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Need for socio-economic upliftment of fishers, more unfinished than achieved: A review

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Abstract

This review paper highlights the imperative for socio-economic advancement of fisher communities in India, addressing the multifaceted challenges they face. These communities are often caught in a cycle of poverty, primarily due to irregular and low-income levels, which restrict their access to crucial services such as healthcare and education. The financial vulnerabilities of these communities are further exacerbated by the exploitative practices of intermediaries, which limit their ability to secure equitable prices for their catch. The paper advocates for targeted infrastructure development, including enhanced storage facilities and improved market access, as critical measures to improve the livelihoods of fishers. It also emphasizes the role of education and skill development in equipping fishers with the knowledge and capabilities to implement sustainable practices and effectively advocate for their rights. Furthermore, the paper underscores the importance of a coordinated approach involving government entities, non-governmental organizations (NGOs), and the fishers themselves, to drive socio-economic development. The review calls for the formulation and implementation of comprehensive policies designed to dismantle the systemic barriers hindering fishers, thereby contributing to broader economic growth and social equity within the sector.

Keywords: Fishers, socio-economic upliftment, education, employment, empowerment

Introduction

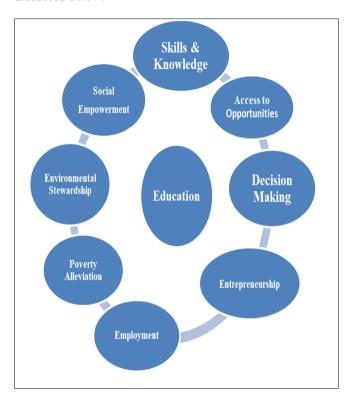
Socioeconomic upliftment involves improving the economic and social conditions of marginalized or disadvantaged individuals or communities (Fritz, 2004) [9]. Socioeconomic upliftment aims to empower individuals by offering education, skill development, employment opportunities, better healthcare, and basic services. It promotes entrepreneurship, income redistribution, and tackles systemic barriers, ultimately enhancing lives, driving economic growth, and reducing inequality (Hawkins and Kim 2012) [11]. Fisheries extension deals with the welfare and development of fishermen and fishing communities with the help of possible latest technologies developed in aiding their culture practices and management. This review delves into innovative approaches for the sustainable development of fisheries and allied sectors, focusing on the socio-economic empowerment of rural communities. The socio-economic advancement of fishers is vital for enhancing the economy, which contributes 1.09% to the GDP (FAO, 2024) [8], creates jobs, and enriches local communities. This is typically achieved through a mix of government policies, community programs, interventions, and private sector initiatives aimed at sustainable development and inclusive growth. For a sector

to boost economic development, it needs social acceptance for deeper community integration. However, in many developing nations, the fisheries sector, despite its significant contributions like job creation, economic growth, and providing affordable protein, hasn't achieved such recognition (Qayoom et al., 2016) [23]. Moreover, the persons associated with the artisanal fisheries have profoundly been found affected with the socio-economic problems as compared to those associated with culture practices (Qayoom *et al.*, 2019) [22]. The Fisheries Development Programme was launched with the object of increasing the fish production by establishment and up gradation of fish farms, hatcheries, popularisation of fish farming in private sector, imparting training to fish farmers and creating infrastructure for marketing of fish (Oayoom et al., 2015) [21]. Moreover, establishment of Regional fish farms development agencies (RFFDA's) was only to increase in the production of fish yield from various trout and carp farms under governmental and non – governmental supervision (Qayoom et al., 2014) [24]. In India fisheries sector occupies a very important place in the socioeconomic development. It serves as a form of income, provides employment to about 14 million people and impulse growth of a number of subsidiary industries and is a

source of cheap and nutritious food (Husain et al., 2016) [13].

Fundamentals of Socio-economic Upliftment of Fishers

Socioeconomic development involves various factors that contribute to the progress and well-being of fishers depicted in fig 1. Achieving sustainable development for fisher communities requires adherence to key principles, which are discussed below:



Social and Economic Growth

Economic growth focuses on increasing fish production, income levels, and employment opportunities in fisher communities, typically measured by metrics like GDP or GNP. While economic growth emphasizes expanding the economy and increasing fish prices, socioeconomic development takes a broader approach. It includes economic growth but also considers social progress, human welland equitable distribution of resources. Socioeconomic development involves improving literacy, healthcare, poverty reduction, and quality of life. The relationship between the two is interdependent: economic growth can fuel social investment, but true development requires policies that ensure sustainable and inclusive benefits for all, particularly within fisher communities.

Poverty Alleviation

Poverty alleviation is crucial for socioeconomic development, focusing on reducing and eliminating poverty through various strategies. It involves improving living conditions, income levels, and access to basic services like healthcare, education, and housing. Key approaches include social programs, economic opportunities for marginalized groups, and infrastructure development. Alleviating poverty breaks generational cycles, enhances human capital, and fosters inclusive economic growth. Sustainable efforts prioritize long-term improvements in health, education, and overall quality of life, contributing to more equitable and

resilient communities.

Infrastructure Development

Infrastructure development is vital for the socioeconomic upliftment of fisher communities. It involves constructing and maintaining structures like roads, ports, and storage facilities that improve connectivity to markets, enabling fishers to sell their catch more efficiently and at better prices. Investments in processing plants and cold storage add value to fishery products, expanding market opportunities and increasing income. Upgraded harbors and navigation aids enhance safety and productivity, reducing maritime risks. Additionally, infrastructure projects improve access to healthcare, education, and social services, boosting living standards.

Such projects often include training programs in fishing techniques, business management, and marine conservation, empowering fishers to diversify their livelihoods and build economic resilience. Sustainable infrastructure development also integrates environmental considerations, protecting marine resources and ensuring the long-term viability of fisheries. This, in turn, attracts investment in related industries, like tourism, creating jobs and stimulating economic growth in coastal areas. Supportive policies and governance are essential to align these investments with the needs of fishers and coastal communities, ultimately contributing to sustainable development goals.

Education and Skills Development

Investing in education and vocational training for fishers and coastal communities is crucial for improving productivity. competitiveness. and socioeconomic upliftment. Formal education in sustainable fishing, marine biology, and environmental conservation helps fishers enhance their catch efficiency while preserving marine training in modern fishing Vocational resources. technologies, safety practices, and trades relevant to coastal economies, such as boat maintenance and seafood processing, broadens economic opportunities. Basic education, including literacy and business skills, enables fishers to explore alternative livelihoods and engage in higher-value markets. Education also empowers fishers to participate in community decision-making, advocate for their rights, and engage in sustainable development practices. Health and environmental education improve overall well-being and promote marine conservation. By tailoring education and skills training to the needs of fishers, societies can foster inclusive growth and resilience in coastal regions.

Health Care

To improve the health and socioeconomic conditions of fishers, several strategies are crucial:

- 1. **Healthcare Access:** Establish clinics or mobile health units in remote fishing communities, ensuring access to essential medicines, basic healthcare facilities, and regular health screenings for occupational diseases.
- 2. **Health Education:** Conduct health awareness campaigns on hygiene, sanitation, nutrition, and preventive care. Educate fishers on safe practices, such as proper hand-washing, boat sanitation, and the use of safety equipment like life jackets.

- 3. **Safety Protocols:** Implement safety measures to prevent accidents at sea and provide regular training on emergency response and safe fishing practices. Optimize fishing vessel layouts to reduce physical strain and promote ergonomic safety.
- 4. **Socioeconomic Upliftment:** Offer vocational training in areas like boat maintenance or alternative livelihoods to enhance economic resilience. Promote balanced diets using locally available nutritious foods and provide education on family planning and maternal health.
- 5. **Mental Health Support:** Provide counseling to address stress, anxiety, and trauma related to the demanding nature of fishing work. Encourage coping mechanisms and resilience-building strategies.
- 6. **Policy and Advocacy:** Advocate for compliance with occupational health and safety regulations specific to the fishing industry and collaborate with stakeholders to develop guidelines that reflect the unique challenges faced by fishers.

Integrating these initiatives can lead to improved health outcomes, enhanced economic opportunities, and sustainable development within fishing communities.

Current Socio economic Status of Indian Fisher communities

Indian fishers face a multitude of socio-economic challenges that significantly impact their livelihoods and well-being. These challenges are shaped by various factors including economic conditions, environmental issues, policy gaps, and social dynamics. Fishers often experience fluctuating incomes due to variability in fish catch, market prices, and seasonal patterns. Low- and irregular-income levels contribute to persistent poverty within fishing communities (Narwadkar *et al.*, 2023) [16]. Limited access to formal credit

and financial services hinders investment in modern fishing equipment, infrastructure improvements, and coping with economic shocks. High interest rates from informal lenders exacerbate financial vulnerabilities. Fishers frequently face exploitation by middlemen and traders who dictate low prices for their catch, leading to minimal profit margins. Limited bargaining power and market linkages restrict their ability to earn fair prices for their produce pushes the fishers to below poverty line (Fig 2 and Source: Handbook of Fisheries statistics Map data). Fishing communities often lack basic infrastructure such as proper storage facilities, ice plants for preserving fish, and safe harbor facilities. Inadequate access to clean water, sanitation, healthcare, and educational facilities further marginalizes fishers and their families. Overfishing, destructive fishing practices, pollution, and habitat degradation threaten marine ecosystems and reduce fish stocks. Change impacts such as sea level rise, ocean acidification, and extreme weather events exacerbate these challenges (Arthington et al.,2016) [2]. Fishers face high occupational risks including accidents at sea, injuries from handling fishing gear, and exposure to harsh weather conditions. Lack of safety equipment, emergency response systems, and healthcare facilities increase vulnerability to health crises (Gunakar et al.,2017) [10]. Fishers often belong to marginalized social groups with limited access to education, employment opportunities, and social services. Discrimination, stigma, and exclusion further compound their socio-economic challenges. Ambiguous or out-dated fishing regulations, inadequate enforcement mechanisms, and conflicting resource use rights lead to disputes and insecurity among fishers. Lack of representation in decision-making processes concerning fisheries management and coastal development marginalizes fishing communities (Ponnusamy et al., 2016).

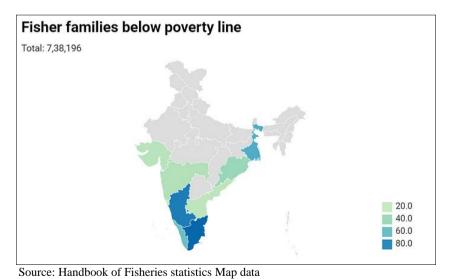


Fig 2: Figure depicting Percentage of Fisher Families Living below the Poverty Threshold

Ways to Alleviate Socio-economic Status of Indian Fishers

Here are several ways to improve the socio-economic status of Indian fishers, enhance their livelihoods, and promote sustainable development in coastal communities.

Imparting Education Among Fisher Folks

Access to quality education is fundamental for socioeconomic upliftment (Banerjee, 2021) [3]. Education equips individuals with essential skills and knowledge, leading to better employment opportunities and income. It plays a vital role in the socioeconomic upliftment of fisher

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communities, helping them improve their livelihoods (Chand and Asghar 2023) ^[6]. Education equips fishers with literacy, numeracy, and vocational skills, enabling them to pursue alternative income sources like aquaculture, tourism, or entrepreneurship. It opens opportunities beyond traditional fishing, allowing them to access higher-paying jobs, further studies, or start businesses. Education empowers fisherfolk to make informed decisions about their livelihoods and improves their socioeconomic prospects (Tietze, 2016) ^[28]. By understanding basic concepts in areas such as financial management, health and nutrition, and environmental conservation, fishers can make choices that lead to better outcomes for themselves and their families.

Entrepreneurial mind set is fostered by imparting education promotes in fisher communities that encourages innovation and experimentation in them (Larsen, 2022) [15]. Education enables fishers to identify market opportunities, develop new products, and adopt innovative technologies to enhance productivity and competitiveness. It also empowers them to promote environmental awareness and sustainable fishing practices, leading to better resource management.

Educated fishers are more likely to adopt conservation practices that preserve fish stocks and marine habitats. Education empowers them to advocate for their rights, access government services, and participate in decision-making. It also promotes social inclusion by breaking down educational barriers for marginalized groups, such as women and children from low-income families.

Education plays a crucial role in poverty alleviation by providing individuals with the tools to break the cycle of poverty. Enhancing educational opportunities for fisherfolk can help lift communities out of poverty and support sustainable development in both marine and freshwater areas (Cook *et al.*, 2023) ^[7]. Education enhances health outcomes in fisher communities by improving health literacy, hygiene practices, and access to healthcare. Educated individuals are more likely to adopt preventive behaviors, seek timely medical care, and make informed health decisions. Additionally, education helps preserve cultural heritage by incorporating local knowledge and practices into the curriculum, fostering pride in traditional fishing lifestyles.

Employment Opportunities

Creating employment opportunities is a key aspect of socioeconomic upliftment for fisher communities. By diversifying livelihoods, increasing incomes, promoting social inclusion, and fostering community development, employment initiatives contribute to building more resilient, prosperous, and sustainable Fisher communities (Birkmann et al., 2022) [5]. Availability of job opportunities, especially ones that offer fair wages and job security, is essential. Unemployment or underemployment socioeconomic progress in fisherfolks. Providing alternative employment opportunities outside of traditional fishing activities allows fisherfolk to diversify their income sources. This reduces their reliance on fishing alone, making their livelihoods more resilient to fluctuations in fish stocks and market prices. Employment opportunities, especially in sectors with higher wages or better job prospects, can lead to increased incomes for fisherfolk (Nasr-Allah et al., 2020) [7]. This extra income can be invested in education, healthcare, housing, and other aspects of well-being, contributing to overall socioeconomic development. By providing stable and decent-paying jobs, employment opportunities help lift fisher communities out of poverty. This is particularly impactful for those who may have previously relied solely on fishing, which can be unpredictable and subject to environmental and market uncertainties. Higher incomes from employment can improve access to essential services such as healthcare. education, and sanitation for fisher families. This can lead to better health outcomes, increased educational attainment. and overall improvements in quality of life. Some employment opportunities may be in sectors that promote environmental conservation, such as eco-tourism, sustainable agriculture, or conservation-based enterprises (Scheyvens, 1999) [26]. By providing sustainable livelihood options that align with environmental conservation goals, these opportunities contribute to the long-term well-being of both fisherfolk and their ecosystems. Employment opportunities can stimulate local economic development and foster community cohesion by creating networks and partnerships between fisherfolk and other stakeholders. This can lead to the development of supportive infrastructure, services, and businesses that benefit the entire community.

Income Inequality

High levels of income inequality can perpetuate poverty and hinder upward mobility. Policies aimed at redistributing wealth and ensuring fair wages are important for socioeconomic upliftment. Income inequality among fishermen can be a significant issue due to market dynamics where in fishermen often face challenges in negotiating fair prices for their catch, especially when dealing with powerful intermediaries or large corporations that control distribution channels (Purcell et al., 2017) [20]. This can lead to fishermen receiving disproportionately low earnings compared to the profits generated downstream in the supply chain. Disparity in access to fishing grounds, equipment, and technology also contribute to income inequality among fishermen (The et al., 2024). Those with better resources can often catch more and higher-value fish, thereby earning more than those with limited resources. Income distribution within the fishing industry is also affected by fishing regulations and policies that favour large-scale commercial operations or restrict access to traditional fishing grounds can disadvantage small-scale and artisanal fishermen, exacerbating income inequality (Xu et al., 2023). Addressing income inequality among fishermen requires comprehensive strategies that consider economic policies, equitable access to resources, sustainable fishing practices, and social support systems. Governments, NGOs, and international organizations play crucial roles in advocating for fair policies and providing support to vulnerable fishing communities.

Access to Healthcare

Good health is a prerequisite for economic productivity. Access to affordable healthcare services and health infrastructure is crucial for socioeconomic development among fishers (Oecd, 2020) [18]. Efforts to promote good health among fishers should include access to healthcare services, health education, safety training, and policies that

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support occupational health and safety standards in the fishing industry. This holistic approach not only benefits individual fishers but also enhances the overall economic productivity and sustainability of fishing communities.

Fishing is physically demanding work that requires stamina, strength, and agility. Good health ensures that fishers can withstand long hours at on-board, handling heavy equipment, and performing repetitive tasks without fatigue or injury (Health and Safety Authority, 2014). Fishers face occupational hazards such as slippery decks, heavy machinery, and unpredictable weather conditions. Good health reduces the risk of accidents and injuries, thereby minimizing downtime and lost productivity. Fishing can be stressful due to factors like uncertain catches, economic pressures and social isolation (King et al., 2021). Good mental health supports resilience, decision-making abilities, and interpersonal skills, which are essential for productivity and effective teamwork. Timely access to healthcare services is critical for preventing and managing illnesses and injuries among fishers (Turner et al., 2018) [29]. Regular medical check-ups, vaccinations, and treatment of chronic conditions contribute to overall health and productivity. Proper nutrition and hygiene practices promote good health and immune function, reducing the likelihood of illnesses that could lead to absenteeism or reduced performance (Turner et al., 2018) [29].

Infrastructure Development

Infrastructure development plays a crucial role in the socioeconomic upliftment of fishers, primarily because it enhances their livelihoods and overall quality of life. Lack of infrastructure can impede socioeconomic progress, especially in rural and remote areas. Investing in infrastructure development tailored to the needs of fishers can significantly contribute to their socioeconomic upliftment by improving market access, enhancing productivity and safety, providing access to essential services, promoting environmental sustainability, and fostering overall community development. This holistic approach not only benefits fishers directly but also strengthens the resilience of their communities as a whole. Infrastructure development primarily focuses on smooth access of fisherfolk to markets that include well functional roads, bridges, and transport networks important to connect fishing communities to larger markets. This enables fishers to sell their catch more efficiently and at better prices, thereby increasing their income. Construction of cold storage facilities, processing plants and fish landing centers can help fishers preserve their catch longer and add value through processing, which again boosts their economic returns. Similarly in coastal zones, safer harbors, docking facilities, and modernized boats, can improve the working conditions and safety standards for fishers. This not only enhances their productivity but also reduces the risks associated with their occupation. Improved infrastructure in coastal areas and along the lake or river banks where fishers conduct the activity of fishing can act as hotspots for tourist attraction leading to the development of tourism-related businesses and providing additional income opportunities for fishers through services such as boat tours, seafood restaurants, and accommodation. Certain types of infrastructure, like sustainable fishing ports or facilities for waste management can promote environmentally friendly practices among fishers. This contributes to long-term sustainability and resilience of the fishing industry. Infrastructure projects often involve training programs and capacity-building initiatives for fishers, helping them adopt modern techniques, manage resources sustainably, and adapt to changing market demands. (Sathiadhas,2000) [25]

Social Safety Nets

Robust social safety nets against various risks and vulnerabilities that fishers face due to the nature of their occupation such as welfare programs, unemployment benefits, and pension schemes, can provide a cushion against economic shocks and help individuals and families escape poverty. Foremost in this regard is access to healthcare. Many fishers lack access to adequate healthcare services. Social safety nets can include health insurance schemes or subsidized healthcare programs that provide fishers and their families with access to medical care, improving their health outcomes and productivity. Social safety nets also include educational support programs or vocational training opportunities tailored to the needs of fishers. This helps enhance their skills, diversify their income sources, and improve their long-term economic prospects. Fishers are vulnerable to natural disasters such as storms or tsunamis, which can devastate their livelihoods. Social safety nets can include disaster relief funds or insurance schemes that provide timely assistance and help fishers recover and rebuild their lives and livelihoods. Some social safety nets may involve housing assistance or subsidies for infrastructure improvements in fishing communities. This can enhance living conditions, promote community development, and contribute to the overall wellbeing of fishers and their families. Social safety nets can address gender disparities in the fishing industry by ensuring equal access to resources and opportunities for female fishers. They can also promote social inclusion by supporting marginalized groups within fishing communities. Gender inequality can limit opportunities for socioeconomic advancement, particularly for women and girls. Promoting gender equality in education, employment, and decisionmaking processes is essential for inclusive development. Certain social safety nets may encourage sustainable fishing practices and environmental conservation efforts. This not only ensures the long-term viability of fish stocks but also supports the livelihoods of fishers who depend on healthy marine ecosystems. (Ahmed, 2013) [1]

Access to Financial Services:

Access to financial services is instrumental in empowering fishers economically and socially. By providing them with capital, risk management tools, and opportunities for skill development and market access, financial inclusion can contribute significantly to the sustainable development of fishing communities and the overall upliftment of their livelihoods. Fishers often require capital to invest in boats, nets, and other fishing equipment. Access to financial services such as loans can enable them to acquire or upgrade their equipment, thereby improving their productivity and income. Fishing income can fluctuate due to seasonal variations, weather conditions, and fish availability. Savings mechanisms such as savings accounts or microfinance

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services can help fishers manage these fluctuations and maintain stable household finances. Fishers face risks such as accidents at sea, damage to equipment, or loss of catch due to natural disasters. Insurance products tailored for fishers can provide financial protection against these risks, reducing vulnerability and promoting resilience. Access to financial services can support diversification of livelihoods among fishers. It can enable them to invest in alternative income-generating activities such as small businesses. agriculture, or tourism, reducing dependence solely on fishing. Financial services can facilitate access to education and training programs for fishers and their families. This includes vocational training in sustainable fishing practices, business management, or financial literacy, enhancing their skills and ability to adapt to changing market conditions. Financial services can support fishers in accessing markets directly or through cooperatives. Loans for processing facilities or cold storage units can enable them to add value to their catch, reducing post-harvest losses and fetching higher prices. Improved financial inclusion can contribute to overall community development in fishing villages. It can support infrastructure development such as sanitation facilities, schools, healthcare centres, and roads, enhancing living standards and social well-being. Financial services can encourage sustainable fishing practices by providing incentives for investments in eco-friendly technologies or participation in certification programs. This promotes longterm resource conservation and improves the resilience of fish stocks.

Cultural and Social Factors

Addressing cultural and social factors is essential for the socioeconomic upliftment of fishers. By recognizing and leveraging community strengths, supporting traditional knowledge, improving access to education and skills, fostering supportive social networks, implementing enabling policies, integrating cultural values, and promoting resilience to environmental challenges, sustainable development in fishing communities can be achieved. The socioeconomic upliftment of fishers is significantly influenced by cultural and social factors, which play crucial roles in shaping their livelihoods and opportunities.

Fishing communities often have strong cultural identities and social cohesion. These factors can either support or hinder socioeconomic development initiatives. Close-knit communities may facilitate collective action for shared benefits such as access to markets, infrastructure development, and advocacy for better policies. Fishers often possess traditional knowledge about marine ecosystems, fish behaviour, and sustainable fishing practices. Integrating this knowledge into modern fisheries management can enhance sustainability and economic returns. Governments and NGOs can support this by providing platforms for knowledge sharing and promoting traditional practices that align with conservation goals. Education plays a pivotal role in socioeconomic upliftment. Improved literacy and vocational training programs tailored to the needs of fishers can enhance their skills in areas such as modern fishing marine resource management, entrepreneurship. Social factors such as gender norms may influence access to education, highlighting the importance of inclusive policies. Strong social networks within fishing communities can provide crucial support during economic uncertainties, natural disasters, or market fluctuations. NGOs and governmental organizations can leverage these networks to deliver targeted interventions such as microfinance initiatives, health care services, and disaster preparedness training. Regulatory frameworks and policies can either facilitate or hinder socioeconomic development in fishing communities. Policies that promote sustainable fishing practices, secure tenure rights, and fair market access can empower fishers economically. Conversely, bureaucratic inefficiencies, unclear property rights, and overregulation can create barriers to progress. Cultural attitudes and beliefs regarding the environment and conservation efforts can influence the adoption of sustainable practices among fishers. Integrating cultural values into conservation programs can enhance community engagement and compliance with regulations aimed at preserving marine resources.

Role of Government in Alleviating Socio-economic Status of Fishers

The government plays a crucial role in uplifting the socioeconomic status of fishers in India through various policies, programs, and initiatives. Develop and implement policies that prioritize the welfare of fishers, promote sustainable fisheries management, and protect their rights to coastal resources. Ensure coherence between fisheries policies, environmental regulations, and socio-economic development goals. Invest in developing and upgrading fishing harbors, landing sites, storage facilities, and ice plants to improve operational efficiency and reduce postharvest losses. Provide access to basic infrastructure such as clean water, sanitation facilities, electricity, healthcare, and educational institutions in fishing communities. Facilitate access to affordable credit, microfinance, and insurance schemes tailored to the needs of fishers to invest in equipment, boats, and technology. Subsidize the cost of essential inputs like fuel and fishing gear to alleviate financial burdens and increase profitability. Implement vocational training programs that equip fishers with skills in modern fishing techniques, navigation, boat maintenance, and entrepreneurship. Promote education and awareness programs on sustainable fishing practices, marine conservation, and climate change adaptation. Establish market linkages for fishers to access fair markets, bypassing exploitative middlemen, and ensuring better prices for their catch. Support value addition through processing, packaging, and branding of fish products to increase their market value and profitability. Introduce social security schemes such as health insurance, accident compensation. and retirement benefits to protect fishers and their families from economic shocks. Provide subsidies or incentives for housing, sanitation facilities, and essential services in fishing villages.

Enforce regulations and incentives to promote sustainable fishing practices, reduce overfishing, prevent habitat destruction, and mitigate climate change impacts. Support community-led initiatives for coastal resource management, marine biodiversity conservation, and pollution control. Ensure meaningful participation of fisher communities in decision-making processes related to fisheries management, coastal development, and policy formulation. Strengthen

fisher cooperatives, associations, and unions to advocate for their rights, negotiate fair terms, and access government support effectively.

Role of NGO'S

Non-governmental organizations (NGOs) play a crucial role in uplifting the socio-economic status of fishers in India through various initiatives and interventions. NGOs advocate for the rights of fishers, raise awareness about their socio-economic challenges, and lobby for policy reforms that benefit fishing communities. They educate fishers about their legal rights, entitlements, and opportunities for accessing government programs and services. NGOs provide training programs to fishers on sustainable fishing practices, resource management, alternative livelihoods, and entrepreneurship skills. They equip fishers with technical knowledge in areas such as modern fishing techniques, boat maintenance, navigation, and safety at sea. NGOs facilitate access to microcredit, savings, and financial services tailored to the needs of fishers, enabling them to invest in fishing equipment, boats, and small-scale enterprises. They promote savings and credit cooperatives among fishers to enhance financial inclusion and resilience to economic shocks. NGOs collaborate with government agencies and other stakeholders to develop and improve infrastructure in fishing communities, such as harbors, landing sites, storage facilities, and ice plants. They provide technical assistance and support for the establishment of community-based facilities for fish processing, value addition, and marketing. NGOs facilitate market linkages for fishers to access fair markets, negotiate better prices for their catch, and engage in value-added activities like processing and branding. They promote collective marketing initiatives cooperatives or producer groups to strengthen the bargaining power of fishers in the market. NGOs implement social welfare programs that provide health services, nutrition support, and education for fishers and their families. They promote health and safety awareness among fishers, and may provide emergency response and support during disasters or accidents at sea. NGOs work with fishing communities to promote sustainable fishing practices, conservation of marine biodiversity, and mitigation of environmental impacts such as pollution and habitat degradation. They support community-led initiatives for coastal resource management, marine protected areas, and climate change adaptation strategies. NGOs conduct research and gather data on socio-economic issues affecting fishers, monitor the impact of their interventions, and advocate evidence-based policies and programs. They evaluate the effectiveness of projects and initiatives, and provide recommendations for continuous improvement and sustainability.

Role of Individuals

Individuals can play a significant role in uplifting the socioeconomic status of fishers in India through various actions and initiatives. Individuals can choose to buy fish and seafood from sources that support fair trade practices, ensuring fishers receive fair prices for their catch and are not exploited by middlemen. Raise awareness among friends, family, and communities about the challenges faced by fishers, including issues related to exploitation, environmental degradation, and lack of access to basic amenities. Advocate for policy reforms that prioritize the welfare of fishers, sustainable fishing practices, and conservation of marine resources. Support organizations and campaigns that promote sustainable fisheries and responsible seafood consumption. Choose seafood products that are certified sustainable (e.g., MSC certification) to encourage environmentally friendly fishing practices. Volunteer with NGOs or community organizations working with fishers to provide support in education, healthcare, skills training, or environmental conservation efforts. Donate to organizations that focus on improving the livelihoods and well-being of fishing communities through targeted programs and initiatives. Share skills and knowledge with fishers, such as business management, marketing, or technical skills related to fishing techniques, boat maintenance, or processing. Mentorship programs can also help fishers develop entrepreneurial skills and explore alternative livelihood options during off-seasons. Purchase goods and services from local fisher cooperatives or community-based enterprises to directly support the livelihoods of fishers and their families. Encourage the development of local markets and value-added activities such as fish processing and eco-tourism initiatives. Stand up for the rights of fishers and marginalized communities, advocating for access to basic services, social protection, and representation in decision-making processes. Support initiatives that promote gender equality and inclusivity within fishing communities. Participate in coastal clean-up activities and conservation efforts to protect marine habitats and biodiversity. Encourage sustainable practices in daily that reduce plastic pollution and minimize environmental impacts on coastal ecosystems. By taking these individual actions, people can contribute to creating positive change in the lives of fishers, promoting sustainable livelihoods, and fostering inclusive development in coastal communities. Every effort, no matter how small, can make a meaningful difference in uplifting the socio-economic status of fishers in India.

Conclusion

The socio-economic upliftment of fishers is a multifaceted challenge that requires a comprehensive approach involving various stakeholders. The socio-economic upliftment of fishers is an ongoing process that requires collaboration among various stakeholders, including government, NGOs, and the community. By focusing on infrastructure, healthcare, education, and sustainable practices, we can work towards a more equitable and prosperous future for fishing communities.

References

- 1. Ahmed I. Social safety nets in Bangladesh. Institute of South Asian Studies, National University of Singapore; c2013.
- 2. Arthington AH, Dulvy NK, Gladstone W, Winfield IJ. Fish conservation in freshwater and marine realms: status, threats and management. Aquatic Conserv: Mar Freshw Ecosyst. 2016;26(5):838-857.
- 3. Banerjee S. Developing countries: modern perspectives on ideas for upliftment. In: No Poverty. Cham: Springer International Publishing; c2021. p. 153-163.

- 4. Bhat U, Verma H, Malik R, Sofi N, Rather M, Qayoom I, *et al.* Innovative extension approaches for development of fisheries and allied sectors: a comprehensive review. Int J Agric Ext Soc Dev. 2024;7(6):682. DOI:10.33545/26180723.2024.v7.i6Sa.682.
- Birkmann J, Liwenga E, Pandey R, Boyd E, Djalante R, Gemenne F, et al. Poverty, livelihoods and sustainable development. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Pörtner HO, Roberts DC, Tignor M, Poloczanska ES, Mintenbeck K, Alegría A, et al., editors. Cambridge University Press; c2022. p. 1171–1274. DOI:10.1017/9781009325844.010.
- 6. Chand GB, Asghar S. Socio-economic condition of fishermen community in Patna District, Bihar: Present status and probable strategies for improvement; c2023.
- 7. Cooke SJ, Fulton EA, Sauer WHH, *et al.* Towards vibrant fish populations and sustainable fisheries that benefit all: learning from the last 30 years to inform the next 30 years. Rev Fish Biol Fisheries. 2023;33:317–47. DOI:10.1007/s11160-023-09765-8.
- 8. FAO. Fishery and aquaculture statistics; c2024. Available from: https://www.fao.org/fishery/en/facp/ind?lang=es.
- Fritz JM. Socioeconomic developmental social work. In: UNESCO Encyclopedia of Life Support Systems. UNESCO-EOLSS project on sustainable world development. Oxford, United Kingdom; c2004. Available from: http://www.eolss.net. Retrieved October 27; c2005.
- 10. Gunakar S, Jadhav A, Bhatta R. Protections for small-scale fisheries in India: a study of India's monsoon fishing ban. In: The small-scale fisheries guidelines: Global implementation; c2017. p. 291-311.
- 11. Hawkins RL, Kim EJ. The socio-economic empowerment assessment: addressing poverty and economic distress in clients. Clin Soc Work J. 2012;40:194-202.
- 12. Health and Safety Authority. Managing health and safety in fishing; c2014. Available from: https://www.hsa.ie/eng/publications_and_forms/publications/fishing/managing_health_and_safety_in_fishing.pdf. ISBN 978-1-84496-206-8.
- 13. Husain N, Balkhi MH, Bhat TH, Dar SA. Socioeconomic status of fishermen in district Srinagar of Jammu and Kashmir. Soc Sci. 2016;5(1).
- 14. King TJ, Turner R, Versace V, Abernethy K, Kilpatrick S, Brumby S. Mental health in the commercial fishing industry: modern uncertainties and traditional risks. Fish Fish. 2021;22(5):1136-49.
- 15. Larsen IB. Fostering an entrepreneurial mindset: a typology for aligning instructional strategies with three dominant entrepreneurial mindset conceptualizations. Ind High Educ. 2022;36(3):236-51.
- 16. Narwadkar PP, Aher SJ, Sabale SKG, Ansari MA, Devi KA. Socio-economic conditions of fishermen community. J Survey Fish Sci; c2023 .p. 3454-57.
- 17. Nasr-Allah A, Gasparatos A, Karanja A, Dompreh EB, Murphy S, Rossignoli CM, *et al.* Employment

- generation in the Egyptian aquaculture value chain: implications for meeting the sustainable development goals (SDGs). Aquaculture. 2020;520:734940.
- 18. OECD. Strengthening health systems during a pandemic: the role of development finance; c2020. Available from: https://www.oecd.org/coronavirus/policy-responses/strengthening-health-systems-during-a-pandemic-the-role-of-development-finance-f762bf1c/.
- 19. Ponnusamy K, Sendhil R, Krishnan M. Socio-economic development of fishers in Andhra Pradesh and Telangana states in India. Indian J Fish. 2016, 63(3).
- 20. Purcell SW, Crona BI, Lalavanua W, Eriksson H. Distribution of economic returns in small-scale fisheries for international markets: A value-chain analysis. Mar Policy. 2017;86:9-16.
- 21. Qayoom I, Bhat BA. Change in fishing patterns in Jammu and Kashmir provinces of J and K: A comparative study. Curr World Environ. 2015;10(1):179.
- 22. Qayoom I, Akhtar M, Dar SA, Khan S, Hussain N, Bhat BA. A study of socio-economic status of fisher communities in district Baramulla of Jammu & Kashmir. J Pharmacogn Phytochem. 2019;8(3):583-586.
- 23. Qayoom I, Hussain N, Bhat TA, Balkhi MH, Bhat BA. A study of socio-economic status of fisher communities in district Srinagar of Jammu & Kashmir. Indian J Econ Dev; c2016 .p. 1-6.
- 24. Qayoom I, Wali A, Balkhi MH, Bhat BA. Utilization of water resources and fishing patterns in Kashmir valley: a case study. J Chem Biol Phys Sci. 2014;4(2):1233-1239.
- 25. Sathiadhas R, Narayanakumar R, Immanuel S, Fernando AB. Domestic marketing and infrastructure development of marine fisheries in India.
- 26. Scheyvens R. Ecotourism and the empowerment of local communities. Tour Manag. 1999;20(2):245-249.
- 27. Teh LS, Teh LC, Giron-Nava A, Sumaila UR. Poverty line income and fisheries subsidies in developing country fishing communities. NPJ Ocean Sustain. 2024;3(1):14.
- 28. Tietze U. Technical and socio-economic characteristics of small-scale coastal fishing communities, and opportunities for poverty alleviation and empowerment. FAO Fisheries and Aquaculture Circular, 2016, (C1111).
- 29. Turner RA, Szaboova L, Williams G. Constraints to healthcare access among commercial fishers. Soc Sci Med. 2018;216:10-19.
- 30. Xu Z, Qayum M, Afzal J, Aslam M. Availability and access to livelihood capital assets for development of sustainable livelihood strategies of fishermen: A case study of Manchar Lake Pakistan. Heliyon. 2023, 9(12).