

When “Protection” Turns into a New Threat

by Linda Bana, Dorothy Lukhabi and Richard Adade



Source: Centre for Coastal Management – CiCADD Team, 2024

The Story!

Along parts of Ghana’s coast, massive sea defences were built to stop homes and roads from being swallowed by the Atlantic. It worked—just not in the way communities expected. While the defended stretch stabilised, neighbouring villages that were left “unprotected” suddenly saw their beaches disappear at terrifying speed, confirming what locals had been warning: the project had simply shifted the problem down the coast.

The “Before” Meets the “After”

The map below shows one of the study sites along the Ghanaian coastline. Before the sea defence, erosion was most severe at Site 1, while the other sites were relatively stable or even gaining sand, which originally justified the structure. After construction, however, the pattern flipped. New erosion hotspots exploded near Sites 3 and 4, with shoreline retreat reaching about –135.99 metres in places—an astonishing loss in a short period. At the same time, Sites 1 and 2 began to experience localized beach build-up, likely because the hard structure changed how waves and sediments moved along the coast.



Map Showing Selected Sites for Shoreline Change and Land Use Analysis (Source: Centre for Coastal Management – CiCADD Team, 2025)

The “hidden” face of maladaptation

This is a classical case of maladaptation: an intervention designed to reduce climate risk that unintentionally increases vulnerability elsewhere. By fixing one “problem” segment in concrete, the sea defence altered natural sediment flows and wave dynamics, sacrificing adjacent communities that had previously been relatively safe. People there are now losing land, homes and livelihoods not only to climate change and natural erosion, but to someone else’s adaptation decision.



Source: Centre for Coastal Management – CiCADD Team, 2025

The lesson is stark. Sea defences can be lifesavers in the right place. Still, if they are not planned at the scale of the whole coastline—and grounded in local knowledge and long-term monitoring—they can trigger exactly the kind of cascading coastal crises they were meant to avoid. In other words, adaptation that ignores systems thinking can backfire, turning “protection” into a slow-motion disaster for those just beyond the wall.

Author: Ghana CiCADD team. If you want to contribute to this discussion, email linda.bana@ucc.edu.gh