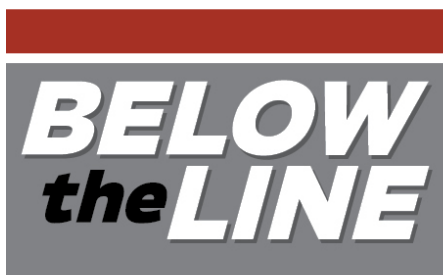




Climate change hits Sri Lanka's fisher families

When the sea stops paying, poverty deepens

Climate shocks turn livelihoods into daily economic risks



BY DR. SELVARAJAH THAYANANTH
AND ERANTHI SUBHASHINI

cepa
centre for poverty analysis

For many Sri Lankans, fish supplies 50% of their animal protein. The sector directly and indirectly employs close to one million people (including fishers and value chain workers) and supports the livelihoods of roughly 3.6 million people (World Bank Report, 2022).

Yet behind every fish sold in the market is

Another fisher highlighted the increasing economic burden associated with declining catch rates, adding that fishers are “traveling further offshore, spending more on fuel, and remaining at sea for longer periods while returning with smaller catches.” These experiences point to declining profitability in fishing, as lower catch volumes are occurring alongside rising fuel, maintenance and other operational costs.

The observations from the Batticaloa fishing community demonstrate how climate variability and changing marine conditions can directly affect the productivity and economic resilience of small-scale fisheries along the Eastern coast of Sri Lanka. Increasing weather-related disruptions, changes in the distribution and availability of fish resources, and the need to travel further offshore may collectively increase fishing effort while reducing economic returns. These pressures are particularly significant for small-scale fishing households that depend heavily on daily fishing income and have limited capacity to absorb increases in operational costs.

The situation may be further exacerbated

between 2007 and 2024 indicates a substantial overall decline in fisheries production.

The declining trend suggests increasing pressures on the productivity and sustainability of fisheries resources in the district. While climate change and associated changes in the marine environment may contribute to this decline, other factors including fishing pressure, changes in fishing effort and technology, habitat degradation, resource management practices, and socioeconomic conditions may also influence catch trends.

Therefore, the drop in fish catches should be interpreted within the broader context of interacting climatic, ecological, and anthropogenic drivers affecting coastal fisheries in the East.

Anticipated impacts of El Niño

Super El Niño is expected to severely compound climate pressures on coastal fisheries, driving steep declines in fish production, exacerbating household poverty, and disrupting coastal communities' econo-

a nouseoida whose income depends on increasingly unpredictable seas. Climate change is no longer a distant environmental concern; it is an everyday economic reality for thousands of Sri Lankan fishing families. As fish catches decline, weather becomes more erratic, and access to marine resources becomes increasingly uncertain, poverty is emerging as one of the most significant consequences of climate change along Sri Lanka's coastline.

Sri Lanka's fisheries sector contributes significantly to food security and rural employment. According to the Department of Fisheries and Aquatic Resources' Annual Performance Report (2025), the sector provides direct and indirect livelihoods for communities dependent on 36,921 fishing vessels, through harvesting, processing, transportation, marketing, boat building, and related small and medium enterprises.

However, the majority of marine fishers operate on a small scale, with limited savings, little insurance coverage, and few alternative income opportunities. Their livelihoods are highly sensitive to environmental change.

East coast

Fishing communities in Batticaloa on the Eastern coast are increasingly experiencing declining fish catches, restricted access to traditional fishing grounds, and rising operational costs.

These challenges are driven by a combination of socioeconomic, environmental and institutional factors. Climate-related changes have also become an increasingly important influence on coastal livelihoods in recent years. One fisher described this situation as follows: "Many days we return with a lower quantity of fish, while on some days we return without any catch. On other days, we are unable to go to sea due to adverse-weather advisories."

by large-scale climate variability, including El Niño-Southern Oscillation (ENSO) events, which can influence sea-surface temperatures, oceanographic conditions, rainfall patterns, and marine ecosystems across the Indian Ocean region. Consequently, the interaction between long-term climate change and short-term climate variability can intensify vulnerabilities within fishing-dependent communities.

The experiences reported by fishers in Kalkudah, therefore, provide important insights into the climate-related challenges facing fisheries and coastal livelihoods along the Eastern coast.

Extended effects

The effects extend well beyond those who venture out to sea. Women engaged in fish processing, drying, packaging, retailing, and other post-harvest activities experience reduced earnings when fish landings decline. Similarly, transport providers, ice suppliers, market vendors, repair workshops, and numerous small businesses that support the fisheries value chain also experience reduced economic activity. Climate change, therefore, affects entire coastal economies rather than fishers alone.

Climate change is progressively altering oceanographic conditions across the Indian Ocean, including sea-surface temperatures, ocean currents, wind patterns, and associated marine environmental processes. These changes can influence the distribution, abundance, migration, and seasonal availability of commercially important fish species, potentially reducing the productivity of traditional fishing grounds and increasing the uncertainty faced by fishing-dependent communities (IPCC, 2022).

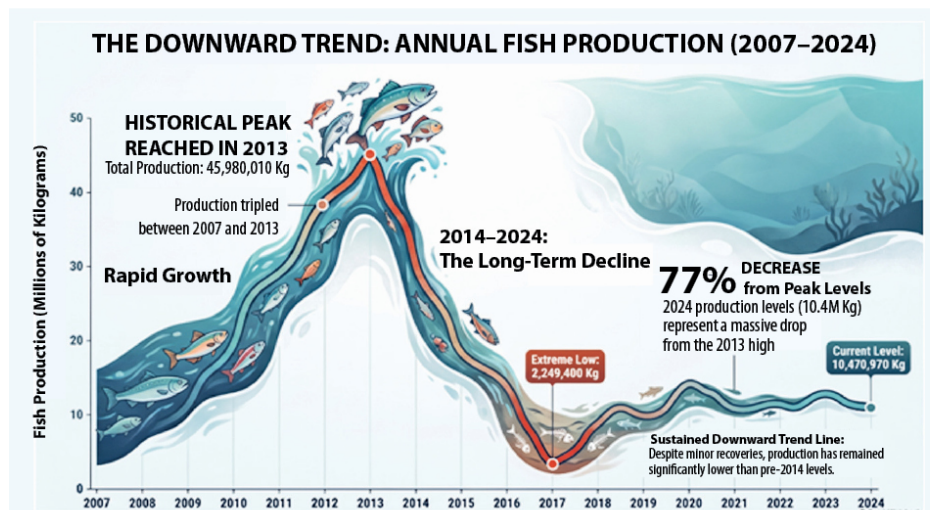
Such changes are also reflected in the fisheries production trends along the Eastern coast, particularly in the Batticaloa district. An analysis of reported fish catches

my. The specific impacts on fishing communities' livelihoods and socio-cultural fabric include:

- **Drastic drop in catch and increased operational costs:** Rising sea surface temperatures alter ocean currents and force commercially important fish species to migrate into deeper or cooler waters. Fishers are forced to travel farther offshore, spending significantly more on fuel and staying at sea longer for drastically smaller yields (OECD Review of Fisheries, 2025).
- **Deepening poverty and informal debt traps:** Because the majority of small-scale fishers rely on daily catches with minimal savings or insurance, a string of unproductive trips directly impacts basic household needs such as food, healthcare, and education. To survive non-earning periods, families increasingly rely on informal lenders, trapping them in long-term debt cycles (Bene, C., 2003)
- **Disruption across the value chain and gendered impact:** Reduced fish landings directly affect post-harvest activities, heavily impacting women involved in fish processing, drying, and local market retailing. Auxiliary businesses including transport providers, ice factories, and gear repair workshops also face sharp economic downturns (FAO, 2024).
- **Erosion of traditional ecological knowledge and safety:** Extreme weather unpredictability, sudden storms, and shifting wind patterns render traditional generational knowledge ineffective. The resulting decrease in safe fishing days per year directly cuts into annual income for daily wage earners (Berkes, F., 2019).
- **Heightened resource competition and social tension:** Severe fish scarcity intensifies localised and cross-border competition over remaining productive fishing grounds, worsening territorial disputes and straining social cohesion in coastal regions. (Pomeroy et al., 2016; Pomeroy et al., 2025).

Ultimately, the shrinking catch is not merely a fisheries issue; it is a development issue. Protecting Sri Lanka's fishing communities requires recognising that healthy marine ecosystems, responsible fisheries management, regional cooperation, and poverty reduction are inseparable. As climate change continues to reshape the Indian Ocean, ensuring sustainable livelihoods for coastal communities will be essential to achieving Sri Lanka's broader goals of food security, economic resilience, and inclusive development.

Dr. Selvarajah Thayananth is a Senior Research Professional and Eranthi Subhashini a Research Professional at the Centre for Poverty Analysis (CEPA), within the Natural Resources and Climate Change thematic area.



(District Resource Profile Report, 2025 - District Secretariat, Batticaloa)