

ECONOMIC IMPACT OF NAVI MUMBAI INTERNATIONAL AIRPORT CONSTRUCTION ON THE LIVELIHOOD OF THE FISHING COMMUNITY

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Abstract : This research paper examines the significance of fishing as a primary source of income for coastal communities and analyzes the various factors that impact their economic and social well-being. For many generations, fishing has been a traditional occupation, and it continues to sustain numerous families by offering income, jobs, and a reliable source of food. The study relies on secondary data gathered from government reports, publications from fisheries departments, academic research articles, and other reputable sources. The results indicate that fishermen today encounter several challenges that impact their daily operations and long-term sustainability. Decreasing fish catches due to overfishing, pollution, and environmental changes have rendered fishing less reliable. Climate-related problems such as unpredictable monsoons, cyclones, and escalating sea temperatures have further disrupted marine life and fishing patterns. Moreover, traditional fishermen face high operational expenses, limited access to modern technology, and competition from mechanized vessels and large commercial trawlers. These issues diminish income stability and elevate financial risk for small-scale fishing families. Despite these challenges, the fishing industry remains critical for food security, coastal culture, and local employment opportunities. The study advocates for the implementation of sustainable fishing practices, government support programs, capacity-building initiatives, and enhanced market connections to fortify fishing communities. It also underscores the necessity of investigating alternative livelihood options so that families reliant on fishing can attain economic stability. In summary, the research highlights the importance of balancing livelihood requirements with the conservation of marine resources for future sustainability.

Keywords - Coastal communities, land reclamation, environmental degradation, urban development, cultural identity, traditional fishing, livelihood, future sustainability.

INTRODUCTION

The Navi Mumbai International Airport (NMIA) is a major infrastructure project being developed to reduce the growing pressure on Mumbai's existing airport and to promote regional growth. Situated near Ulwe in Navi Mumbai, the project is undertaken by the City and Industrial Development Corporation (CIDCO) in collaboration with Adani Airports Holdings Limited. Spread over a large coastal area, the airport is planned to handle a significant volume of air traffic and serve as a key gateway for domestic and international passengers.

The Navi Mumbai International Airport (NMIA) is being developed by Navi Mumbai International Airport Ltd (NMIAL) as an international airport planned to cater to the growing air travel demand of Mumbai region. The Navi Mumbai International Airport is situated at the geographic center of Navi Mumbai, specifically in the Ulwe Node of Navi Mumbai, which falls under the Panvel taluka in the Raigad district of Maharashtra state.

Although the airport promises faster connectivity, increased employment, and commercial expansion, it has also brought challenges for nearby communities that depend on natural water bodies for their livelihood. The fishing community of CBD Belapur is one such group that relies heavily on the creek and coastal ecosystem for income and daily sustenance. Since the beginning of the airport construction, activities such as land reclamation, dredging, and waste disposal have altered the marine environment. These changes have caused a decline in water quality, a reduction in fish availability, and restrictions on traditional fishing areas.

For generations, fishing has been the primary occupation and source of income for the local people in Belapur. However, the ongoing environmental changes have affected their earnings, working conditions, and overall way of life. Many fishermen now struggle with smaller catches, rising costs, and fewer selling opportunities due to pollution and habitat disturbance. Some are even compelled to look for other means of livelihood as their dependence on the creek becomes unsustainable.

This research aims to examine the economic effects of the airport's construction on the fishing community of CBD Belapur. The study will assess how income levels, employment patterns, and living standards have been influenced by environmental degradation and urban development. The purpose is to draw attention to the need for sustainable development practices that promote progress while protecting traditional livelihoods and preserving local ecosystems.

LITERATURE REVIEW

The research by Nilesh C. Vadnere (2023) discusses how the Navi Mumbai International Airport project has significantly disturbed the local ecosystem. Large areas of mangroves, mudflats, and wetlands—essential for coastal protection and biodiversity—are being cleared, with over 100 hectares of mangroves and nearly 400 hectares of mudflats affected. Such damage threatens wildlife habitats, reduces natural flood control, and alters the region's ecological balance. The study concludes that although the airport may bring economic gains, the long-term harm to the environment makes sustainable planning and conservation efforts crucial. [1]

The article from Number Analytics explains that airport activities create significant environmental challenges, including increased noise levels, air pollution, and water contamination caused by expanding infrastructure and flight operations. It stresses the importance of adopting eco-friendly designs, renewable energy, and efficient management practices to limit these effects. The guide also highlights that neglecting environmental responsibility can harm both nearby ecosystems and the airport's long-term sustainability. In essence, it calls for a balanced approach that supports aviation growth while protecting the environment. [2]

Airport construction and operations can impact the environment through air and water pollution, disturbance to wildlife, noise, and changes in land use. Identifying these effects early and applying measures to reduce them is important. Collaboration with authorities and including community input helps protect both people and natural habitats. Careful environmental management ensures that airport growth can happen without causing lasting damage to the surroundings. [3]

Airport construction can have direct impacts on local fisheries by reducing access to traditional fishing areas and destroying critical habitats. Activities like land reclamation, dredging, and coastal development can disturb aquatic ecosystems, leading to fewer fish and lower catches for local fishers. These changes often threaten the livelihoods of small-scale fishing communities who rely on these waters for their income. [4]

The expansion of Hong Kong's airport provides a clear example of how airport projects can permanently alter marine habitats. Hundreds of hectares of wetlands and coastal areas were lost, which affected fish populations and reduced the resources available to fishing communities. This demonstrates that large-scale infrastructure projects near coastal areas can directly disrupt traditional fisheries and the economic stability of local fishers. [5]

Airport development may also impact fisheries indirectly by altering water quality and sedimentation levels. Heightened pollution, modified water flow, and surrounding land-use alterations can diminish the efficiency of aquatic ecosystems, complicating local fishers' ability to sustain their livelihoods. [6]

Previous research on fish diversity in Thane Creek indicates a notable decrease in the variety of species present. Even though the creek was examined at multiple stations, only 12 species were documented, and only a small number were regularly found. Numerous fish species that were once abundant are now seldom encountered. This decline in diversity suggests that pollution and habitat disturbance have had a strong impact on the creek's marine life. Fishermen from the nearby areas also mentioned that their catches have become very poor. This shows a clear mismatch between the creek's ecological capacity and the actual fish productivity. [7].

RESEARCH METHODOLOGY

3.1. Study Area

The study area is geographically confined to the CBD Belapur region, with the specific focus on the Diwale gaon locality. All data collection and analysis are restricted to this defined area.

3.2. Research design

The research employed a qualitative research design based on unstructured interview. This approach was suitable for understanding the natural perspectives and experiences of the participants which enabled the researcher to obtain authentic insights.

3.3. Data collection procedure

The study uses both secondary and primary data. Secondary data is collected from newspapers, reports, and research articles, while primary data is gathered through interviews with local fishermen and fisherwomen to understand the airport's economic impact on their livelihood. The study is based on secondary data obtained from both publicly available and unpublished video sources. All the videos are selected based on their relevance, credibility and informational value with respect to the research topic. The content from these videos was analyzed, verified and the insights presented by the speakers were extracted, compared, and interpreted. Unpublished videos have been cited with necessary details while maintaining confidentiality.

RESULTS

The study observed that there are number of traditional villages in a Navi Mumbai coastal neighborhood situated along the creek. The Agri-Koli people, who have relied on fishing for many generations, make up the majority of these settlements. One such village, Diwale Koliwada, is well-known for its fresh fish supply throughout Maharashtra and Navi Mumbai.

According to conversations with fishermen and fisherwomen, fishing has been their main source of income for many years. Typically, women oversee the sale of fish in local markets, while males are in charge of fishing. Their daily fishing activities in small traditional boats within the acceptable coastal waters are tightly linked to their means of livelihood, family income, and cultural identity.

However, those interviewed indicated a significant decrease in fish availability over recent years. Villagers attributed this reduction to pollution from nearby developmental activities affecting the creek. They noted that the creek related to the future Navi Mumbai International Airport has suffered from contamination due to construction debris, oil spills, and waste. Fisherfolk expressed concerns that the water quality has deteriorated to such an extent that fish die before they can be caught, leading to minimal daily catches.

Due to the scarcity of fresh fish in the local area, many vendors now source fish from Mumbai and return to the village to preserve their cultural identity and support their livelihoods. The interviewees also pointed out that the issue is not limited to a single creek; similar problems are observed in larger systems like Thane Creek, where toxic buildup and sludge have accumulated on mudflats that once supported crabs and various species.

Community members also identified several sources contributing to environmental degradation. They mentioned pollution from Taloja MIDC, the ongoing construction of the airport, and various large-scale development projects initiated by CIDCO. Fisherwomen indicated that species once plentiful—such as Prawns/Shrimps (Jhinga), Crabs (Khekda/Chimbori), Clams/Small Shellfish (Nivthi), and Mudskipper fish (Pakhat)—are now seldom found. Traditional fishermen, who utilize small non-motorized boats and operate within 12 nautical miles, are particularly impacted because they cannot venture into deeper waters.

Members of the community stated that the land reclamation for the airport, spanning nearly 9,000 hectares, has led to the destruction of vital fishing areas. Breeding grounds have been obliterated, and thick layers of chemical sludge along the coast have made routine fishing difficult. High-value species like Pomfrets (Paplet), Mackerel(Surmai), Black Salmon (Sakla), and Indian Salmon (Rawas), which were commonly found 20 years ago, are now nearly nonexistent in local waters.

DISCUSSION

The results indicate that the swift growth of urban areas and various infrastructure developments in Navi Mumbai are putting considerable ecological strain on long-standing fishing communities. Places like Diwale Koliwada are examples of historical settlement areas where fishing serves not just as a means of making a living but also as a cultural legacy inherited over generations. As a result, the reduction in available fish impacts both the economic well-being and the community's identity.

Pollution arising from airport construction, industrial waste from MIDC zones, and extensive reclamation efforts have disrupted the natural functions of the creek ecosystem. Deteriorating water quality, chemical runoff, and oil pollution have harmed fish habitats and breeding areas. These environmental shifts directly decrease fish stocks, leaving local fishermen with little to no catch. Because these fishermen rely on daily earnings from their small traditional vessels, even a minor drop in fish availability results in immediate financial strain.

The transition from local fishing to acquiring fish from Mumbai demonstrates the disintegration of the community's traditional economic framework. This transformation disrupts the self-reliant system that has been in place for generations and increases reliance on outside markets. It also imposes additional transportation expenses and diminishes profit margins for fisherwomen, who primarily manage sales.

The decline in biodiversity is another significant issue. Fish species like Pomfrets(Paplet), Mackerel(Surma), Salmon (Rawas), and a variety of Prawns and Crabs, once plentiful in the area, have nearly vanished. Their scarcity indicates lasting ecological harm that may take years to remedy, even with prompt corrective actions. Large-scale reclamation projects, spanning approximately 9,000 hectares, further diminish natural coastal defenses and permanently erase productive fishing territories.

In summary, the findings underscore the critical need for improved environmental management, more stringent pollution regulations, and support or compensation for affected fishing communities. Without action, traditional fisheries in Navi Mumbai risk becoming unsustainable, jeopardizing both the ecosystem and the socio-economic stability of local inhabitants.

SUGGESTIONS

- 1) Monitoring airport construction sites and adjacent industrial zones for air, water, and noise pollution should occur regularly. Periodic reporting guarantees transparency and facilitates early detection of environmental issues.
- 2) Effective management of solid and liquid waste can diminish contamination and safeguard nearby communities.
- 3) Establishing green belts or buffer zones surrounding the airport and industrial spaces can aid in absorbing pollutants, lowering dust levels, and enhancing overall air quality.
- 4) Local communities need to be kept informed about environmental changes. Awareness initiatives and programs that encourage community participation can foster long-term sustainability.
- 5) Residents in the area can be given preference for employment in airport-related services, including housekeeping, security, transportation, canteen operations, and maintenance.
- 6) Skills development initiatives can equip them for these jobs. Establishing training centers focused on skills such as tailoring, electrical work, driving, logistics management, hospitality, and basic computer skills can provide stable job prospects for youth.
- 7) In cases where fishing is still viable, communities can be supported with modern equipment, cold storage solutions, and improved market access to enhance their income despite reduced catches.
- 8) Women in the community can initiate income-generating activities like food processing, papad/pickle production, or garment stitching through self-help groups (SHGs), leading to consistent household income.
- 9) Families impacted can be connected to programs offering livelihood grants, monthly compensation, or employment assurance schemes (like MGNREGA or similar local initiatives) to maintain financial stability.

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