



Small-scale Fisheries in India for Sustainable Development: A comprehensive review

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(Received- 20.12.2023, Revised- 1.02.2024, Accepted- 07.02.2024, Published: 17.02.2024)

How to cite this article:

Jan, S., Wanjari, R. N., Abass, Z. and Magloo, A. H. 2024. Small-scale Fisheries in India for Sustainable Development: A comprehensive review. *Chronicle of Aquatic Science* 1(9): 01-14.

ABSTRACT

The global reliance on fisheries and aquaculture, particularly in developing nations, highlights the critical role of small-scale fisheries (SSF). Often overlooked, these operations provide essential livelihoods and food sources to millions. The Food and Agriculture Organization's IYAFA 2022 Global Action Plan (IYAFA GAP) aims to raise awareness and foster collaboration to empower SSF. Despite their significance, SSFs encounter challenges such as inadequate support and regulation. Acknowledging their distinct characteristics, including reliance on local markets and decentralized settlements, the plan endeavors to ensure the sustainability and socio-economic well-being of these vital coastal communities. The impact of globalization on small-scale fishing communities is intricate. Despite their pivotal role, these fisheries confront challenges like declining stocks, competition, and insufficient representation. Historically side-lined, they are gaining recognition, yet issues such as poor documentation and altered practices persist. Conflicts with larger industries and looming environmental threats add to the complexity. Efforts to bolster these communities are growing, but obstacles in infrastructure and governmental support persist, notably in countries like India, where pollution, overfishing, and living standards affect small-scale fishermen. Addressing these multifaceted challenges requires comprehensive solutions and empowerment to secure the future of these indispensable communities.

KEYWORDS

Small-scale fisheries, Declining stocks, Fishing communities, Fisheries and aquaculture

Introduction

Over three billion individuals worldwide rely on the ocean for their livelihoods, particularly in developing nations. Approximately 17% of the global population relies on fisheries and aquaculture as their primary source of animal protein. In less developed countries, fish contributes around 29% to animal protein intake, while in other developing regions, it accounts for about 19% (FAO, 2020). With the expanding global populace, the demand for seafood is projected to increase further. Africa and Asia have already witnessed a doubling of fish production over recent decades. Predictions suggest a 15% global rise in fish consumption by 2030 (FAO, 2021). The sustainable success of this industry hinges significantly on small-scale fisheries. These smaller operations directly supply food and income to those who need it most, fostering a strong incentive for sustainable practices. Additionally, small-scale fisheries display remarkable efficiency; nearly all of their catch is utilized for consumption. In contrast, industrial fishing fleets waste an estimated 20% of their catch, largely due to unwanted by-catch (HLPE, 2014). While large-scale fishing operations land greater quantities of fish, it's the small-scale fisheries that contribute a more significant portion of the consumed fish. The earth's surface is predominantly water, harboring crucial resources that sustain the livelihoods of millions, particularly those of our fishers and their families. According to the FAO, fishing encompasses the capture of aquatic organisms across marine, coastal, and inland areas,

supporting the food, nutrition, and income of approximately 820 million people, including aquaculture. From a technological standpoint, FAO (2014) defines small-scale fisheries as operations utilizing relatively smaller gear and vessels. The term has sometimes the added connotation of low levels of technology and capital investment per fisher although that may not always be the case. Small-scale fisheries constitute a minimum of 40% of global fisheries catches, involving approximately 90% of the workforce throughout the entire supply chain. An estimated 492 million individuals rely on small-scale fisheries for their livelihoods, specifically for nutrition and poverty alleviation (FAO, Duke University, and WorldFish, 2022).

Small-scale fisheries are a cornerstone of global fishing, employing 90% of the world's fishermen and contributing significantly to food security. Despite their vital role, these fisheries face challenges, with marine resources declining and management primarily focusing on larger-scale operations. "Understanding their complexity and contributions demands better data collection and more inclusive management approaches". The underrepresentation of small-scale fisheries in national statistics highlights the need for improved information systems and recognition of their socioeconomic significance. A human rights-based approach aims to address poverty within these communities, advocating for equity, access, and social welfare. Despite their significance, small-scale fisheries, particularly in more affluent nations, frequently receive insufficient

attention in conversations and research initiatives aimed at poverty alleviation and sustainable development goals. In 2022, the Food and Agriculture Organization of the United Nations (FAO) and collaborating entities joined efforts to commemorate the International Year of Artisanal Fisheries and Aquaculture (IYAF). This initiative aimed to enhance awareness and comprehension of the invaluable role played by artisanal fishers and aquaculture farmers in promoting sustainable development, encompassing food security, decreased income disparity, poverty reduction, and environmental conservation. Over the past five decades, the global supply of fish for human consumption has doubled (3.2%) compared to population growth (1.11%), resulting in an average per capita availability of fish surpassing 20 kg (FAO, 2016). With an annual production of 171 million tonnes (mt), fisheries and aquaculture have emerged as significant contributors to global food security, nutrition, and livelihoods (FAO, 2018). Fish constitutes approximately 17% of the global population's intake of animal protein (FAO, 2016), reaching as high as 72% in certain South Asian countries. The majority, nearly 90%, of global fish production occurs in Asia, notably in countries like India and Bangladesh, ranking 2nd and 5th respectively in worldwide fish production. Small-scale fisheries (SSF) serve as vital sources of livelihoods, food security, and income for numerous coastal communities worldwide (Teh and Sumaila, 2013). The term "small-scale fishery" (SSF) often conjures an image of modest, traditional fishing vessels equipped with basic gear that relies on labor-

intensive methods. These mental images frequently feature fishermen operating individually or in small teams on these boats in pursuit of fish. Small-scale fisheries, encompassing artisanal and subsistence methods, are commonly associated with less advanced technology and gear. Literature often highlights another defining characteristic of SSF: the predominantly local consumption or sale of their products within fishing communities through local markets (Chuenpagdee et al., 2006; Guyader et al., 2013). There is a prevailing notion that small-scale fisheries are mainly found in developing countries with strong maritime traditions, such as those in developing Asia. Fish and fisheries have been deeply intertwined with the socio-cultural and economic history of these ancient Asian civilizations. In both literature and practical fisheries development and management, there exists a sector within the fish economy often referred to by various names, such as "subsistence," "traditional," "peasant," "artisanal," or "inshore" fisheries, either used independently or in combination. SSF largely consist of self-employed individuals who primarily supply fish for direct consumption within their households or local communities. Women play a significant role in this sector, particularly in post-harvest and processing activities. This subsector of fisheries is incredibly diverse and dynamic, often characterized by seasonal migration patterns. The specific traits of SSF vary according to location, but they commonly maintain strong connections to local communities, reflecting historical ties to

nearby fishery resources, values, traditions, and fostering social cohesion.

IYAFA GAP 2022: Advancing Sustainable Development Through Empowering Small-Scale Fisheries and Their Objectives:

Artisanal and small-scale fisheries (SSFs) hold significant global importance, serving as sources of livelihoods, food security, and income for millions of individuals across developed and developing nations (Allison and Ellis, 2001; Berkes et al., 2001). According to the Food and Agriculture Organization of the United Nations (FAO), over 90% of the 4.36 million fishing vessels worldwide are categorized as small-scale (FAO, 2014). These SSFs support an estimated 22 million fishers, comprising approximately 44% of all participants in the primary production sector. Moreover, the post-harvest sector of SSFs engages around 100 million individuals (Béné et al., 2007). The labor-buffer purpose of SSF, which refers to its ability to provide employment opportunities in fishing communities with limited alternative sources of income, has been valued at approximately US\$61 billion annually (Béné et al., 2010). This highlights the crucial role SSFs play as an employer of last resort, supporting the livelihoods of many fishers. However, if not properly regulated, SSFs can contribute to fish stock depletion (Sumaila et al., 2012). Despite their significant contributions to national and local economies (Mills et al., 2011), SSFs often face challenges associated with poor planning and regulation, inadequate funding, and marginalization. Compared to other sectors of the global food economy, SSFs are often

neglected and receive insufficient attention from all levels of government (Smith, 1979; Kura et al., 2004). This lack of proper planning and support can hinder the sustainable development and management of SSFs, impacting the socio-economic well-being of those dependent on them. SSFs are vital for supporting livelihoods, ensuring food security, and generating income, particularly in fishing communities with limited employment opportunities. Addressing these issues is crucial to promote the sustainable development and management of SSFs and maximize their socio-economic benefits.

The Food and Agriculture Organization (FAO) has launched the IYAFA 2022 Global Action Plan (IYAFA GAP) with a set of objectives aimed at addressing the challenges and harnessing the potential of small-scale artisanal fisheries and aquaculture. The plan focuses on enhancing global awareness, understanding, and contribution of these sectors to sustainable development in various areas.

The primary goal of Objective 1 within the International Year of Artisanal Fisheries and Aquaculture (IYAFA) GAP is to elevate global awareness, comprehension, and acknowledgment of the pivotal role played by small-scale artisanal fisheries and aquaculture in fostering sustainable development. This encompasses their substantial contributions to facets such as nutrition, poverty alleviation, food security, and the responsible utilization of natural resources. Through heightened awareness and understanding, the initiative aims to underscore the significance of these

sectors and advocate for their inclusion within wider sustainable development frameworks.

Objective 2 within the International Year of Artisanal Fisheries and Aquaculture (IYAFA) GAP aims to cultivate cooperation among key stakeholders engaged in small-scale artisanal fisheries and aquaculture. This involves small-scale fishers, fish farmers, governmental bodies, fish workers, and other partners along the value chain. The objective is to bolster the effectiveness and sustainability of these sectors by facilitating the exchange of knowledge, best practices, and technologies. Through promoting collaboration, the initiative endeavors to elevate the income and well-being of individuals involved in small-scale fisheries and aquaculture, ultimately contributing to poverty alleviation and enhanced livelihoods.

The IYAFA GAP fundamentally acknowledges the immense potential held by small-scale artisanal fisheries and aquaculture in attaining sustainable development goals. It underscores the necessity for collaboration, global awareness, and comprehensive support to safeguard the enduring viability and sustainability of these sectors. Emphasizing their pivotal role, the initiative aims to channel their contributions effectively towards achieving food security, eradicating poverty, and responsibly managing natural resources for long-term sustainability.

Small-scale fisheries (SSF) are categorised by several distinct features that differentiate them from large-scale industrial fisheries.

These characteristics include:

Use of small craft and simple gear: Small-scale fisheries typically rely on small boats and

relatively simple fishing gear. While the techniques employed may not be simple, the capital investment required for equipment is relatively low compared to industrial-scale operations.

Skill-intensive operations: Small-scale fishers often possess a high level of skill and expertise in their fishing operations. Their expertise extends into the coastal aquatic environment and its fishery resources, often acquired through hands-on experience and transmitted across generations.

Share-workers or owner-operators: Within small-scale fisheries, individuals commonly operate either as share-workers or as owner-operators of their fishing units. Share-workers may work for a boat owner and receive a share of the catch as payment, while owner-operators have their own fishing units and retain the full proceeds from their catches.

Decentralized and scattered settlement pattern: Small-scale fishers are often found in decentralized and scattered settlements, living in close proximity to the coastal areas where they conduct their fishing activities. This settlement pattern is influenced by the need to be near fishing grounds and local markets.

Fishing close to home communities: Small-scale fishers tend to operate in near-shore waters, often within relatively short distances from their home communities. They typically engage in single day or night fishing operations and return to their communities with their catch.







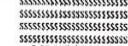




Reliance on local market networks: Small-scale fishers are closely connected to locally oriented market networks within their

hinterland. They often sell their catch directly to local consumers or intermediaries who distribute the fish within the local area.

Financial dependence on intermediaries: Small-scale fishers commonly rely on intermediaries or middlemen who buy their harvest. These intermediaries provide financial support, such as advances or loans, to fishers in exchange for exclusive rights to purchase their catch at a predetermined price.

Livelihood pursuit and cultural way of life: Small-scale fisheries are typically undertaken as household enterprises, providing a means of livelihood for fishing communities. Fishing activities often reflect a culturally conditioned way of life, with practices and traditions deeply embedded in the local community's identity.

Social and economic disadvantage: Compared to other segments of society, small-scale fishers are often socially and economically disadvantaged. They may face limited employment mobility outside of the fishing sector, contributing to a higher reliance on fishing as a prime source of income. Grasping these traits is essential for proficient fisheries management and the formulation of policies that bolster the sustainability and welfare of small-scale fishing communities. Recognizing the unique nature of small-scale fisheries helps to ensure that their specific needs and challenges are addressed, promoting the long-term viability of these important coastal livelihoods.

	LARGE SCALE 	SMALL SCALE 
Number of fishermen employed	 AROUND 500,000	 OVER 12,000,000
Annual catch of marine fish for human consumption	 AROUND 29 MILLION TONNES	 AROUND 24 MILLION TONNES
Capital cost of each job on fishing vessels	 \$ 30,000-\$ 300,000	 \$ 250-2,500
Fishermen employed for each \$ 1 million invested in fishing vessels	 5-30	 500-4,000
Fish destroyed at sea each year as by-catch in shrimp fisheries	 6-16 MILLION TONNES	NONE

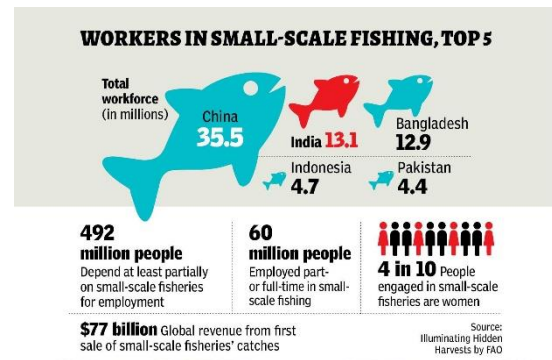


Fig. 1 Table illustrating the global comparison between the world's two marine fishing industries: small-scale and large-scale fisheries (Thompson, 1980).

The Impact of Modern Globalization on Small-Scale Fishing Communities:

The sustainable development challenges facing small-scale fisheries (SSF) are multifaceted and not thoroughly comprehended despite their substantial contributions. This sector contends with various hurdles such as dwindling fish stocks, competition from other industries (e.g., industrial, tourism), limited alternative livelihoods, inadequate representation in resource management, and an underrepresentation in fisheries statistics across numerous countries (Pomeroy et al., 2010). The evolution of the fisheries sector in the last few decades has, in many global contexts, led to resource overexploitation and

threats to habitats and ecosystems. Initially, the prevalent paradigm advocated for the inevitable progression towards industrialized fishing during the developmental periods (1950–1970s). Nations worldwide predominantly emphasized large-scale fisheries, aiming to boost fishing effort and capacity, largely neglecting the efficiency and potential of the small-scale sector (Panayotou, 1983; Platteau, 1989; Kurien, 1998). This disproportionate emphasis on large-scale offshore operations marginalized small-scale fisheries, presuming either their adoption of large-scale technologies or their gradual disappearance by integrating into industrial operations. With the crises emerging in global fisheries, the shortcomings of the industrial development model have faced increasing scrutiny. Despite contributing significantly to global fish production—constituting approximately half to three-quarters of total production and employing nearly 50 out of 51 million fishers worldwide—the small-scale fisheries remain inadequately documented (Berkes et al., 2001; Mathew, 2003). Their structures and functions, even at national or regional levels, lack comprehensive data, compounded by the absence of a universal definition for this sector. Moreover, customary practices governing resource benefits in small-scale fisheries have often succumbed to non-participatory and centralized management systems, rapid technological advancements, and demographic shifts. These communities grapple with unequal power relations, conflicts with larger fishing operations, and escalating competition with sectors possessing more

substantial economic or political influence, such as tourism, aquaculture, agriculture, energy, and infrastructure development. The strain on coastal marine and freshwater resources has intensified, with approximately 70% of fish stocks for which data are available being either fully exploited or overfished. The paucity of information on small-scale fisheries exacerbates their oversight, yet their visibility is slowly increasing. Recognizing the urgency, the Food and Agriculture Organization (FAO) has prioritized small-scale fisheries, notably endorsing the "Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines)" in 2015. These guidelines stress the need for robust fisheries data collection systems to enhance comprehension and facilitate sustainable management. Under the UN Sustainable Development Goal No. 14, "Life below water," small-scale fisheries play a pivotal role in nutrition, food security, poverty alleviation, and community well-being. Acknowledging their significance within such a prominent framework underscores their indispensability. Nevertheless, the sustainability of these fisheries relies not only on healthy fish stocks but also on resilient fishing communities. Stability in tenure rights is essential, yet insufficient alone to ensure the sustainability of these communities. The livelihoods and well-being of millions engaged in small-scale fisheries hinge upon strong, resilient communities. Protecting and fortifying these communities is critical to sustaining the fisheries they support.

Empowering Small-Scale Fisheries: Unleashing Market Potential Through the Value Chain Approach

The vision recognizes the imperative to empower individuals reliant on the Small-Scale Fisheries (SSF) sector, ensuring their dignified and inclusive participation in decision-making processes. This entails comprehensive management of the social, economic, and ecological systems that underpin the sector. However, small-scale fisheries remain highly disorganized, hindering fishers' ability to directly market their catch or products to consumers. Insufficient landing center facilities, deficiencies in wholesale and retail market infrastructure, cold chain inadequacies, and logistical gaps disproportionately affect small-scale operators within the sector. India has recently initiated several governmental schemes aimed at supporting SSF, including the 'Development of marine fisheries, infrastructure, and post-harvest operation' central scheme. Despite about three-fourths of India's total marine fish being marketed for internal consumption, small-scale fisheries encounter various obstacles that impede their contributions to food security and poverty reduction (Jena and Grinson, 2018). Challenges such as pollution, urban development, estuary destruction, mangrove and coral reef degradation, and overexploitation of fish stocks lead to depletion, consequently reducing the income of small-scale fishermen. Issues pertinent to small-scale fishermen encompass overcapacity, conflicts with unauthorized foreign fleets engaging in illegal, unreported,

and unregulated (IUU) fishing, and contention with large industrial fleets. Insufficient handling of captured fish, inadequate conservation methods and infrastructure, resulting in high losses and low-quality produce fetching low prices, add to their challenges. Moreover, these fishermen often endure substandard living conditions, lacking adequate sanitation, healthcare, and educational facilities. They face issues of displacement, deprivation of land use and access, and conflicts among users. The multifaceted challenges endured by small-scale fishermen demand comprehensive and concerted efforts to address their socio-economic, environmental, and infrastructural needs for sustainable development and improved livelihoods within the SSF sector.

Small-Scale Fisheries in India: Challenges, Significance, and Sustainable Management

In India, small-scale fisheries are integral to the nation's economy and food security, employing millions and providing vital protein sources, especially for coastal communities. However, challenges such as habitat degradation, overfishing, and inadequate infrastructure persist. Efforts by the government focus on sustainable management, technological advancements, and community engagement. Despite strides made, ensuring the sustainability and prosperity of these fisheries remains a priority, demanding continued attention to balance conservation with the livelihood needs of fishing communities. The entirety of India's inland fisheries sector aptly falls within the classification of small-scale fisheries. Small-

scale fisheries in India play a significant role in the country's coastal communities and economy. These fisheries are characterized by the use of small boats, simple gear, and skill-intensive operations. They are primarily conducted by traditional fishing communities who rely on fishing as a major source of livelihood (Barria and Mathews, 2010). The status of small-scale fisheries in India is complex. On one hand, they contribute significantly to employment, food security, and income generation, particularly in coastal regions. Small-scale fishers provide a substantial portion of the fish consumed domestically and support local economies through their involvement in the fishing value chain. Conversely, small-scale fisheries encounter numerous hurdles, such as overfishing, insufficient infrastructure, restricted access to credit and technology, diminishing fish stocks, and susceptibility to natural disasters and the impacts of climate change.

India's marine fisheries exhibit remarkable diversity in practices and participants. Ranging from large-scale tuna and shark long-line fishers to estuary-based small-scale fishers, these fisheries vary widely. While some operate at an industrial level with global market ties, others remain deeply entrenched in local village dynamics. Despite this diversity, Indian fisheries policies have predominantly focused on enhancing productivity and alleviating poverty through capital intensification, mirroring global trends (Little et al., 2018). However, the results of this drive toward modernization have been mixed. Indian

fisheries continue to span various social and economic strata, many falling within the small-scale category. Yet, the intricate social and economic diversity within these fisheries often eludes remote policymakers, leading to a simplistic association of small-scale fisheries (SSF) in India with poverty. This oversimplification disregards the diverse values inherent in SSF across different regions. It begins by exploring the challenge of establishing an unbiased definition of SSF, followed by a brief historical context of fisheries development and modernization in India. Utilizing extensive government data on fishing villages, it seeks to challenge the poverty narrative and offer a more comprehensive understanding of SSF that integrates socio-cultural values together with economic facets. Inspired by social well-being theory, the analysis views SSF within a framework where human well-being intertwines objective circumstances, subjective aspirations, and social relationships specific to each locale (Smith and Basurto, 2019).

Defining small-scale fisheries (SSF) in India involves considering various factors that differentiate them from other types of fishing activities. Some of the key yardsticks used to define SSF in India include:

Ethnic origin of the community: SSF in India often involves fishing communities that have a long-standing history and cultural connection to fishing. The ethnic origin of these communities can be a significant criterion in defining SSF.

Size and material of fishing craft: The size and material of fishing vessels used in SSF are

typically smaller and less technologically advanced compared to larger industrial vessels. SSF often utilizes smaller boats made of materials like wood or fiberglass.

Fishing gear used: SSF employs relatively simple fishing gear and techniques, which are less capital-intensive compared to industrial-scale fishing operations. Examples of gear used in SSF include gillnets, handlines, and traditional traps.

Depth and distance from the shore: SSF in India predominantly operates in near-shore waters and focuses on fishing grounds close to the coast. The distance from the shore and the depth of fishing grounds can be important factors in defining SSF.

Nature of fish landing: SSF often involves fishers bringing their catch directly to shore, where it is landed and processed locally. This differs from larger-scale operations that may have more complex logistics and processing infrastructure.

Market channels: SSF in India is often integrated with local and regional markets, with fishers selling their catch directly to local consumers or intermediaries. Market channels that prioritize local consumption and distribution can be a characteristic of SSF.

Fishing crew and remuneration: In SSF, the fishing crew is typically composed of fishers themselves, often from the same community. Remuneration is often based on a share of the catch or direct income from the sale of fish.

Based on these yardsticks, mechanized trawlers, which are larger vessels crewed by small-scale fishers, are often excluded from the definition of SSF in India. This is because they

exhibit characteristics and operational scales that are closer to industrial-scale fishing rather than traditional small-scale fishing.

Studying small-scale fisheries in India is crucial for several reasons:

- **Sustainability:** Understanding the importance and dynamics of SSF helps in developing sustainable management strategies. It enables policymakers and fisheries managers to identify and address the key challenges and threats facing these fisheries, such as overfishing, habitat degradation, and climate change impacts.
- **Livelihoods and Poverty Alleviation:** Small-scale fisheries are significant source of livelihood for millions of people in India, particularly in coastal communities. Studying these fisheries helps in assessing the socio-economic conditions of fishers, identifying poverty alleviation measures, and enhancing the resilience and well-being of fishing communities (Walmsley et al., 2006).
- **Food Security:** Small-scale fisheries contribute significantly to local and regional food security by providing a source of affordable protein-rich food. Understanding the dynamics of these fisheries helps in assessing the availability and accessibility of fish for local consumption and designing policies to ensure food security for vulnerable populations.
- **Ecosystem Health:** SSF are closely connected to coastal ecosystems and depend on healthy marine resources. Studying these fisheries provides insights

into the impacts of fishing practices on ecosystems and helps in developing ecosystem-based approaches to fisheries management, promoting conservation and sustainable resource use.

- **Social Equity:** Small-scale fishers often belong to marginalized and economically disadvantaged communities. Studying SSF helps in understanding the social dynamics, gender dimensions, and power relationships within fishing communities. It can inform policies and interventions that promote social equity, gender equality, and the empowerment of marginalized fishers.

The impact of effective management of SSF in India can be significant. It can contribute to the conservation and sustainable use of fishery resources, ensure the well-being and livelihood security of fishing communities, enhance food security, and promote equitable and inclusive development. Effective management can also help in reducing conflicts among different user groups, improving market access for small-scale fishers, and enhancing their resilience to external shocks and climate change influences (Kurien, 2015). Studying and managing small-scale fisheries in India is important due to their socio-economic significance, contribution to food security, and impacts on coastal ecosystems. Proper management can lead to more sustainable fishing practices, improved livelihoods, and the management of marine resources, benefiting both fishers and the broader society.

Combatting challenges in SSF in India involves a multifaceted approach:

Sustainable Practices: Encourage sustainable fishing methods to prevent overfishing and depletion of marine resources. Implement regulations and enforce sustainable practices to maintain a healthy ecosystem (Sovacool, 2009).

Infrastructure Development: Invest in infrastructure like harbors, storage facilities, and markets to enhance efficiency in fish handling, storage, and distribution.

Community Engagement: Involve local fishing communities in decision-making processes. Empower them with education, training, and technology to improve fishing practices and manage resources sustainably.

Regulatory Measures: Implement and enforce regulations that protect fish stocks, limit by-catch, and ensure fair fishing practices. Monitor and control illegal, unreported, and unregulated (IUU) fishing activities (Swan, 2004).

Research and Data: Support research initiatives to understand the socio-economic dynamics, ecological impacts, and challenges faced by small-scale fisheries. Develop strategies based on reliable data and findings.

Collaboration: Foster collaboration between government agencies, NGOs, fishing communities, and other stakeholders to address challenges collectively and develop tailored solutions.

Capacity Building: Provide financial assistance, access to credit, and technology upgrades to small-scale fishers. Strengthen their capacity for sustainable fishing, post-harvest handling, and market access.

Climate Resilience: Address the influence of climate change on fisheries by implementing adaptive measures. Support communities in building resilience against climate-related challenges.

Recognition and Support: Acknowledge the socioeconomic significance of SSF. Allocate resources and develop policies that prioritize their sustainable development, contributing to poverty alleviation and food security.

Balanced Approach: Strike a balance between conservation efforts and the socioeconomic necessities of fishing communities. Ensure that conservation measures do not adversely affect the livelihoods of small-scale fishers.

Conclusion

Small-scale fisheries in India face complex challenges despite their crucial role in the nation's economy and food security. Overfishing, habitat degradation, and inadequate infrastructure persist, demanding sustainable management efforts and community engagement. Empowering these fisheries remains a priority to balance conservation with the livelihood needs of coastal communities.

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