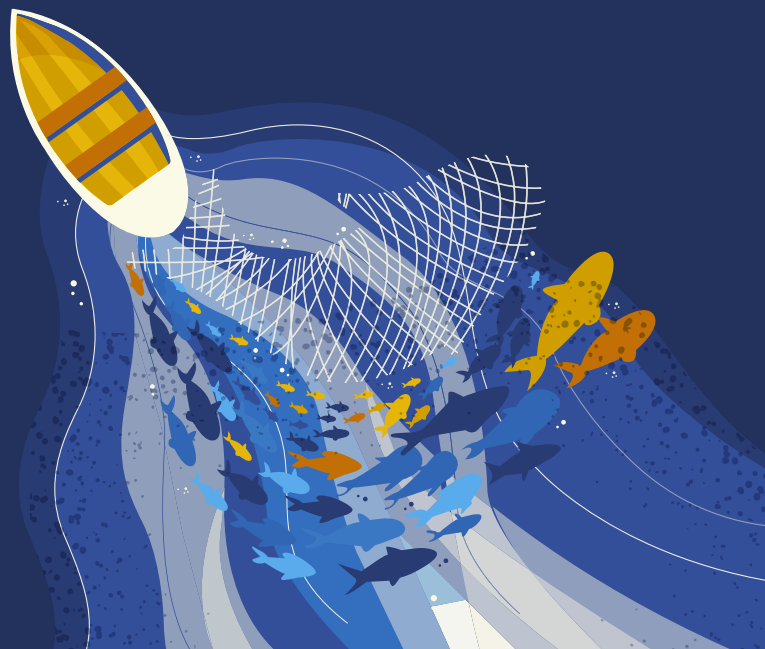


CASE STUDY

Sri Lanka –

MUTHUPANTHIYA



GEOGRAPHICAL CONTEXT

Muthupanthiya is a small coastal fishing settlement in the Puttalam District, Northwestern Province of Sri Lanka. Located along a 5 km stretch of the Laccadive Sea, the community of around 150 Sinhala Christian families depends almost entirely on small-scale fishing for survival. The area is rich in biodiversity, sitting near the Anawilundawa Ramzar wetland, a protected ecosystem of global importance. Unlike Sri Lanka's cyclone-prone eastern coast, the western coast was long considered less vulnerable to intense storms. However, perception has changed dramatically in recent years, as climate change increasingly impacts coastal communities, like Muthupanthiya.

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ECOLOGICAL AND TERRITORIAL DISRUPTION FROM CLIMATE CHANGE AND HUMAN ACTIVITY

Local fishers have been observing the impacts of climate change for over two decades. Around 2005 marked a clear turning point: sea temperatures rose noticeably, coral reefs began bleaching, and marine habitats deteriorated more rapidly. By 2015, the community began experiencing the more visible effects of sea-level rise, regular flooding, increased saltwater intrusion, and the loss of low-lying land.

SEA-LEVEL RISE: Sea-level rise has become more severe¹ and intensified over the past decade, contributing to frequent flooding (at least twice annually), storms, gales, coastal erosion, and the submergence of residential and agricultural land. It has also led to increased saltwater intrusion, salinizing freshwater bodies.

¹ "Muthupanthiya Fisher Folk Fear Their Island Village May Disappear," The Sunday Times (Sri Lanka), December 31, 2017. Accessed August 25, 2025. <https://www.sundaytimes.lk/171231/news/muthupanthiya-fisher-folk-fear-their-island-village-may-disappear-275490.html>

RISING SEA TEMPERATURES: Rising sea temperatures have stressed coral ecosystems, leading to coral bleaching and degradation of both coral and mangroves, further weakening natural coastal protections. The coastal erosion has washed away houses (six in 2013)², coconut groves, and areas used for fish processing and boat parking.

In addition, human-induced activities have led to environmental degradation. In the 1980s and 90s, mangrove forests were cleared to make way for industrial shrimp farms, often with government approval. This has resulted in the destruction of 40% of mangroves,³ which had acted as a buffer against erosion and flooding. With those natural defences gone, Muthupanthiya became increasingly exposed. Coastal development, such as the Colombo Port City project, unregulated sand extraction, and recent wind energy infrastructure development has since further destabilized the shoreline.⁴

These human pressures, combined with climate change, have pushed the ecosystem past its limit. Coral reefs are dying, fish stocks are declining, and the coastline continues to erode. Coastal erosion has swept away land once used for coconut farming, boat parking, and fish drying. Meanwhile, industrial pollution and tourism-related waste have further degraded marine ecosystems, reducing water quality and fish populations. Additionally, industrial activities, such as hot water discharge from the Norochcholai coal power plant (about 53 km north of Muthupanthiya),⁵ have damaged coral reefs by killing the polyps and raising water temperatures, driving away reef-associated fish species from the Northwestern coast.



RIGHT TO FOOD AND NUTRITION

Fishing is the mainstay of life in Muthupanthiya. Families once caught enough fish, such as herring, sardines, groupers, and parrotfish, to both eat and sell. But since 2005, fishers have seen a steep decline in catch. Warmer waters and habitat loss have driven fish away, with some species, like herring, now nearly absent. Access to previously productive fishing grounds is now restricted; for example, the Bar Reef, now a Marine Protected Area, is off-limits.

² Roshan Fernando, "Unheard Woes of Muthu Panthiya," Ceylon Today, March 16, 2024, <https://ceylontoday.lk/2024/03/16/unheard-woes-of-muthu-panthiya/>.

³ Muhammad Ilman, Paul Dargusch, Peter Dart, and Onrizal, "A Historical Analysis of the Drivers of Loss and Degradation of Indonesia's Mangroves," Land Use Policy 54 (July 2016): 448–59, <https://doi.org/10.1016/j.landusepol.2016.03.010>.

⁴ C. Corea, interview by author, November 27, 2018.

⁵ The Norochcholai power plant, specifically the Lakvijaya power plant, is owned and developed by the Ceylon Electricity Board (CEB), the Chinese were involved in building the plant. The construction of the Norochcholai power plant in Puttlam began in 2006 and was completed in 2011.

To catch fish, fishers must travel farther out to sea, using up to 10 extra liters of fuel per day. Fuel prices have skyrocketed, with kerosene going from LKR 87 (USD 0,28) per liter in 2022 to LKR 340 (USD 1,13) in 2023. Meanwhile, fish prices remain low. Many now earn as little as LKR 500 (USD 1,65) – LKR 1,000 (USD 3,31) per day, which is insufficient to cover basic needs. As a result, debt has become widespread, and youth migration abroad is rising. Many indigenous fishing methods and knowledge about the local ecosystem are being lost as younger generations move away from coastal areas in search of more stable livelihood opportunities. Skills once held by fisherwomen; such as making salt fish, Maldives fish, and fish pickles, are gradually disappearing.

Women involved in fish processing and marketing have also been hit hard. Coastal erosion has reduced space for drying fish, and with fewer fish coming in, women are losing income. Their financial contributions, which used to be up to LKR 30,000 (USD 99,45) per month, are now uncertain.

Families that supplemented their diets and income with coconut farming or home gardens are losing those sources too. Rising seas have swallowed farmland, and saltwater intrusion has made the soil unfit for growing vegetables and fruits. The loss of coconut production alone has cost families up to LKR 15,000 (USD 49,72) every three months.

Simultaneously, living costs continue to soar. Rice costs six times more than it did 15 years ago. While household expenses have increased five-eightfold, incomes have barely doubled. Many fisher families now face a growing gap between what they earn and what they need to survive.

RIGHT TO TERRITORIES

In 2024, ten families in Muthupanthiya were forced to relocate due to rising sea levels. No compensation was provided, with the government citing its financial crisis. Other families have gradually moved inland over the years, losing ancestral homes and community ties in the process. This kind of displacement is more than just physical: it tears at the social and cultural fabric of the community. Close-knit family structures are unraveling. Cultural sites, like ancient temples and cemeteries, are being lost to erosion, leaving deep emotional wounds and severing links to history and identity. The disruption of family life, coupled with the erosion of traditional social structures and cultural practices, has brought about profound psychological trauma. The construction of wind energy turbines in nearby coastal zones has also displaced residents, taking over traditional fishing areas with little regard for cultural or historical significance.

RIGHT TO WATER

Saltwater intrusion is destroying farmland and contaminating drinking water. Clean water is increasingly difficult to access. Women, typically responsible for collecting water, now walk up to 4 Km daily or wait for sporadic water deliveries, adding to their unpaid care work.

Warmer temperatures and changing rainfall patterns have brought a rise in climate-sensitive diseases like cholera and dengue. Women and children are especially vulnerable. With incomes falling and costs rising, families are struggling to afford medicine and transport to health facilities. The burden of care falls heavily on women, who now face the double burden of lost income and increased caregiving demands.

**CLIMATE CHANGE AND ENVIRONMENTAL POLICIES,
LAWS AND GOVERNMENT ACTIONS IN SRI LANKA**

Sri Lanka has adopted several environmental and climate policies, including the Coast Conservation Act and the National Adaptation Plan. However, implementation has been uneven and unjust. Local fishers are penalised for building small structures in coastal zones, while large-scale developers operate unchecked. Coordination between authorities and local communities is weak, and gender concerns are routinely ignored.

Several top-down initiatives, though marketed as sustainable, have worsened the challenges faced by small-scale fishers:

MARINE PROTECTED AREAS (MPAS) & THE 30X30 INITIATIVE	BLUE CARBON PROJECTS	BLUE ECONOMY AGENDA
The legal basis for Marine Protected Areas (MPAs), which form part of the global goal to protect 30% of marine areas by 2030, is found in the Fauna and Flora Protection Ordinance (FFPO) of 1993. While the FFPO focuses on terrestrial biodiversity, its application to marine areas like Muthupanthiya has restricted access to traditional fishing grounds. For example, the Bar Reef is now off-limits to them, despite being vital to their livelihoods. These areas are often designated without proper consultation, compensation, or the provision of alternative options for affected communities.	Blue Carbon projects aim to restore mangroves and seagrasses to store carbon. However, in practice, they tend to prioritize global emission targets and private finance over local community needs. Near Muthupanthiya, in the Anawilundawa Ramsar wetland, government and private actors are implementing such initiatives without involving local fishers. These efforts may restrict access to mangrove areas that communities have long relied on.	Sri Lanka's Blue Economy strategy promotes industrial-scale tourism, aquaculture, and so-called sustainable energy. These projects often displace small-scale fishers and worsen ecological damage. In Muthupanthiya, shrimp farms have destroyed coastal habitats, while port development and wind energy projects consume areas vital for fishing and daily life. These large-scale developments are often installed without proper environmental assessment. These ventures prioritize corporate profit over the human and customary rights of fisher peoples.



FISHERS' RESISTANCE AND SOLUTIONS TO CLIMATE CHANGE

Despite these challenges, the fishers of Muthupanthiya are not passive victims. They are actively proposing community-led alternatives rooted in traditional knowledge and sustainable practices.

Fishers in Muthupanthiya have organized community meetings, joined with the National Fisheries Solidarity Movement (NAFSO), and protested harmful policies, such as the Bar Reef Marine Protected Area, which was declared without consultation. They have submitted petitions, spoken to local authorities, and utilized the media to raise awareness about the loss of fishing grounds, erosion, and saltwater intrusion. Fishers have also led small-scale mangrove restoration efforts, replanting trees where shrimp farms had destroyed natural barriers. Women have taken prominent roles in some protests and campaigns, especially when fish drying spaces and home gardens were affected. Their resistance is not just about survival, it is about claiming agency in decisions that shape their future. As such, the fishers continue to demand the following:

➤ **RESTORE MANGROVES AND REEFS WITH LOCAL INVOLVEMENT**

Fishers recognize the vital role of mangroves and coral reefs in coastal protection and fish habitats. They advocate for small-scale, community-based restoration projects, not large corporate schemes that exclude them. For example, the replanting of mangroves can both protect the shore and support marine life.

➤ **COMMUNITY-GOVERNED PROTECTED AREAS**

MPAs should not block local access. Instead, fishers propose co-management models where communities help monitor, protect, and sustainably use marine resources. This approach respects local knowledge and ensures conservation efforts also support livelihoods.

➤ **SUPPORT SUSTAINABLE SMALL-SCALE FISHERIES**

Real solutions require recognizing customary governance and valuing traditional knowledge. This includes the promotion of community-based fishery models, as well as measures such as affordable credit, improved fishing gear, low-fuel boats, and additional income generating opportunities like eco-tourism or value-added fish products.

Territories lost to climate change impacts must be restituted or, where restitution is not possible, compensated with equivalent territories that allow fisher peoples to sustain their livelihoods, culture, and way of life.

➤ **GENDER-RESPONSIVE CLIMATE POLICIES**

Women must be included in climate adaptation efforts. This means access to training, support for food processing businesses, and recognition of the essential roles women play in household economies and community resilience.

“We want to protect the sea we live by. But we must be part of the solution.” – Woman leader from Muthupanthiya.



AUTHOR:

Madara Wijethunga, National Fisheries Solidarity Organization (NAFSO)

COPY-EDITING:

Michelle Brown Ochaíta, NAFSO/McGill University

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Ewelina Urita

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