Evaluating the impact of communities-based fisheries education program on local communities attitudes towards sustainable fishing practices

Feruza Azizova[1*]; Makhzuna Polvanova[2]; Abdugafur Mamatov[3]; Shahnoza Siddikova[4]; Nodira Khasanova[5]; Pardakhol Normamatova[6]; Ahmad Karshiev[7]; Kurbonalijon Zokirov[8]

Received: 28 August 2024; Revised: 27 September 2024; Accepted: 15 November 2024; Published: 10 December 2024

Abstract

Effective fisheries management requires environmentally literate persons who can make wise judgments. Programs for environmental education that emphasize fisheries may contribute to the development of environmental literacy. The scholarly field of overseeing and it is designated "fisheries schooling." with an end goal to introduce an extensive image of fisheries, this multidisciplinary science consolidates components from limnology, oceanography, freshwater science, sea life science, meteorology, preservation, environment, populace elements, financial matters, measurements, choice examination, the board, and numerous different fields to understand fisheries. In many instances, new fields have developed, such as fisheries law and bioeconomics. Fisheries scientists frequently employ techniques from a wide range of academic fields because the field is so comprehensive. Fish stocks (populations) have declined in many areas over the past few decades, and worries about the effects of intense fishing on freshwater and marine biodiversity have grown.

Keywords: Fisheries education, limnology, oceanography

1*- Tashkent Medical Academy, Uzbekistan. Email: feruza.azizova@tma.uz,
ORCID: https://orcid.org/0000-0001-6360-503X
2- Uzbekistan State World Languages University, Uzbekistan. Email: makhzuna.polvanova@mail.ru,
ORCID: https://orcid.org/0000-0002-7901-3095
3- Jizzakh State Pedagogical University, Uzbekistan. Email: mamatovabdugafur99@gmail.com,
ORCID: https://orcid.org/0000-0001-6115-3316
4- Jizzakh State Pedagogical University, Uzbekistan. Email: siddikovashakhnoza@gmail.com,
ORCID: https://orcid.org/0000-0002-1754-2303
5- Denov Institute of Entrepreneurship and Pedagogy Denov, Uzbekistan. Email: nxasanova@dtpi.uz,
ORCID: https://orcid.org/0009-0007-4362-3936
6- Denov Institute of Entrepreneurship and Pedagogy Denov, Uzbekistan.
Email: p.normamatova@dtpi.uz, ORCID: https://orcid.org/0000-0002-5594-7563
7- Denov Institute of Entrepreneurship and Pedagogy Denov, Uzbekistan. Email: qarshiev.89@mail.ru,
ORCID: https://orcid.org/0009-0002-9857-0687
8- Tashkent State Agrarian University, Uzbekistan. Email: k_zokirov@tdau.uz,
ORCID: https://orcid.org/0000-0002-8156-5913
*Corresponding author
DOI: 10.70102/IJARES/V4S1/12

Introduction

The Indian government made the National Policy on Education (NPE) to control and propel training in the country. Both rustic and metropolitan areas of India are covered by the strategy, which reaches out from essential to advanced education. State head Indira Gandhi gave the principal NPE for the benefit of the Indian government in 1968. Top state leader Rajiv Gandhi gave the second in 1986, and State head Narendra Modi gave the third in 2020. Since acquiring autonomy in 1947, the Indian government has supported various drives to battle the issue of lack of education in both country and metropolitan region of the country. India's most memorable instruction serve, Maulana Abul Kalam Azad, imagined a bound together schooling system and severe focal government management over training cross country. To make proposals for refreshing India's schooling system, the Association government shaped the Advanced degree Commission (1948-1949), the Auxiliary Instruction Commission (1952-1953), the College Awards Commission, and the Kothari Commission (1964-66). The public authority of India's most memorable state head, Jawaharlal Nehru, passed the Goal on Logical Approach. The foundation of renowned establishments for logical instruction, similar to the Indian Organizations of Innovation, was subsidized by the Nehru organization. The National Council of Educational Research and Training (NCERT) was laid out by the Association government in 1961 as a free body to give direction to the state and Association legislatures on the turn of events and execution of instructive arrangement. For emerging countries, ensuring sustainable nutritional security is essential (Shadmanova and Karimov, 2024). Aquatic and marine habitats provide a wealth of food that is high in protein. Fisheries are important for foreign exchange, employment, income, subsidiary businesses, and reasonably priced, wholesome food Community based fisheries education shown in Figure 1. (Woodhead *et al*., 2018; Costa *et al*., 2024).

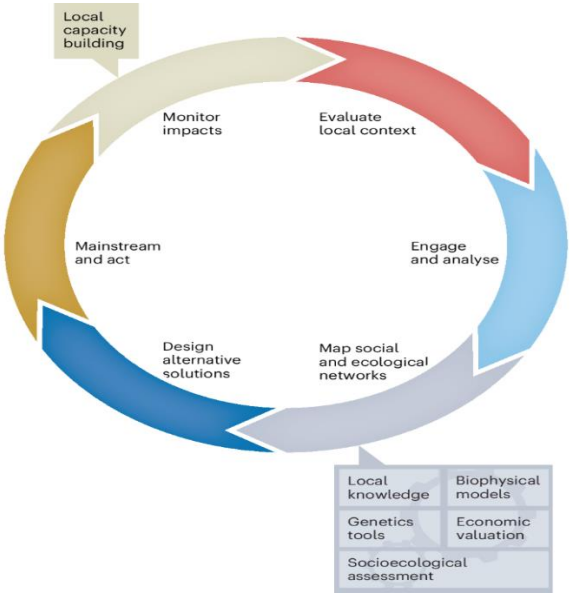

Figure 1: Community based fisheries education.

Objectives

1. To assess how local communities are affected by the fisheries education program.
2. To understand the role that education about fisheries plays in our lives.
3. Increase fish output through cutting-edge harvesting methods, contemporary culture systems, efficient marketing, and social advancement for the fishing community.
4. Prepare graduates in fishery science for jobs in the government, non-governmental organizations, private sector, banking, insurance, and fishing-related self-employment.
5. Provide students with postgraduate and Ph.D. degree-granting possibilities at both state and private institutions.

Impact of Communities Based Fisheries Education

Due to the quick advancements in fisheries education in India, a project financed by the National Agricultural Innovation Project is creating online courses for the B.F.Sc. degree program (Gislason, 2003). This project, which involves the Fisheries College and Research Institute in Thoothukudi and the College of Fisheries in Mangalore, is to develop e-learning modules to supplement conventional classroom instruction. By combining classroom instruction with self-directed learning, this method improves student-teacher relations, keeps teachers abreast of industry innovations, and solves low comprehension and limited teacher-student contact. 1986 saw the creation of the National Policy on Education, which was updated in 1992. From that point forward, various improvements have happened that require a survey of the strategy. The 34-year-old Public Arrangement on Schooling (NPE), 1986, has been supplanted by the main training strategy of the twenty-first hundred years, NEP 2020. By making school and school training more exhaustive, adaptable, multidisciplinary, fit to 21st century needs, and zeroed in on featuring every understudy's novel capacities, this strategy, which depends on the key mainstays of Access, Value, Quality, Reasonableness, and Responsibility, is in accordance with the 2030 Plan for Feasible Turn of events and looks to make India a powerful information society and worldwide information superpower. 37% of the world's population lives in coastal towns, and the majority of them rely on the fishing sector for their livelihoods, food, and income (Kaiser *et al*., 2003). Fish and fish products are typically processed and marketed by women in coastal locations. With an increase in population and pressure of climate change, sustainable fishing provides an important safeguard to millions of people around the world. Most of fishery workers belong to developing countries, 77% are from Asia, followed by 16% from Africa, 5%from Latin America and the Caribbean, and the remaining 2% spread across North America, Europe and Oceania. The impact of marine fisheries on communities can be both positive and negative. Marine fisheries impacted positively by providing a source of

protein-rich food for millions of people, create jobs and income generating opportunities for fishers, processors, and traders. It contributes to local and national economies through exports and tourism. For coastal communities, fishing is frequently an essential component of their identity and cultural legacy. Additionally, seafood is a rich source of vital nutrients that enhance people's health and wellbeing. Excessive fishing has a negative influence on marine fisheries by causing fish stocks to decline, endangering livelihoods and food security. Fishing gear and methods that can damage marine habitats and ecosystems are the cause of environmental degradation. Non-target species are occasionally captured and thrown away, squandering resources and damaging ecosystems (Salma, Bengen and Kurniawan, 2022). Fisheries can result in resource-related disputes, the uprooting of traditional fishing villages, and health hazards for fishermen from mishaps, weather exposure, and chemical pollutants.

Sustainable Fishing Practices

Animal protein, omega-3 fatty acids, vital amino acids, vitamin A, and minerals like calcium, iron, and zinc are all abundant in seafood (Shahzad, 2024). It has been observed that eating seafood can lower the risk of heart disease and stroke. Omega-3 fatty acids found in seafood enhance early childhood development and cognitive function. Eating fish also benefits a mother's health during pregnancy and nursing. In addition to giving millions of people access to animal protein, marine fisheries significantly increase food security and lower rates of malnutrition. Pollutants that are harmful to human health, such as dioxins, mercury, and polychlorinated biphenyls (PCBs), can be found in seafood. Salmonella, Vibrio, and Norovirus are among the bacteria that can occasionally contaminate shellfish and cause food-borne diseases. Certain seafood varieties might trigger negative reactions in people who are allergic or intolerant, and they can occasionally pose a risk to occupational health because of mishaps, exposure to the elements, and chemical contaminants. We should keep an eye on the sea's pollution levels, put safe handling and storage procedures for seafood into place, encourage sustainable fishing methods, support fisheries management, encourage research, and inform consumers about the safety and nutrition of seafood in order to guarantee that marine fisheries offer our future generations a sustainable and healthful source of nutrition (Woodhead *et al*., 2018). The rights holders and stakeholders who are thought to possess "community knowledge" are affected by the definition of the community. Anybody who benefits from the fishery, thinks often about fisheries issues, or potentially has something to do with overseeing or settling on decisions about the fishery may be viewed as a partner. Here, we recognize the privileges holders as an exceptional gathering having lawful or potentially regular freedoms to get to assets. "Industry," which seems to allude conventionally to individuals from the business fishing area however may recognizably avoid other significant classes of fish gatherers, is utilized to allude to partners and a few rights holders in various settings, including inside DFO. It is likewise hazy when or on the other hand on the off chance that gatherers

ought to be involved as delegates of a business area, a sociocultural gathering, a provincial or metropolitan people, or some blend of these classifications, given the various manners by which a community might be defined. An attempt has been undertaken to create a database of American fishing villages based on a number of these attributes (Sepez, 2007). When it comes to comprehending community knowledge, the "what" is just as important as the "who": what kinds of pertinent knowledge may a community possess and contribute? Here, we use a constructive social science epistemology, similar to that of (Hakkarainen, Daw and Tengö, 2020), what's more, characterize information as "legitimized conviction that is utilized to guarantee a still up in the air by acknowledgment of that reality in a specific setting.". Strikingly, the meaning of the local area will impact the sort of data that individuals are remembered to have, the proof that they can add to direction, and their ability to participate in cooperative, consultative, or local area drove the executives' systems. Their mastery could be stressed as vital on the off chance that our meaning of the networks in concern centers around fish collectors. Researchers have been interested in fishermen's knowledge for many years; amateur historians were the first to pioneer it, followed by ethnographers, social scientists, ecologists, and oceanographers. But it's crucial to remember that, no matter how widely the community is defined, meaningful information can exist in a variety of ways and is not only a source of data. For example, knowledge can be transmitted through practice, beliefs, values. Power-sharing within the relevant governance system will probably determine how much community knowledge is taken into account or used in fisheries management. Additionally, since the Fisheries Act recognizes Indigenous knowledge separately, it is evident that non-Indigenous communities can also possess community knowledge. However, Indigenous communities also possess community knowledge, so the communities mentioned in the Act may comprise groups of people from various sociopolitical contexts.

Conclusion

Improved understanding of an objective animal varieties or the biological system is one way that community knowledge can have an impact. This is important for recent goals aimed at achieving ecosystem-based management, but it can also be used to establish management priorities and perceptions, evaluate and explain financial elements, and rebalance power relations for better fisheries administration. Local area information is extraordinary and wide in its span; but it is helpless to requirements, similar as logical methodologies. In that capacity, it ought not be seen if all else fails wellspring of data, regardless of whether it could be critical in dynamic circumstances where logical ability is low. Community knowledge can be a pillar in bolstering the body of evidence for decisions on fisheries management while seeking legitimacy, credibility, and reconciliation. It is evident that community knowledge is crucial to fisheries management since it can serve as the foundation for numerous significant ecological, social, institutional, and economic factors. Networks with relevant information in

fisheries the executives could incorporate a different scope of individuals and associations such as locals, stakeholders, rights holders, and other specialists. These groups possess a wide range of expertise that could provide data or information for making decisions based on facts. Additionally, they have significant preferences and views that could guarantee that the administration of fisheries reflects the experiences and values of those impacted by management decisions. There are many pertinent applications and general lessons to be learnt, even if a variety of facilitators and obstacles affect the effectiveness of community involvement in fisheries management in terms of different conceptual, logistical, and communication-related aspects.

References

Costa, G., Sanna, G., Arrostuto, N., Fois, N., Sechi, C., Tomassetti, P. and Lomiri, S., 2024. The grim fate of a Paramuricea clavata (Risso, 1827) forest off Asinara Island (northwest Sardinia, Italy). *Marine biodiversity*, *54*(5), pp.69. https://doi.org/10.1007/s12526-024-01463-3

Gislason, H., 2003. 15 The Effects of Fishing on Non-target Species and Ecosystem Structure and Function. *Responsible fisheries in the marine ecosystem*, pp.255.

Hakkarainen, V., Daw, T.M. and Tengö, M., 2020. On the other end of research: exploring community-level knowledge exchanges in small-scale fisheries in Zanzibar. *Sustainability science*, *15*, pp.281-295. https://doi.org/10.1007/s11625-019-00750-4

Kaiser, M.J., Collie, J.S., Hall, S.J., Jennings, S. and Poiner, I.R., 2003. Impacts of fishing gear on marine benthic habitats.

Salma, U., Bengen, D.G. and Kurniawan, F., 2022, November. Impact of mangrove and seagrass ecosystem on marine productivity of Pramuka Island, Seribu Islands, Indonesia. In *IOP Conference Series: Earth and Environmental Science 1109*(1), pp. 012103.IOP Publishing. https://doi.org/10.1088/1755-1315/1109/1/012103

Sepez, J., 2007. A quantitative model for ranking and selecting communities most involved in commercial fisheries. *NAPA Bulletin*, *28*(1), pp.43-56. https://doi.org/10.1525/napa.2007.28.1.43

Shadmanova, S. & Karimov, N. 2024. Ensuring the security of an internet-based e-learning system through the use of integrated encryption methods. *Journal of Internet Services and Information Security, 14*(4), 389–400. https://doi.org/10.58346/JISIS.2024.I4.024

Shahzad, S.M., 2024. Global Fish Production, Consumption, Export, and Import Status. *Journal of professional research in social sciences*, *11*(1), pp.103-123. https://doi.org/10.58932/MULA0023

Woodhead, A.J., Abernethy, K.E., Szaboova, L. and Turner, R.A., 2018. Health in fishing communities: A global perspective. *Fish and fisheries*, *19*(5), pp.839-852. https://doi.org/10.1111/faf.12295