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Research paper

Sustainable Governance and Resilience Enhancement in Coastal Fishing Communities Amid Climate Change*

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ABSTRACT

This research examines how sustainable governance influences the resilience of coastal fishing communities against the impacts of climate change case : Morocco. Employing a mixed-methods approach, the study synthesizes existing literature on governance and resilience, proposes a conceptual model linking governance practices to resilience mechanisms within coastal communities, and validates this model through Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicate that enhanced governance practices significantly improve community participation, decision-making transparency, and the sustainable management of fishery resources, thereby boosting resilience to climate impacts.

1 Introduction

Climate change poses significant global risks, with coastal fishing communities among the most vulnerable due to their reliance on marine ecosystems and resources (Allison et al., 2009). As climate variability intensifies, these communities face escalating risks, including rising sea levels, increased storm frequency, and shifts in marine biodiversity, which threaten their livelihoods and food security (IPCC, 2014).

- Emergence of Resilience as a Key Adaptation Strategy

The concept of resilience has become a critical focus in adaptation strategies for these communities. It emphasizes the ability to anticipate, prepare for, respond to, and recover from adverse conditions (Adger, 2000). Sustainable governance plays a pivotal role in fostering this resilience by ensuring that governance structures, policies, and practices not only protect but also empower communities to effectively manage the changes brought about by climate change (Berkes & Ross, 2013).

- Role of Inclusive and Transparent Governance

Research increasingly indicates that governance systems that are inclusive, transparent, and accountable are more effective at managing environmental and social challenges (Ostrom, 1990; Plummer & Armitage, 2010). These systems encourage broader participation in decision-making processes, ensuring that the voices of vulnerable populations, especially those in coastal fishing sectors, are heard and integrated into planning and response activities. However, empirical evidence on how exactly these governance mechanisms influence resilience in the context of climate change remains sparse and scattered (Lockwood, 2010). This study aims to fill this gap by exploring the linkage between sustainable governance practices and

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the enhancement of resilience in coastal fishing communities, with a focus on how these practices can be implemented effectively to address climate-related challenges.

- Research Questions

This research is structured around several core questions:

- What are the key components of sustainable governance that impact the resilience of coastal fishing communities?
- How do these governance practices influence community capacity to adapt to and recover from climate-induced adversities?
- What are the policy implications of these findings for enhancing the sustainability and resilience of coastal fisheries under changing climate conditions?

- Study Objectives and Expected Outcomes

By addressing these questions, the study aims to provide actionable insights and evidence-based recommendations for policymakers, community leaders, and other stakeholders involved in the governance of coastal areas. The ultimate goal is to promote governance frameworks that not only mitigate the adverse effects of climate change but also enhance the overall sustainability and resilience of coastal communities (Hughes et al., 2005; Folke et al., 2005) [7].

2 Literature Review

Sustainable governance integrates environmental, economic, and social policies to ensure long-term ecosystem health and human well-being. In coastal communities, governance practices are crucial for managing the intricate interactions between human activities and marine ecosystems. Pioneering researchers such as Ostrom (1990)[3] and Folke et al. (2005) [1] have underscored the importance of adaptive governance structures in managing common-pool resources amidst uncertainty and change, traits typical of marine environments impacted by climate variability and economic pressures.

On the other side, resilience in ecological and social systems describes the capacity to absorb stress, maintain functionality under external pressures, and adapt or transform in response to changing conditions. Scholars like Adger (2000) and Hughes et al. (2005) [7] identify resilience as a critical characteristic for coastal communities contending with environmental degradation and climate change. This research underscores the role of resilience thinking in policy frameworks, aiming to bolster the adaptive capacity of communities to confront challenges such as sea-level rise, increased storm frequency, and other climate-related disturbances.

Recent studies have begun to investigate the direct connections between governance approaches and the resilience of environmental and social systems. Notable works by Gupta et al. (2010) and Armitage (2007) [5] have explored how inclusive, participatory, and transparent governance practices can foster better environmental outcomes and boost community resilience. These findings suggest that governance involving community stakeholders in decision-making processes is more adaptable to environmental shifts and more effective in sustainable resource management.

Although existing literature offers valuable insights into the concepts of governance and resilience, there is a significant gap in empirically tested, integrated models that address these elements within the specific context of coastal fishing communities affected by climate change. Most studies have been conceptual or case-specific, lacking generalizable models applicable across diverse geographical and cultural settings. This study aims to bridge these gaps by developing and validating a conceptual model that links sustainable governance practices with resilience outcomes in the coastal fishing communities of Morocco, providing a new perspective on effective climate change adaptation strategies.

3 Methodology

This research employs a mixed-methods approach to investigate the impact of sustainable governance on the resilience of coastal fishing communities in Morocco, with a particular focus on adapting to climate change.

The methodology is divided into two main components: a qualitative exploratory study and a quantitative analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Our conceptual model employed links governance practices to resilience mechanisms within coastal communities. This model is based on the hypothesis that more inclusive and transparent governance practices can enhance community resilience in the fishing sector against climate change.

The model proposes connecting governance structures to resilience outcomes by integrating the following aspects: Community Participation, Process Transparency, and Sustainable Resource Management.

The evaluation of this model in your research is conducted through a quantitative study using the Partial Least Squares Structural Equation Modeling approach, which allows for testing the hypothetical relationships between governance and resilience variables, as mentioned in your documents. The expected results aim to demonstrate that sustainable governance significantly improves communities' capacity to manage resources sustainably and adapt to the impacts of climate change, thereby strengthening their resilience.

To ensure the validity and reliability of the study, several measures are taken. The content validity of the data collection instruments is reviewed by experts in the field of environmental governance and fisheries management. The reliability of the measures is assessed by calculating Cronbach's alpha coefficient for the questionnaire scales. Robustness tests are also performed to verify the stability of the PLS-SEM models.

Table.1. Conceptual Model (OUAAZIZ, 2024)

Construct	**Variable**	**Linked To**	**Hypothesis (H)**
Sustainable Governance of Coastal Communities	International Regulations	Risk Management	H1
			H2
	Ethics and Values (EV)	Risk Management	H3
		HR Development	H4
		Stakeholder Involvement	H5
			H6
	Public Powers (PP)	Risk Management	H7
		Stakeholder Involvement	H8
			H9
	Institutional Obligations	Stakeholder Involvement	H12
Resilience to Climate Changes	Protection of Natural Resources		H13
			H14
			H15
	Community Vulnerability		H22
	Agility in the Face of Climate Changes		H23
	Self-enhancement of Added Value		H24
Linkages	Risk Management	Protection of Natural Resources	H16
		Community Vulnerability	H17
		Agility in the Face of Climate Changes	H18
		Self-enhancement of Added Value	H19
	HR Development	Community Vulnerability	H20
		Agility in the Face of Climate Changes	H21
	Stakeholder Involvement	Self-enhancement of Added Value	H22

4 Results

- Qualitative Results: Analysis revealed key themes around the need for greater community involvement and transparency in decision-making processes.
- Quantitative Results: The PLS-SEM analysis confirmed that sustainable governance practices are significantly associated with increased resilience, evidenced by improved resource management and adaptive capacities to climate impacts.

The results indicate that strong ethical standards and shared values (EV) significantly impact risk management (MR) and stakeholder involvement (IPP). International regulations (RI), while important, show a mixed influence, sometimes negative, on aspects such as risk management. Public powers (PP) play a crucial role in enhancing risk management, whereas institutional obligations (OI) tend to have negative effects on human resource development (HRD) and stakeholder involvement.

These research findings corroborate existing theories on sustainable governance and community resilience, particularly those by Adger (2003). They underscore the importance of integrating ethical values into governance practices to enhance community resilience in the face of environmental crises.

From a practical perspective, these findings suggest that risk management and sustainable development policies should focus on strengthening ethical values and active stakeholder involvement. The results also indicate the need to revise some regulations and institutional obligations so that they do not become barriers to operational efficiency and community engagement.

Strengthening Ethical Values: It is crucial to promote ethical standards and shared values within coastal communities to enhance risk management and stakeholder involvement.

Regulation Review: Policymakers should evaluate and adjust international regulations and institutional obligations to minimize their potential negative impact on local operations.

Stakeholder Involvement: Encouraging greater stakeholder participation in the governance process could enhance resilience and improve the management of natural resources.

Training and Education: Investing in ongoing training and education of local actors on concepts of sustainable governance and resilience can contribute to better anticipation and management of climate risks.

This study paves the way for several future research avenues. It would be pertinent to further explore the impact of specific cultural values on community resilience. Additionally, a comparative study across different coastal regions could offer valuable insights into optimal practices of sustainable governance. Finally, integrating qualitative methodologies could enrich our understanding of community and institutional dynamics.

5 Discussion

The findings support the hypothesis that sustainable governance plays a crucial role in enhancing the resilience of coastal communities. They emphasize the importance of involving communities in the decision-making process, not merely as beneficiaries but as active participants. This approach not only strengthens resilience but also promotes more equitable and sustainable management of natural resources.

The correlation between transparency and resilience indicates that clear and open processes can mitigate potential conflicts and improve cooperation, which is essential for adapting management strategies to the challenges posed by climate change. Finally, sustainable resource management proves to be an effective strategy for mitigating the negative effects of climate change on fishery resources, ensuring that current fishing practices do not compromise the future of coastal communities.

6 Conclusions

The findings from both the qualitative and quantitative analyses underscore the critical role of sustainable governance in enhancing the resilience of coastal fishing communities to climate change. By fostering greater participation, ensuring transparency, and promoting effective resource management, governance practices significantly contribute to the community's ability to adapt to and manage the impacts of climate change.

The study concludes that sustainable governance is a critical lever for enhancing the resilience of coastal fishing communities to climate change. Future research should explore longitudinal data to examine the long-term impacts of governance changes on community resilience.

References

Not applicable

Conflict of Interest

The authors declare no conflict of interest.

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Bibliographie

[1] [1] Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. Annual Review of Environment and Resources, 30, 441-473.

[2] [2] Berkes, F., & Ross, H. (2013). Community resilience: Toward an integrated approach. Society & Natural Resources, 26(1), 5-20.

[3] [3] Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action. Cambridge University Press.

[4] [4] Armitage, D. (2005). Adaptive capacity and community-based natural resource management. Environmental Management, 35(6), 703-715.

[5] [5] Gupta, A., & Mason, M. (2016). Transparency in global environmental governance: A coming of age or a passing fancy? Global Environmental Politics, 16(1), 14-34.

[6] [6] Béné, C., Wood, R. G., Newsham, A., & Davies, M. (2012). Resilience: New utopia or new tyranny? Reflection about the potentials and limits of the concept of resilience in relation to vulnerability reduction programmes. IDS Working Papers, 2012(405), 1-61.

[7] [7] Adger, W. N., Hughes, T. P., Folke, C., Carpenter, S. R., & Rockström, J. (2005). Social-ecological resilience to coastal disasters. Science, 309(5737), 1036-1039.

[8] [8] Engle, N. L. (2011). Adaptive capacity and its assessment. Global Environmental Change, 21(2), 647-656.

[9] [9] Lebel, L., Anderies, J. M., Campbell, B., Folke, C., Hatfield-Dodds, S., Hughes, T. P., & Wilson, J. (2006). Governance and the capacity to manage resilience in regional social-ecological systems. Ecology and Society, 11(1), 19.

[10] [10] Pelling, M., & High, C. (2005). Understanding adaptation: What can social capital offer assessments of adaptive capacity? Global Environmental Change, 15(4), 308-319.