Investigating the Socio-ecological Impacts of Sea Level Rise on Coastal Rural Communities in Ghana

Authors : Benjamin Ankomah-Asare, Richard Adade

Abstract : Sea level rise (SLR) poses a significant threat to coastal communities globally. Ghana has over the years implemented protective measures such as the construction of groynes and revetment to serve as barriers to sea waves in major cities and towns to prevent sea erosion and flooding. For vulnerable rural coastal communities, the planned retreat is often proposed; however, relocation costs are often underestimated as losses of future social and cultural value are not always adequately taken into account. Through a mixed-methods approach combining qualitative interviews, surveys, and spatial analysis, the study examined the experiences of coastal rural communities in Ghana and assess the effectiveness of relocation strategies in addressing the socio-economic and environmental challenges posed by sea level rise. The study revealed the devastating consequences of sea level rise on these communities, including increased flooding, erosion, and saltwater intrusion into freshwater sources. Moreover, it highlights the adaptive capacities within these communities and how factors such as infrastructure, economic activities, cultural heritage, and governance structures shape their resilience in the face of environmental change. While relocation can be an effective strategy in reducing the risks associated with sea level rise, the study recommends that proper implementation of this adaptation strategy can be achieved when coupled with community-led planning, participatory decision-making, and targeted support for vulnerable groups.