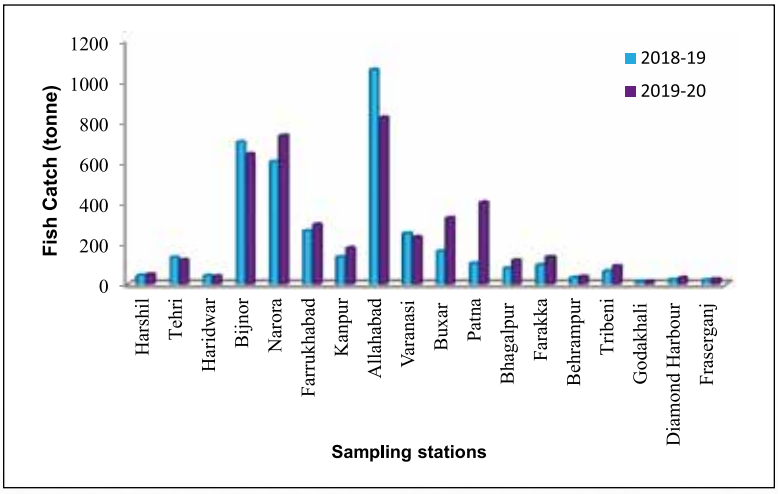


Fig. 13 Annual freshwater fish catch trends in river Ganga

Socioeconomic Factors for the Declining Fishery of Hilsa in River Ganga

The Hilsa fishery in India and Bangladesh is dependent on the single species, namely *Tenualosa ilisha*, belonging to the Indo-Gangetic and Brahmaputra river basins. In India, the fishery resource of the species largely lays in the Bhagirathi-Hooghly component of the Ganga river system. The lower part is around 523 km of river Ganga is consisted of Bhagirathi River stretch from Farakka to Nabadwip and Hooghly Estuary stretch from Nabadwip to Frezarganj area (Roy et al., 2016).

Tenulosa ilisha (Hamilton, 1822) popularly known as Hilsa shad is an important fish species in the lower stretch of river Ganga, having importance of economical, ecological and cultural aspects. The famous shad is also highly demanded for incredible taste with high market prices. *T. ilisha* is a monsoon breeder with a high peak period of July to August in Hooghly River (Hora and Nair, 1940d; Hora,

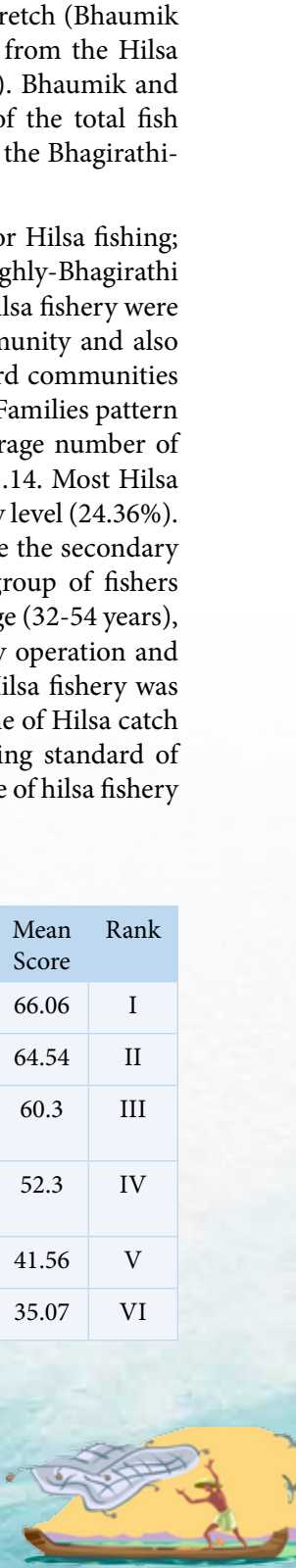
1941b). 20,930 fishers were engaged in hils fishing operation at the lower stretch of river Ganga whereas 5600 fishers were reported from the upper stretch (Bhaumik and Shama, 2012). Annual family income of fishers' households from the Hilsa fishery around 38.84% at lower Ganga stretches (Roy et al., 2016). Bhaumik and Sharma (2012) reported that Hilsa fishery contributes 20-25% of the total fish landing of the Hooghly River. The annual fish catch of Hilsa from the Bhagirathi-Hooghly river system fluctuates greatly over the years.

According to the fishers of Hooghly- there are two seasons for Hilsa fishing; during monsoon i.e., middle June to middle September in the Hooghly-Bhagirathi river system. A major number of fishers almost 60% involved in Hilsa fishery were belonging to the Scheduled Caste known as 'Malo' or 'Jele' community and also from poorer families of society. Other groups were other backward communities (OBCs, 26%) followed by general (8%) and scheduled tribes (6%). Families pattern was observed as most of the family is nuclear in nature and average number of members of a family was five. The ratio of male and female was 1.14. Most Hilsa fishers had primary level (41.75%) education followed by secondary level (24.36%). However, 8.32% of the fishers had educational qualifications above the secondary level and 19.57% of the fishers were found illiterate. The age group of fishers involved in Hilsa fishing found predominantly belongs to middle age (32-54 years), followed by the old age group. Fishers spent 40% on Hilsa fishery operation and 60% for household purposes. The annual average income from Hilsa fishery was reported rupees 67385 per annum per household. The rapid decline of Hilsa catch directly affects the socio-economic condition along with the living standard of fishers. As investigated by Roy et al, 2016 the reasons behind decline of hilsa fishery is tabulated in Table 5.

Table 4. Reasons behind decline of hilsa fishery

Sl. No	Reasons behind decline of hilsa fishery	Total Number of Respondents	Total Score	Mean Score	Rank
1.	Use of destructive fishing gears	300	19820	66.06	I
2.	Erratic Rainfall	300	19362	64.54	II
3.	Huge catch of hilsa fish in lower part of Hooghly /sea mouth	300	18180	60.3	III
4.	Industrial pollution in Hooghly river	300	15691	52.3	IV
5.	Siltation in Hooghly river	300	12469	41.56	V
6.	Fresh water discharge/influx	300	10522	35.07	VI

(Source: Roy el al. 2016)



There is an immediate need to formulate effective measures and also by-laws to protect precious breeders and potential breeding grounds for the development of a sustainable Hilsa fishery.

Strength, Weakness, Opportunity and Threat (SWOT) of Fishing Community along the River Ganga

Our study identified the strength, weakness, opportunity and threat of the fishers from their livelihood approach and represents these by SWOT analysis (Fig.14). Intrinsically brave, physical strength, hardworking capacity, simple lifestyle, protein availability and women involvement in economic activities were strengths of the

Strength
Intrinsic brave
Physical strength
Hardworking capacity
Simple life style,
Protein availability
Women involvement in economic activities

Weakness
Acute poverty
Illiteracy
Unemployment
Poor infrastructure
Lack of capital
Lower participation in the decision making

SWOT

Opportunity
Vast fishery source
Alternative income generating activites
Development of ecotourism
Women participation
Govt. and NGOs uplinkages
Awareness rising through co-management practice

Threat
High dependency on natural resources
Social conflict
Decline fishery rersources
Economic crisis
Limiting income
Over exploitation of resources
Natural calamities

Fig. 15 SWOT analysis of the fishing communities of river Ganga

fishing community. Weaknesses included acute poverty, illiteracy, unemployment, poor infrastructure and linkage with a public and private organization, lack of capital and lower participation in the decision making. Vast water resources, scope of alternative income-generating sources, ecotourism, awareness rising through co-management practice were the opportunities for the fishing communities to develop their livelihood in a sustainable way. Fishers are facing some threats that included frequent occurrence of natural calamities, overexploitation, high dependency on natural resources, poor income and improper policy implication. A summary of the key strengths, weaknesses, opportunities and threats concerning the sustainable livelihood framework is given below (Fig. 14).

Conclusion

Fishing is an important income source contributing to the economy of fishing communities living on the banks of River Ganga. The study has carried out in 141 villages comprising 1059 fishermen from different stretches of River Ganga to assess the socio-economic parameters of the fishermen of River Ganga. The study revealed various aspects of the social as well as the economic status of the fishers' community dependent on the Ganga fishery for their livelihoods. Most of the families of this area are directly involved in fishing to maintain their livelihood. It was found that the literacy status of the fishermen community was poor. Fisheries-related activities form a major part of their total income and play a great role in their livelihood. The creation of alternative livelihood opportunities for fishers is vital for the current situation. Our present study based on the information collected through direct interaction by fisherman and some secondary sources inferred that River Ganga and its tributary contributing to improving fishermen's livelihood and support protein supply to Indian populations. However, declining fish catch day by day due to various reasons like climate change, pollution, irresponsible fishing, siltation, etc. have become threats to the sustainable riverine fishery. There is also a lack of sufficient baseline information to initiate proper developmental steps and to improve the livelihood of fishermen. Hence, there is an urgent need to take measures to conserve and sustain the Ganga river fishery to secure the life and livelihoods of the millennia.

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Plate

Team Members Interacting with Fisher Folk

Survey at Upper Stretch of river Gnaga

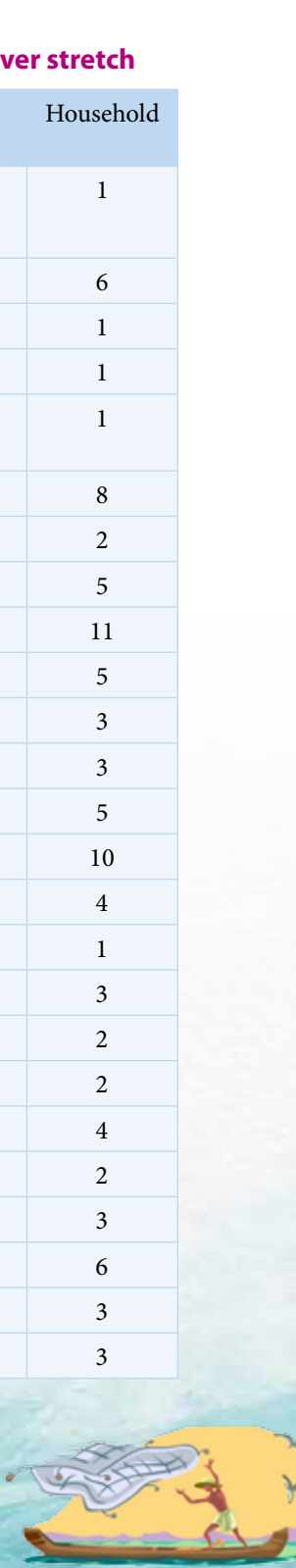
Survey at Middle Stretch of river Gnaga

Survey at Lower Stretch of river Gnaga

Annexure-I

Number of villages and households surveyed at Ganga river stretch

River stretch	State	District	Village	Household
Upper stretch	Uttarakhand	Roorkee	Mahigran	1
		Haridwar	Ajeetpur	6
		Haridwar	Mishrpur	1
		Haridwar	Vishenpur	1
Middle stretch	Uttar Pradesh	Bulandsahar	Tehliakal	1
		Bulandsahar	Narora	8
		Almroha	Kankhar ka kuwa	2
		Bijnor	Saray Alam	5
		Bijnor	Navalpur	11
		Bijnor	Daranagar	5
		Bijnor	Alamsaray	3
		Bijnor	Rajarampur	3
		Bijnor	Bidurkuti	5
		Varanasi	Ramnagar	10
		Varanasi	Suzabad	4
		Varanasi	Saraymuhana	1
		Varanasi	Kaithi	3
		Varanasi	Chandrawati	2
		Varanasi	Mustafabad	2
		Varanasi	Tatepur	4
		Varanasi	Chawka Ghat	2
		Varanasi	Milkipur	3
		Varanasi	Chota Mirzapur	6
		Varanasi	Mallahitola	3
		Varanasi	Saray Mohna	3

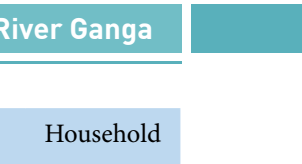


River stretch	State	District	Village	Household
		Varanasi	Markandey Mahadev	3
		Varanasi	Nakhwa	1
		Varanasi	Chandrawati	2
		Varanasi	Tatepur	3
		Varanasi	Mallahiya	1
		Varanasi	Tikari	1
		Varanasi	Madarwa Lanka	1
		Mirzapur	Madarwa	1
		Mirzapur	Tikari	2
		Mirzapur	Sherpur	1
		Mirzapur	Ganpur	2
		Mirzapur	Balua Ghat	2
		Mirzapur	Pipradand	1
		Mirzapur	Chandika	1
		Mirzapur	Baraini	1
		Mirzapur	Gulauri Tari	1
		Mirzapur	Topa	1
		Mirzapur	Shivpur Gaya Ghat	1
		Mirzapur	Rampur	1
		Mirzapur	Ganpur	3
		Mirzapur	Raypuriya	1
		Mirzapur	Kachehrighat	1
		Mirzapur	Pipradad	1
		Mirzapur	Chandikan Dham	2
		Mirzapur	Baraini Kachhawa	1
		Mirzapur	Batauli Ghat	1
		Mirzapur	RamgayaGhat	1
		Mirzapur	Jopa	1
		Mirzapur	Misrapur	5

River stretch	State	District	Village	Household
		Allahabad	Muradgaon	1
		Allahabad	Baazar Tola	2
		Allahabad	Kanika	1
		Allahabad	Chhatwaghat	1
		Allahabad	Lawayan kala	2
		Allahabad	Rawanika Kawra	2
		Kaushambi	Kadedham	4
		Kaushambi	Arail	1
		Kaushambi	Fatehpur Ghat	11
		Kaushambi	Badanpur Ghat	1
		Kaushambi	Fatehpurghat	3
		Kaushambi	Kadedham	1
		Kaushambi	Ujahini	17
		Kaushambi	Jangirabad	14
		Fatehpur	Lalukapurva	3
		Fatehpur	Asani	1
		Fatehpur	Devmai	2
		Fatehpur	Asani	1
		Fatehpur	Devmai	2
		Unnao	Chalha lalkheda, Bigapur	1
		Kanpur	Akbarpur Sang	1
		Kanpur	Purana Bithoor	2
		Kanpur	Allahpur Baseni, Shivrajpur	2
		Kanpur	Nana mau	2
		Kanpur	Madarpur	3
		Kanpur	Nazab Ghar	1
		Kanpur	Janagaw	2
		Kanpur	Ajimulla Nagar	1
		Kanpur	Purana bithoor	2

River stretch	State	District	Village	Household
		Kanpur	Akabarpur seng	2
		Kannuj	Katri feroj pur	2
		Kannuj	Mehandipur	25
		Kannuj	Daipur	2
		Kannuj	Mehandipur	2
		Kannuj	Katrifirojpur	2
		Kannuj	Chiyasar	1
		Farrukhabad	Gandinagar	2
		Farrukhabad	Bhaupur chaurasi	2
		Farrukhabad	Gunjapur	3
		Farrukhabad	Doulatiyapur	3
		Farrukhabad	Chiyasar	1
		Farrukhabad	Gandhi Nagar	4
		Farrukhabad	Dhimarpur	2
		Farrukhabad	Amritpur	1
		Farrukhabad	Dhiyarpura	10
		Farrukhabad	Ulijabad	1
		Farrukhabad	Shirmora Tarai	7
		Farrukhabad	Amritpur	13
		Farrukhabad	Sadar	7
		Prayagraj	Chatwa Itwar	6
		Prayagraj	Chhatawa	7
		Prayagraj	Ravanika	6
		Prayagraj	Semarha, Deeha	1
		Prayagraj	Arail	3
		Prayagraj	Lawayan Kala	2
		Prayagraj	Neevikala	13
		Prayagraj	Bhatkar	17
		Prayagraj	Chatnag village	12
		Prayagraj	Chhatanag	8

River stretch	State	District	Village	Household
		Prayagraj	Kandla Kasodhan, Lachigiri	11
		Prayagraj	Kandala Kashaudhan Lakshagrih	5
		Prayagraj	Dumdama	9
		Prayagraj	Mehandori Coloni	8
		Prayagraj	Rasulabad	1
		Fatehpur	Ijura Khurd	5
		Fatehpur	Baigavna Naubasta	1
		Fatehpur	Naubasta	8
		Fatehpur	Vaslabad	12
		Fatehpur	Ramgadhi, Majrewar	7
		Fatehpur	Narauli	4
		Fatehpur	Wari Gadhi	7
		Kanpur	Deebiya Doman	7
		Kanpur	Deviyapur	13
		Kanpur	Deebiya, Katri Goshala	8
		Kanpur	Gaushala Domanipur	12
		Kanpur	Shekhpur	11
		Kanpur	Bhalhapur	21
		Kanpur	Chintapur	6
		Kanpur	Nagapur	10
	Bihar	Patna	Gaighat	15
		Bhagalpur	Bararighat	7
		Buxar	saraikota	32
Lower stretch	West Bengal	Murshidabad	Beniagram	82
		Murshidabad	Behrampore	14



River stretch	State	District	Village	Household
		Murshidabad	Aurangabad	1
		Murshidabad	Raghunathganj	18
		Murshidabad	Lalbagh	18
		Murshidabad	Krishnamati	16
		Murshidabad	Manganpara	22
		Murshidabad	Jiaganj	24
		Malda	Halderpara, Baishnavghat	6
		Nadia	Nabadwip	45
		Nadia	Kharer math, Swarupganjghat	38
		Hooghly	Halder para, Balagarh	58
		Howrah	Barendra para ghat, Bally	28
		North 24 Pgs	Baranagar	8
		South 24 Pgs	Godakhali	33
		South 24 Pgs	Harar khal	25
		South 24 Pgs	Fraserganj	10

Annexure-II

Commercially important Fishes of river Ganga and Local price grades

Fish Species	Local price grades		
	Upper Stretch	Middle Stretch	Lower Stretch
Indian Major Carp	C	B	A
Exotic	C	B	B
Catfishes	-	A	A
Golden Mahseer	B	-	-
Miscellaneous	C	C	B

Note: Grade A- >Rs. 150; Grade B- 100 to 150; Grade C- <1

NOTE

NOTE

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