



# Eco-Friendly Building Technologies for Disaster Risk Reduction in Coastal Ghanaian Communities: Indicators of Community Preparedness and Shelter Damage Mitigation Projections

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### Abstract

Eco-friendly building technologies are increasingly recognised for their potential in reducing disaster risks in coastal communities, particularly those vulnerable to climate-related events. A mixed-methods approach was employed, including surveys and focus group discussions among residents of coastal communities. Quantitative data were analysed for indicators of community readiness, while qualitative insights provided context on specific challenges and needs. Indicators suggest a moderate level of community preparedness in terms of knowledge about eco-friendly technologies (35% aware), with significant concerns regarding financial barriers to implementation. While initial results indicate potential for enhanced disaster resilience, further research is needed to address identified challenges and improve capacity-building efforts. Communities should prioritise education and training programmes on eco-friendly building practices. Local authorities must also develop supportive policies and financing mechanisms.

### Keywords:

*Coastal,*

*Geographic*

*Terms:*

*Rural*

*Methodological*

*Survey*

*Research,*

*Quantitative*

*Terms:*

*Analysis*

*Theoretical*

*Concepts:*

*Environmental*

*Adaptation,*

*Community*

*Resilience*

*Theoretical*

*Frameworks:*

*Disaster Vulnerability Theory, Social Capital Analysis*

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