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A Study of Socio-Economic Status of Fishermen in Catchment Area of Gobind Sagar Reservoir of Himachal Pradesh

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Abstract: ***The present study has been conducted on the socio-economic conditions of the fishermen of Gobind Sagar reservoir of District Bilsapur, Himachal Pradesh to evaluate the livelihood pattern and socio economic status of fishermen from December 2017 to December 2018. Randomly selected 103 fishermen were interviewed from 441 fishermen in the selected fish cooperative societies. The data has been collected in terms of income generation, family size, age group, literacy rate, caste, religion and financial sources of the fishermen. The study reveals that 60.19% fishermen have medium size families, 8.10% large size and 11.5% have nuclear families. Of the total fishermen, 62.13% belong to the age group of 30–45 year followed by 24.27% in the age group of 45-60 years, 6.8% in the age group of 15-30 years and 6.8% in the age group of 60 years and above. An analysis of education status reveals that 46.61% of fishermen were middle class pass, 30.1% were metric pass, 14.56% primary pass and 8.73% were pass up to secondary and above. The caste wise analysis brings into light that 10.7% fishermen were belonging to Other Backward Classes and 31.0% to other castes. Further it reveals that 94.18% fishermen were Hindu and 5.82% Muslim. To purchase the fishing equipments, 52.43% fishermen borrowed money from co-operative societies, 36.89% borrowed from commercial banks and 10.65% from other sources of finance. The income wise analysis reveals that out of the total fishermen, 41% belong to the income range of Rs. 50,000-60,000 and nearly 32.03% to the income range of Rs. 60,000-70,000 per annum. The Income distribution of fishermen community shows that income inequality between the marginal and non marginal fishermen is considerable.***

Keywords: Fishermen, Socio -economic. Reservoir, Loan borrowing, Marginalised Group.

I. INTRODUCTION

Fishing is an important sector of Indian economy. It contributes a significant share to national income, employment and foreign exchange earnings. Overall fish production in the country stood at 11.41 million tonnes in 2016-17. India has the honour to be the second largest fish producing country in the world. In fact, fish is an ideal and valuable source of protein and food. It occupies an important place in the livelihood and socio-economic conditions of the fishermen in India. The inland fishery resources included 1.96 lakh kms. stretch of river and canals, 29.07 lakh hectare reservoirs, 24.40 lakh hectare ponds and tanks, (Handbook on Fishery and Statistic, 2014)

II. DEMOGRAPHY OF HIMACHAL PRADESH FISHERIES

Over 3000 fishermen families are self employed in the fishing occupation in the state reservoirs for earning their livelihood. Fishing in Himachal Pradesh is being carried out through registered fishermen of fisher co-operative societies. There are 32 fish co-operative societies in Gobind Sagar reservoir. In Himachal Pradesh inland fishing is growing very fast over two decades and playing an important role in the economy of the state to generate the employment, food security and livelihood of local fishermen community of district Bilaspur.

III. REVIEW OF LITERATURE AND NEED OF STUDY

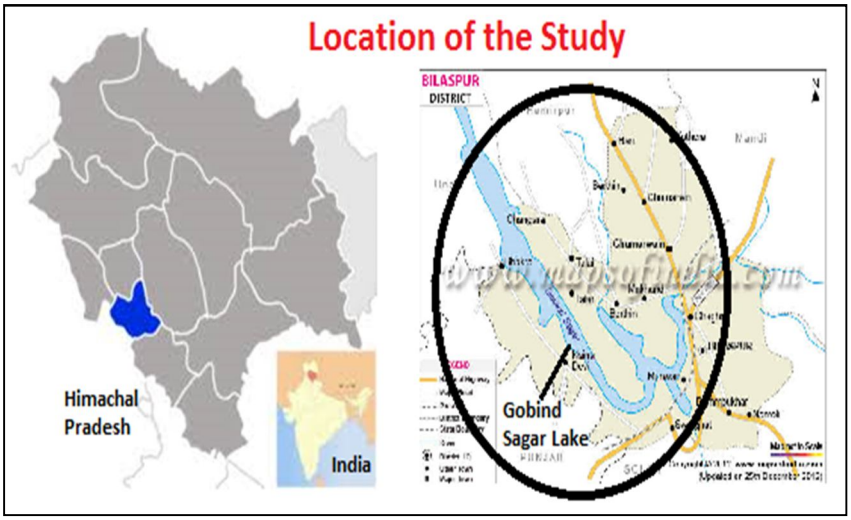
Review of literature reveals that there is an ample scope of fishing to generate income, employment and state revenue through sustainable exploitation of fish for the livelihood of the fishermen. Fish is the supplement of food and has tremendous nutritious value. The National Fishery Development Board (NFDB) aims to increase fish production through culture and capture based fisheries to enhance the value of fish product and provide the market prospects, employment opportunity to the rural economy. The state has geographical mightily and most divergent climatic conditions for fish production in reservoirs. There is also an enormous

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scope of fishery in fresh water in the state. The mismanagement in fish marketing of Gobind Sagar led to unemployment and decreased annual fish production of reservoir (Gupta, 1993). The literacy rate among the fishermen is very low. The Government should organize awareness programme at the fishing centers to educate the fishermen. The Government organization like the Central Institute of Fisheries Technology and ICAR should be entrusted with the task of licensing and designing of fishing gear and boats and to impose the restrictions on catching the undersize fish (Ravindran et. al., 2000). The studies conducted in hill streams of Western Himalayas and the report of National Commission on Agriculture (1976) reveal that there has been a decline in the masheer fish due to indiscriminating killing of brood and juvenile fish. The adverse effect of river valley projects on stocking of mahseer, release of inadequate supply of water and used mesh size cast net for fishing and (gamachha) local devise cloth used for fishing put a negative impact on fish production (Joshi, 1988). The importance of co-operative societies in rural area to determine the socio-economic conditions of fishermen has also been studied by various researchers. The Government of India has started a number of schemes to improve the economic conditions of the fishermen viz: provision of extension education, improved fishing technology, credit and subsidies. The fishermen catch fish from the reservoir after their proper registration and hence have no need to buy the fish seed. The excessive use of pesticides in agriculture operation get mixed up with rainwater & floodwater and ultimately flow into the river resulting in loss of spawn. The co-operatives also diverted their focus of attention towards ponds and tanks for promoting fish culture rather than rivers & reservoirs. (Kauishk Gupta and Chameli Pandit, 2007)

IV. METHODOLOGY

Study Area – The respondents for the study were the fishermen (most of which were dam austees) engaged in fishing activities in the catchment area of Gobind Sagar Lake of district Bilaspur of Himachal Pradesh. Gobind Sagar reservoir is the largest manmade lake in Asia. It came in to existence in 1963 with the construction of Bhakhra dam on the pristine stream of river Sutlej. It is spread over an area of 16000 hectare in district Bilaspur of Himachal Pradesh and holds 2621 million m^3 water when fully filled. It occupies an important place in the state fishery recourses. Around 51 species of fish including silver carp, catla, mirrorcarp, mrigal, mahaseer, rohu, gid, bata, sinhgara, grasscarp, exotic trout, snow trout and several species of hill stream fishes are commercially harboured in the reservoir. But silver carp, catla, mahseers species of fish are found and produced in abundance. Most of the species were unique due to sub temperate climate and geographical affiliation to the Himalayan region.



Map 1: Location of study area (Gobind Sagar Lake, District Bilaspur, Himachal Pradesh)

Respondents - The respondents were selected on the basis of stratified simple random sampling. In all 103 respondents were selected in such a way so as to give equal representation to all groups. The data relating to the socio-economic conditions of the fishermen focussing on their income generation, age, sex, literacy rate, caste, family size, house hold conditions etc was collected from December 2017 to December 2018 through the structured schedule method.

V. OBJECTIVES OF THE STUDY

The study aims at analysing the socio economic conditions of fishermen in the Gobind Sagar Lake with respect to their age, sex, religion, caste, family size, income and education status.

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VI. RESEARCH FINDINGS

The main findings of the study are as follows-

A. Number of Registered Fishermen in various Co-operative Societies

TABLE - 1
Co-Operative Society Wise Number Of Registered Fishermen (2017-18)

Sr. No	Name of Co-operative Societies	Male		Female		Total
		No	%age	No	%age	
1	Daribhari	113	67.26	55	32.74	168
2	Jabllu	54	62.06	33	37.94	87
3	Balghar	40	64.51	22	35.49	62
4	Jagatkhana	82	66.12	42	33.47	124
	Total	289	65.53	152	34.47	441

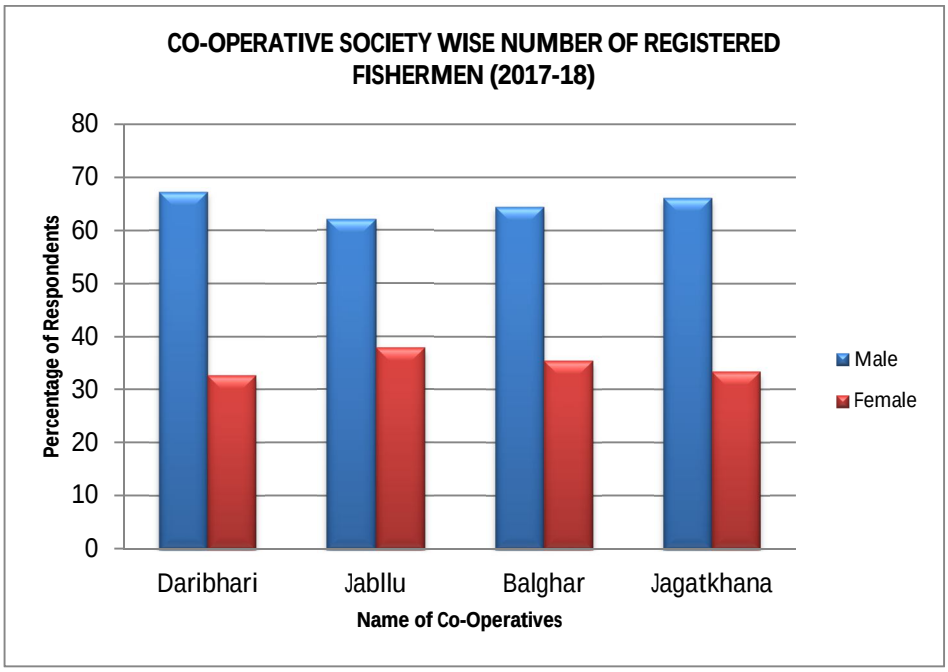


Fig. 1: Co-Operative society wise number of registered fishermen (2017-18)

B. Age And Gender Wise Distribution Of Sampled Fishermen In The Study Area

TABLE-2
Age And Gender Wise Distribution Of Sampled Fishermen In Percentage

Sr.No	Age	Male		Female		Total	
		No	% age	No	% age	No	% age
1	15-30	7	9.59	0	0.00	7	6.8
2	30-45	46	63.01	18	60.00	64	62.13
3	45-60	15	20.55	10	33.33	25	24.27
4	Above 60	5	6.85	2	6.67	7	6.8
	Total	73	100.00	30	100.00	103	100.00

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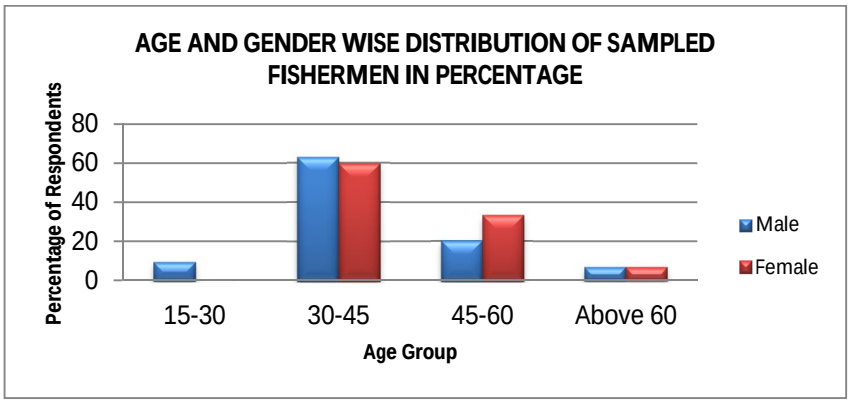


Fig. 2 Age wise distribution of Fishermen in the study area

C. Sex

The study reveals that between the age group of 30-45, 63.1% were male and 60% female. Generally women were involved in the house hold activities and to row the country boat during spreading the gills net to catch the fish in reservoir.

D. Religion

Religion plays important role in the socio-cultural environmental life of the people. In the selected area for the study, most of the fishermen (94.2%) belong to Hindu religion and majority of them are involved in the fishing activity as a livelihood of their ancestors. A very small number (5.8%) of Muslim religion fishermen were found in the study area. Other religion fishermen were not in the study area.

TABLE-3
Religion Of The Sampled Fishermen In Study Area

Sr. No	Religion	No of fishermen	Percentage
1	Hindu	97	94.18
2	Muslim	06	5.82
3	Others	Nill	Nill

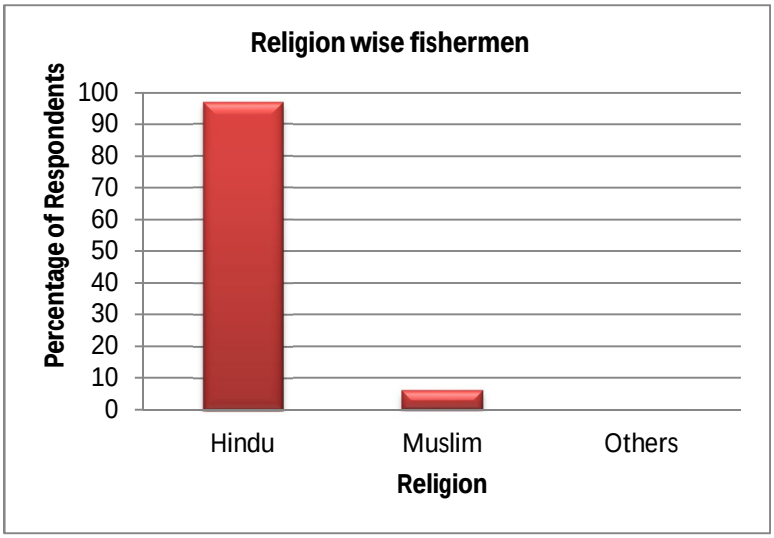


Fig. 3 Religion Wise Distribution of Fishermen in the Study Area

E. Castes

The survey reveals that 58.3% of fishermen belong to scheduled castes, 10.7% to other backward class (OBC) and 31% to other castes in the study area.

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Table- 4
Caste wise percentage of sampled fishermen in study area

Sr. no	Cast of fishermen	No. of Respondents	%
1	Schedule Cast	60	58.3
2	Other Backward Class	11	10.7
3	Others	32	31.0
	Total	103	100.0

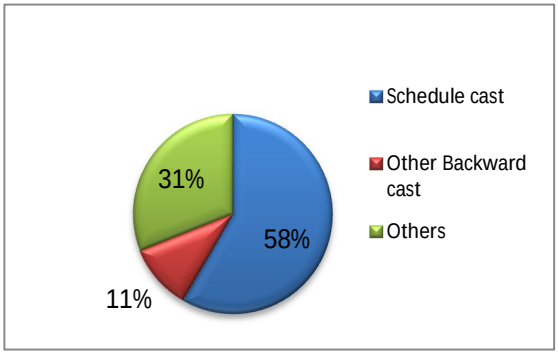


Fig. 4 Caste wise distributions of fishermen in the study area

F. Education Status

The education status reveals that 46.61% of fishermen were middle class pass, 30.1% were metric pass, 14.56% primary pass and 8.73% were pass up to secondary and above.

Table- 5
Gender wise education status of sampled fishermen

Education status	Male	Female	Total	Percentage
Primary	8	7	15	14.56
Middle	36	12	48	46.61
Metric	20	11	31	30.1
Secondary and above	9	-	9	8.73
Total	73	30	103	100

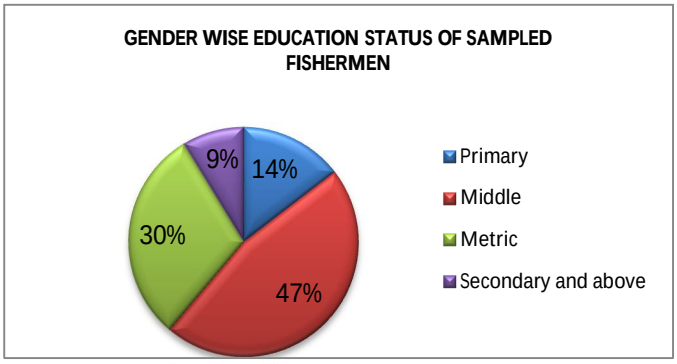


Figure -5 Education Status of fishermen in fishing area.

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G. Types of Family

In the study area there were three type of families viz. nuclear, joint and extended families. Study reveals that 60.19% fishermen were having joint families, 28.16% extended families and 11.65% fishermen were having nuclear family size.

TABLE- 6
Average Family Size Of Sampled Fishermen

Sr. No	Types of family	No's frequency	%
1	Nuclear family	12	11.65
2	Joint family	62	60.19
3	Extended family	29	28.16

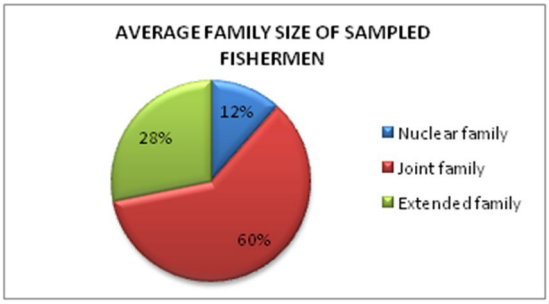


Fig. 6 Types of Families of sampled fishermen.

H. Type of House

In the study area there were three types of houses viz. katcha-house, semi-pucca house and pucca –houses. The katcha- house made of mud floor, semi-pucca house made of wood and concrete floor and pucca house made of RCC and concrete. The study reveals 58.25% houses of fishermen were pucca and 31.10% semi pucca and 11.65% of houses were katcha.

TABLE-7
Housing Condition Of The Sampled Of Fishermen

Sr. no	Type of house	No. of Respondents	Percentage
1	Kacha	12	11.65
2	Semi pucca	31	31.10
3	Pucca	60	58.25

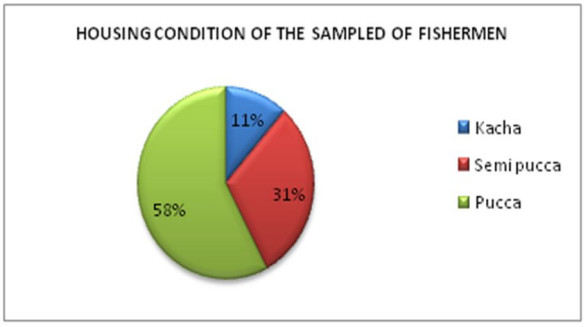


Figure -7 Types of Houses of sampled Fishermen

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The annual income of the fishermen was studied on the basis of fishery as major source of income. It is revealed that 11.65% fishermen earned their annual income between Rs. 40000-50000 from fishery. Further, 41% of fishermen earned their annual income between Rs. 50,000-60,000 and 32.03% earned their annual income between Rs. 60,000-70,000 from fishery. The variation of income was due to the difference in the use and quality of fishing inputs i.e. gill nets, country boats etc. Occasionally the fishermen were undertaking the non-fishery activities which constitute only a very small part of their income.

TABLE-8
Annual Income Of Sampled Fishermen

Sr. No	Range of Income (Rs.)	No. of Respondents	Percentage
1	40,000-50,000	12	11.65
2	50,000-60,000	42	40.78
3	60,000-70,000	33	32.04
4	70,000-80,000	11	10.68
5	Above 80,000	5	4.85
	Total	103	100

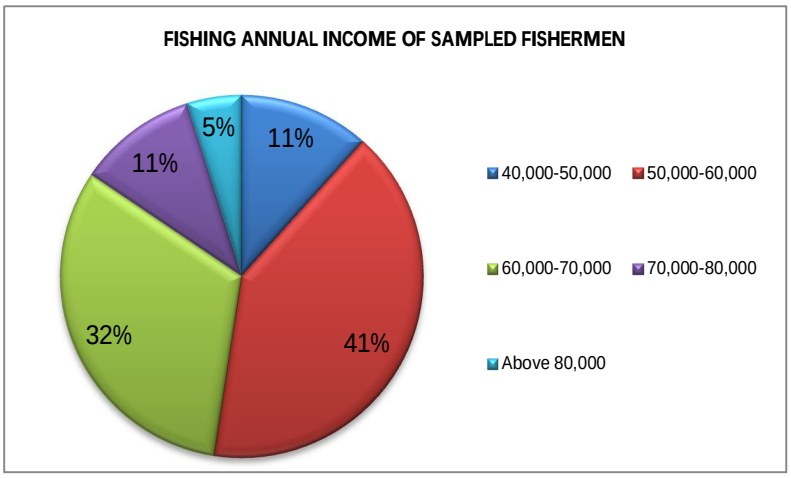


Fig. 8 Annual Income of the sampled Fishermen

I. Financial Resources

Economic conditions of the fishermen in the study area were very poor they borrowed money for purchasing the gills net, tent and country boats from the financial institutions Commercial Banks, Co-operative Societies, Gramin Bank and unorganised sector like village goldsmith and relatives. The survey brings into light that 52.43 % fishermen borrowed money from banks, 36.89% from Co-operative societies and 10.68% from the unorganised sector.

TABLE- 9
Financial Sources To Purchase The Fishing Equipments

Sr. no	Financial institution	No. of Respondents	Percentage
1	Banks(PNB,RRB,HPSCB)	38	36.89
2	Co-operative societies	54	52.43
3	Others	11	10.68

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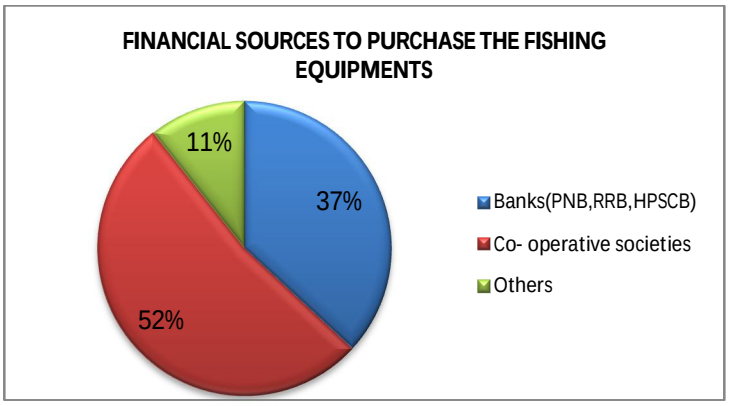


Fig. 9 Financial sources available to fishermen

VII. CONSTRAINTS

A. Dumping of silt in the reservoir causes decreased level of water resulting in a fall in fish production.
B. Dropping of fingerling was insufficient quantities and improper time.
C. Realising of inadequate supply of water in the reservoir due to construction of other projects on river.
D. Polluted water of local rivulets and streams reducing the growth of the fish.
E. Risk in life of fishermen in reservoir during fishing.
F. Lack of proper monitoring and inadequate price of fish.
G. Socio-economic constraints such as small family size, illiteracy and low income.
H. Large scale capturing of juveniles fish by poacher and reduced fish species in the reservoir.
I. Lack of organised training centre to provide proper training to fishermen.
J. Inadequate flow of institutional finance.
K. Lack of proper marketing strategy.

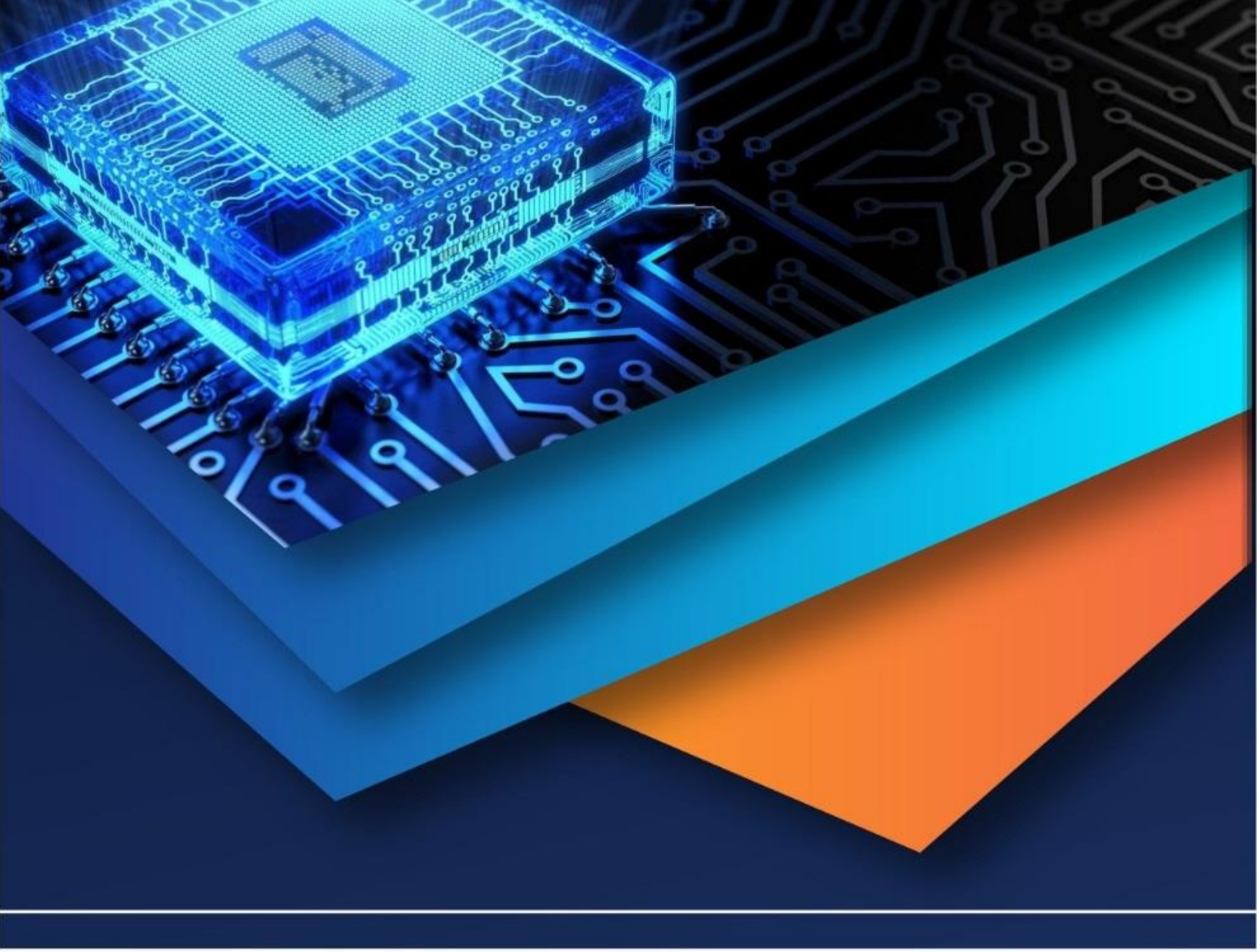
VIII. CONCLUSION AND PROSPECTS

The present study reveals that socio-economic conditions of fishermen in the Gobind Sagar lake are deprived of many amenities. The fish production has decreased due to environmental and manmade activities such as muck dumping, silting, releasing of inadequate water, dropping of inadequate quantity of fingerling and absence of proper management policy. This study shows that majority of fishermen are less educated including and predominantly are in middle age group. The majority of fishing community has single religion and main source of fishermen income have fishing activities. The non-fishing activities have to play a vital role in the livelihood of Gobind Sagar reservoir fishermen. For the development of fishery, the socio-economic as well as institutional constraints have to be taken into account and innovative strategies have to be initiated for a balanced and sustainable growth. The study indicates that there are prospects to strengthen fishermen by providing training of fishing, handcraft, net making and mobile application for promoting e-marketing of fish products and of fishery to uphold the social-economic profile of fishermen.

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