Adapting Coastal Communities in West Africa to Climate Change Through Strategic Interventions

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Abstract

Coastal communities in West Africa are particularly vulnerable to climate change impacts such as sea-level rise and more frequent extreme weather events. A mixed-methods approach combining quantitative surveys with qualitative interviews. The survey used a stratified random sampling design to gather data from 100 households across four districts. Quantitative analysis employed regression models to assess the impact of climate change on household income and food security. Households in areas experiencing higher frequency of extreme weather events reported a significant decrease (25%) in their annual income compared to those not affected, with a confidence interval of ±10%. The mixed-methods approach has successfully identified the most vulnerable groups and highlighted the need for targeted interventions to enhance community resilience. Develop climate-resilient infrastructure such as seawalls and early warning systems. Promote diversification of livelihoods including aquaculture and improved weather forecasting access. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

ABSTRACT-ONLY PUBLICATION

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