

Dietary Pattern & their Impact on the Health of Fishermen: A Case Study of Kahalgaon, Bhagalpur

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Abstract

India's fishing sector is one of the country's most labour-intensive, employing people in coastal towns all throughout the country. The sector has long been dominated by indigenous people who have lived along river and seacoasts for millennia. However, in recent years, the fishing industry has drawn merchants from other parts of the country who brought motorboats and fishing nets with them to the island. The impact of overfishing in India's major rivers and oceans, especially the sacred Ganga River, is a decrease in fisheries resources. There has been limited progress by the state and federal governments in combating these unsustainable practises. In Kahalgaon, fishing is the principal source of income for roughly 5000 families. Kahalgaon's economy has long been based on fishing. Since then, the town has grown and changed due to the construction of a power plant that opened up new growth and employment prospects outside of fishing. Fishing is still a major source of income for many people. The traditional fishery community of Kahalgaon uses traditional boats and handmade nets with wide holes at a time when motorboats and mechanised equipment have undercut prices. This has resulted into further marginalisation of the fishing community of Kahalgaon. The primary objective of the present research is to investigate the nutritional levels and health status of Kahalgaon's fishermen and their families for which some 500 fishermen were surveyed.

Keywords: Fishermen, socioeconomic study, dietary pattern, health status, Kahalgaon

Introduction and Background

Nearly every Indian coastal region relies on the fishing industry as a major source of industrial output. The UN Growth Program places a high value on the coastal fishing industry. This sector of the economy contributes significantly to the country's foreign exchange profits and accounts for 1.4% of GDP. More than six million people in the United States make their living by fishing. There will be a maritime commercial corridor through the country, which has a coastline of 8129 km and an Exclusive Economic Zone of 2.02 million sq. m. The country ranks #7 in the world for marine fish output despite its size and prominence. In freshwater fisheries, the biological diversity is as great as in saltwater fisheries, with canals covering an area of 17,3287 kilometres and flood plain lakes covering an area of 20,2213 hectares. Estuaries cover an area of 28,5000 hectares, while mangrove forests cover an area of 35,6500 hectares. Estuarine impoundments cover an area of 12,35000 hectares (George et al., 2011).

India's inland fish farming is divided into freshwater aquaculture and catch fisheries in ponds, estuaries, wetlands, reservoirs, and other bodies of water. It is estimated that the Ganga and its tributaries have a combined length of 12,500 kilometres, with the Brahmaputra river having a depth of 4,023. While the western flowing Narmada and Tapi of the Western Ghats are 3,380 kilometres long, the billboard rivers Mahanadi, Godavari, Krishna, and Cauvery of Carabobo are 6,436 kilometres long. The harvest from rivers and other inland fishing systems contributes significantly to the overall inland fish production, especially in terms of quantity.

The state of Bihar is divided into thirteen administrative districts, thirteen of which are in the state's southern half and one in its northern half, on either side of the holy River Ganga. Bihar, located in the heart of the Gangetic Plain, enjoys fertile land wealth, but it is also subject to harsh winters and hot summers. Because of the natural beauty of our surroundings, Bihar has an abundance of water infrastructure (rivers, flood fields, woods, chauras, mauns, ox-bow dams, reservoirs, tanks, and ponds).



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Fisheries in the state encompass an area of about 60,000 square kilometres, with over 40,000 ponds of varying lengths and widths being used.

State fish production is expected to be 0.261 million tonnes per year, with aquaculture and trap fisheries contributing. This compares to a consumption need of about 0.456 million tonnes. Unless something changes, this problem will remain static. Fishing's long-term economic viability is hotly contested. According to some, the fishing industry is a profitable one. But some people believe that the industry is not profitable at all. Part of the country's fish needs are met by adjacent state-owned fish farms. Only 121 federal fish seed farms, two corporate fish hatcheries, and 26 private fish hatcheries exist under the government or private sector. And that's at least 400 million less than the estimated amount of fish seed produced each year. You, as a province, have vast fisheries resources that are largely unused, which may assist increase fish production and provide rural residents with a source of income. However, you have sourced half of your household's fish supply from other countries.

One of India's richest fishing areas, the Ganges River Basin in Bhagalpur District, also provides employment for the area's population. The highest concentration of fisherman may be found in Kahalgaon (of about 5000 fishermen). Even though fishing is the only way to support the majority of the town's residents. Kalighat, Kulkuliagath, Pathalgath, Rajghat, and Seechaigath are just a few of the places where it's performed in the city of Kahalgaon.

Most people in town make a living from fishing and related services, although younger generations are branching out and finding work in areas other than fishing. A fisherman's job necessitates a large intake of calories. Sailing a boat, throwing and drifting a net, swimming, and other activities necessitate physical strength. However, despite their efforts, the economic situation of fishermen and their families is bleak, with the majority of them and their families living in filthy slums with poor sanitation in the town. Fishermen and their family members have a terrible literacy rate, with many being illiterate. Other than fishing, the Ganga River provides for the people living along its banks. For washing clothing, bathing, and even drinking, these fishermen and their families turn to river water. This is a problem, especially in light of the recent deterioration of the Ganga's water quality and fish population.

Children rarely go to school in fishing towns since everyone in the family is expected to work in order to survive. Public schools frequently fail to meet basic educational standards because of inadequate funding and corrupt administration. The fishing community of Kahalgaon lives in abject poverty. Fishermen and their families are particularly prone to illiteracy. Infectious disorders like diarrhoea and worm infections are made more likely by unhygienic living circumstances. Diabetes, heart disease, obesity, hypertension, and other lifestyle-related health conditions do not appear to affect the residents of Kahalgaon, a fishing village in the Bay of Bengal. Skin illnesses, on the other hand, predominate in the local population. This is mostly due to their work, which entails the processing of aquatic life. Poor living circumstances and a lack of sanitation, has consequences for the health of the community.

The objective of the present study is to evaluate the dietary pattern, living conditions and their health implications for the fishing community of Kahalgaon. The researcher collected information related to health, diet and living conditions of 500 fishermen in Kahalgaon. The data was analysed using MS Excel 360 and SPSS v. 26.

Socio Economic profile

Age distribution and literacy

A majority (51%) of participating fishermen were between 41 to 60 years old. Those between 31-40 and 60+ years respectively constituted the second and third largest age groups. Only 40 out of 500 participants were below the age of 30. The educational status of the community is dismal with an overall literacy rate of only 46%. Out of the rest, none reported attending a school ever. Instead, they were educated at informal tuition centres and knew enough to read and understand basic text in Hindi, write their name, and do basic arithmetic.

Table 1 Age demography of participants

Age group	Frequency	Percentage	Cumulative %
18-30 years	40	8%	8%
31-40 years	125	25%	33%
41-60 years	255	51%	84%
60+ years	80	16%	100%

Table 2 Educational status of participants

Age group	Highest educational qualification	
	Illiterate	Literature (outside school)
18-30 years	25%	75%
31-40 years	58%	42%
41-60 years	56%	44%
60+ years	62%	38%
Overall	54%	46%

Economic status

Income and saving rates are two widely used metrics to evaluate the economic status of a population group. Table 3 and Figure 1 illustrate the dismal income and saving status of the surveyed community. Nearly half of them (248 out of 500) reported saving nothing, another 22% saved less than 1000, and only 38% of them saved 1000 INR or more in a month. Most of them had no access to banking services either. As for fishing gears, 86% of participating fishermen said they owned their own boat and traps. The rest rented fishing gears.

Table 3 Economic status of participants

	Mean	Median	Range
Income p.m.	5386	5000	3000-10000
Expenses p.m.	4946	5000	3000-9500
Savings p.m.	440	250	0-2000

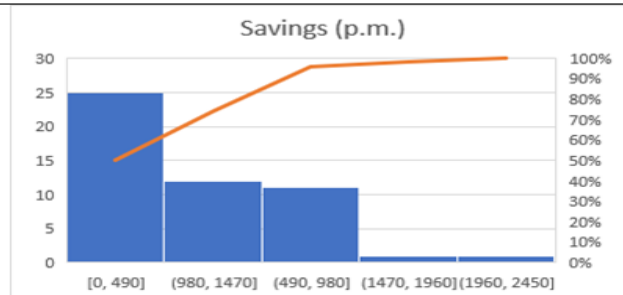


Figure 1 Saving rate

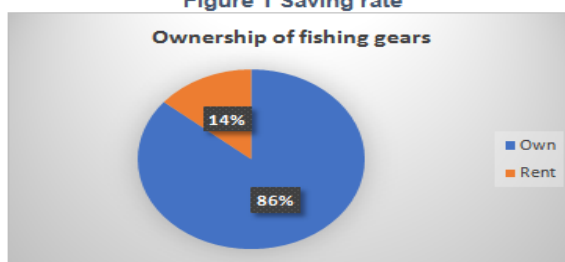


Figure 2 Ownership of fishing gears

any pattern and health status

Dietary pattern and health status**Dietary pattern**

Out of 500 participants, 480 of them responded to our questions on dietary pattern. These findings are listed in Table 4 from which one could observe that pulse, green vegetables, fish, and milk constitute as regular food in the diet of this community. On the other hand, expensive food items like fruits, flesh and milk products are luxuries the community can't afford.

Table 4 Dietary pattern

	Daily	Weekly	Monthly	Sometimes/Never
Pulse	150	310	10	10
Fruits	10	60	10	400
Green veg.	100	320	10	50
Fish	90	290	20	80
Flesh food	0	30	10	440
Milk	60	40	10	370
Milk products	30	50	40	360

Illnesses and health status

Body mass index (BMI) is the ratio of a person's weight to his or her height. A BMI of 18 to 29 is considered healthy. Below 18 and the person is underweight and anything above 29 is considered overweight. Most participants (76%) reported a healthy BMI of 18-29, which implies that about a quarter of them were either underweight (20%) or overweight (4%).

With increasing age, it is natural to experience deterioration in health. The research observes similar patterns among fishermen as well. Elderly fishermen were more likely to experience loss of vision and frequent weakness (Table 5). Lack of physical strength has a direct impact on the potential of the candidate to fish and make a living out of fishing.

Table 5 Vision loss and weakness – age-wise

	Vision loss	Weakness
18-30 years	25	0
31-40 years	25	8
41-60 years	36	20
60+ years	63	38
Overall	36	18

Diseases like asthma (2% prevalence), diabetes (8%), thyroid (2%), and high blood pressure (4%) has low prevalence in the community. Some other diseases like jaundice, dysentery, and ricket were not reported at all. On the other hand, a significant number of participants (26%) suffered from skin problems. Skin problems such as hypertension have been commonly reported in fishing communities in various parts of India (##).

Objective of the study

1. To study the dietary pattern of fishermen
2. To study the living condition of the community
3. To know the health implications .
4. To know about their various addiction

Conclusion and Implications for Policymakers

In the Bhagalpur district's Kahalgaon region, researchers surveyed 500 fishermen. With 45 questions in the survey (later expanded to 70), the researchers evaluated the socioeconomic status, health status, and dietary habits of the people who took part in the study. The literacy rate and educational penetration in the neighbourhood were both appalling, with 480 out of 500 people reporting that fishing was their principal source of income. Nearly half of those polled indicated they had no money set up for savings, which is understandable given their meagre salary. A fisherman's monthly savings averaged just 500 rs and ranged from zero to two thousand rs for those who saved. Without a high school diploma, it would be difficult for these people to obtain work in fields other than fishing or manual labour.

The research also found that people had poor eating habits, with low intakes of protein-rich foods like milk, pulses, and animal flesh. One-quarter of those polled had a dangerously high BMI (BMI). The average person had a BMI of 20. Respondents were also asked about the diagnosis of common diseases such as impaired vision, diabetes, asthma, thyroid, respiratory disease, jaundice, diarrhoea, and high blood pressure in the study. To summarise, lifestyle disorders like diabetes and high blood pressure were rare in the area. Many people complained of problems with their vision or skin. The

elderly were found to have a higher rate of vision impairment, although skin disorders affected people of all ages equally.

Recommendation for health policies

1. Health services can be delivered through Aanganwadi centres and other primary health care institutions. Stunting in children should be monitored at these facilities, which should have the necessary equipment and human resources.
2. Lentils and grains should be rationed while schools can provide foods like fruits and veggies as well as dairy goods like eggs and milk.
3. Kahalgaon should be free of open defecation as a goal of policy. Initiatives must be started and carried on in order to construct personal restrooms that are usable.
4. Hygiene and sanitation practises should be made more widely known in the neighbourhood. Schools or Aanganwadi centres can ration sanitary goods.

Recommendation for economic policies

1. Kahalgaon's fisheries community lives in abject poverty with a typical monthly income of 5,000. The author advocates a similar plan for the Kahalgaon fisheries community based on the historical success of PM KISAN. a. Cash handouts are a quick, but ill-advised, answer to such crises.
2. Climate change, rapid replenishment, and pollution are reducing fish stocks, thus programmes like NREGA could be investigated to ensure a minimal number of days of work for the community's youthful population.
3. There should be initiatives to divert as many young people from the fishing industry as possible to others such as poultry, manufacturing, and services. Educative and skill-development programmes can be effective means to this end.
4. It's important to look into ways to attract students from the neighbourhood to schools. The best reason to attend a government school would be if it offered high-quality instruction, as well as the possibility of future employment and higher study.

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