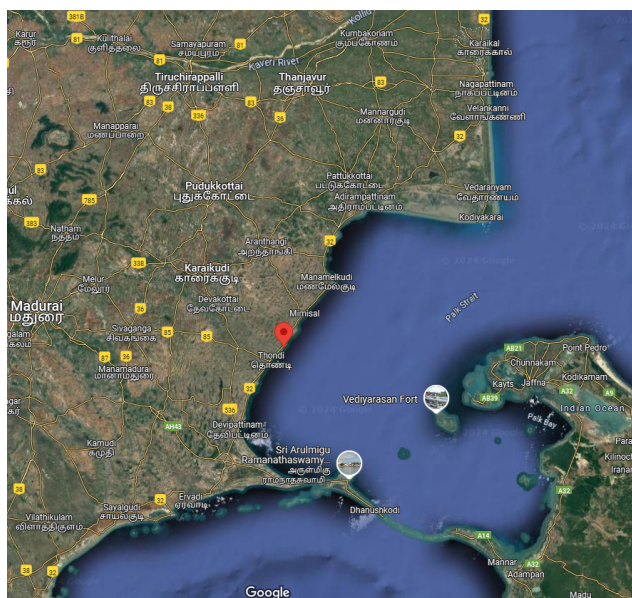


CONSOLIDATED FIELD REPORT

NOV 7th to NOV 15th

DATE : 07/11/2024

VILLAGE : Dhamodara Pattinam



The GEF project team, accompanied by international experts, visited Dhamodhara Pattinam and conducted a baseline survey and engaged with the local fishing community. This visit aimed to gather crucial insights into the area's marine biodiversity, ecological challenges, and socio-economic factors affecting community members, particularly in light of our goals around seagrass and marine habitat conservation.

Our interaction with the local fishermen was both insightful and impactful. They shared valuable information about the area's marine ecosystem, noting that although large fish species, such as sharks, are not commonly found, various species of jellyfish are abundant. The fishermen also mentioned seeing large turtles occasionally, though sightings are rare. Interestingly, they reported a significant increase in rabbit fish populations, with each fish reaching approximately one kilogram. This rapid growth of rabbit fish poses a concern as these fish feed on seaweed and seagrass seeds, potentially impacting the growth and health of these essential marine plants.

The discussion moved to the safety practices and resources available to the fishing community. The fishermen informed us that formal training on safety or access to safety equipment, such as life jackets, has been largely absent. Approximately

10-15 years ago, a brief training on safety protocols was held, but no similar initiatives have taken place since. In cases of emergencies, such as a person drowning, they rely solely on community efforts to perform rescues with no external support or equipment. Despite these limitations, they expressed a sense of resilience and adaptability in ensuring the safety of their peers.

When asked about environmental changes, the fishermen shared their observations regarding local temperature patterns. Although they admitted to not possessing scientific methods to measure temperature, they believed that no substantial temperature changes had occurred in recent years. However, they expressed concern over potential future threats, as they have been informed that a petroleum factory is planned to be constructed 6 kilometers offshore. While the factory has yet to be built, the community is already wary of its possible impacts on their livelihoods and the marine environment.

The conversation revealed additional concerns regarding fishing practices and resource availability. Over the years, the fishermen have observed a decline of approximately 70% in fish populations in the area. This decrease is attributed to the intense competition among numerous boats and the lack of regulatory measures to control fishing activities. Overfishing has created significant challenges, and the community members feel the absence of a structured approach to sustainable fishing. They fear that if these trends continue, it will further strain their economic stability and disrupt the ecological balance of the marine habitat.

Ecologically, the visit provided a comprehensive view of the local environment, which boasts a rich biodiversity even within the immediate seashore area. We observed a diverse array of marine life, including various types of mollusks, echinoderms, and crustaceans, which indicate a relatively healthy marine environment. The area is also home to extensive seagrass beds. The fishermen confirmed that the seagrass growth has been increasing each year, underscoring the vitality of this habitat.

The visit also highlighted significant environmental issues related to pollution. The major pollution sources in the area included organic waste and considerable

amounts of plastic debris. Although we did not detect a sulfur odor in the soil or water, suggesting limited industrial contamination. Dr. Arai noted that the area is likely to have abundant clear underwater springs in the region.

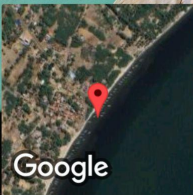
The community structure in Dhamodhara Pattinam reflects traditional roles, with most men engaged in fishing, while the women primarily manage household responsibilities. Women rarely venture out to sea. Local vegetation includes a variety of trees such as coconut, mango, tamarind, and palm, with Karivallem trees an invasive species to the area. Coconut and mango trees are especially valued, as they are widely cultivated by community members.

As part of the baseline survey, we engaged six community members in a survey and assessed the safety of the coastal area for swimming. Both the survey responses and our preliminary evaluations suggest that the area is relatively safe for swimming.





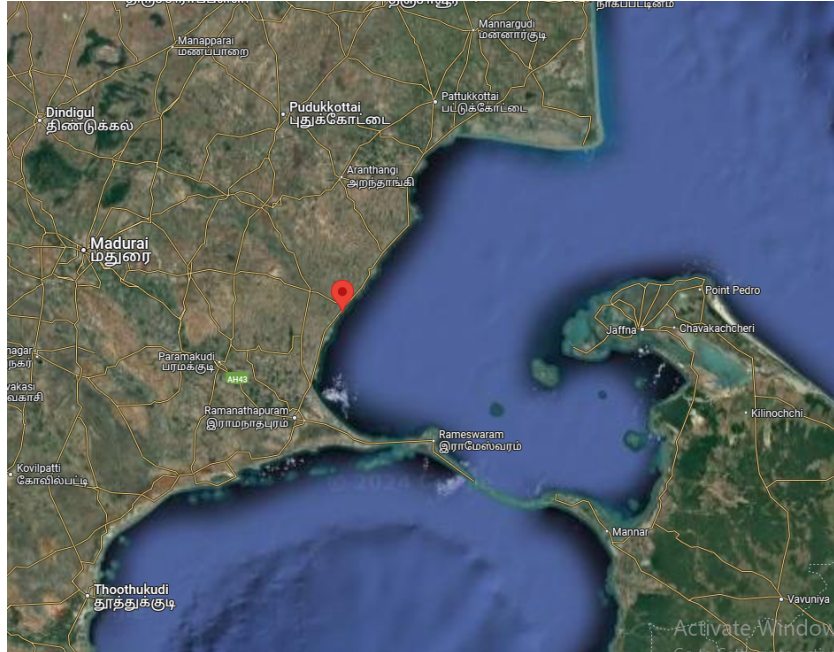
GPS Map Camera



Dhamodharan Pattinam, Tamil Nadu, India
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623409, India
Lat 9.792302° Long 79.068924°
07/11/24 12:12 PM GMT +05:30

DATE : 07/11/2024

VILLAGE : Nambuthalai



The second village the team visited was Nambuthalai to continue the baseline survey and to engage with the local community, particularly those involved in seaweed cultivation.

Upon arriving in Nambuthalai, we were greeted by active scenes of seaweed cultivation along the coast. This village has an established practice of seaweed farming, a primary livelihood for several community members. During discussions with local fishermen, we noted a concerning change in their environment: over the past decade, they have observed a noticeable rise in water levels.

As we explored the area, we observed significant pollution, particularly in the form of organic and plastic waste. The path to the shore was lined with large piles of plastic waste, making the human impact on the environment strikingly evident. Additionally, open defecation practices contribute further to waste accumulation in the area. The water near the shore had a strong sulfur smell, suggesting possible contamination or altered water quality, perhaps exacerbated by the organic matter and pollution present.

In terms of marine infrastructure, the coastline was densely packed with boats, which play a central role in the local fishing economy but also bring

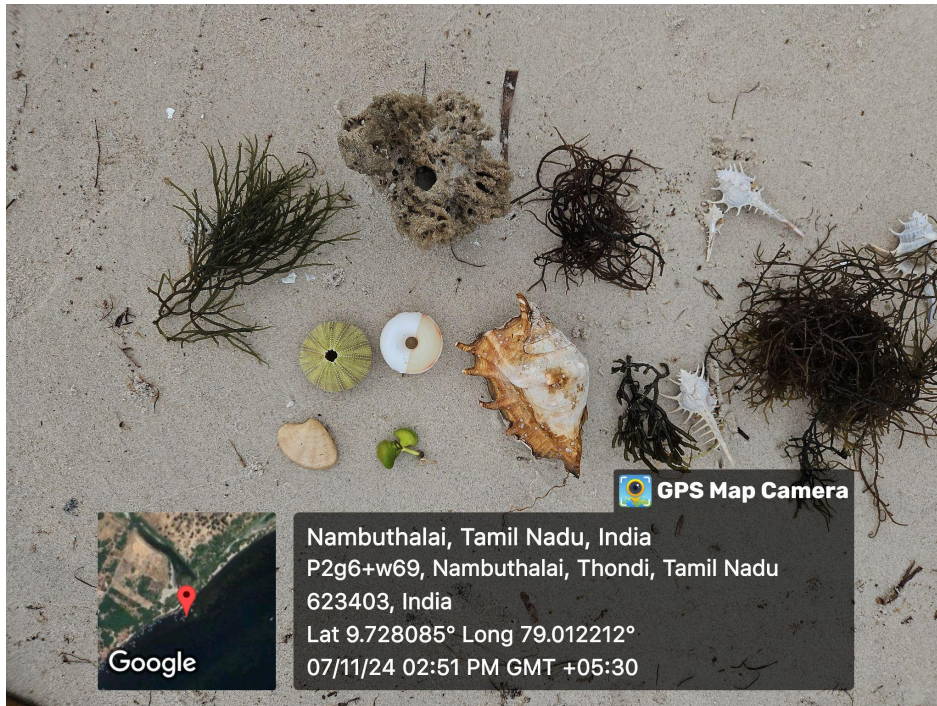
environmental challenges. A substantial amount of seagrass had accumulated along the shore, raising questions about the impact of boats and fishing nets on seagrass displacement. Our team suspects that the seagrass accumulation may result from the high number of boats as well as the type of nets used, both of which may disturb marine vegetation.

Compared to Dhamodhara Pattinam, the shore at Nambuthalai displayed less biodiversity, with fewer species visible along the coastline. While this limited diversity could suggest differences in marine health, it may also be attributed to other environmental factors specific to the area.

We had the opportunity to engage with women involved in seaweed farming, who provided insights into their practices and challenges. They informed us that the seaweed cultivation season runs from October to March, during which they conduct four to five cycles. Each cycle lasts approximately 45 days, requiring careful planning and effort to maximize their yield within the growing season.

Dr. Bayu and Dr. Michael suggested a more efficient cultivation technique using fewer poles—two large poles with extended ropes instead of multiple small poles—allowing the women to expand their cultivation area with less material. Additionally, Dr. Bhavya proposed that these women consider incorporating oyster farming alongside seaweed, which could diversify their sources of income and make use of similar environmental conditions. The natural vegetation near the shore included trees such as coconut, banyan, vavarasu, and karvelam.

We also conducted near to 7 people's marine engagement survey and swimming assessment in the area.





 GPS Map Camera

Nambuthalai, Tamil Nadu, India
P2g6+w69, Nambuthalai, Thondi, Tamil Nadu
623403, India
Lat 9.728048° Long 79.012245°
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