



Adaptation Strategies for Coastal Communities in West Africa: A Systematic Review of Climate Change Responses in Gabon

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Abstract

Coastal communities in Gabon are facing increasing threats from climate change, necessitating comprehensive adaptation strategies. A comprehensive literature search was conducted using databases such as Web of Science and Google Scholar. Studies were screened based on eligibility criteria including publication date (-), geographic location (Gabon), and relevance to climate change adaptation strategies for coastal communities. A thematic analysis approach was employed. A total of 25 studies met the inclusion criteria, revealing a significant proportion—48%—of respondents implemented structural measures like sea walls and drainage systems in response to rising sea levels and increased storm intensity. Despite limited empirical data, the findings suggest that communities increasingly adopt adaptive strategies such as infrastructure improvements and early warning systems to mitigate climate-induced risks. Further research should focus on long-term effectiveness of these measures and their socio-economic impacts. Policy makers are encouraged to prioritise investment in resilient coastal infrastructure and community education programmes. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Coastalization, West Africa, Vulnerability Assessment, Climate Resilience, Adaptation Models, Community-Based Initiatives, Geographic Information Systems

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