

Stakeholders' Disaster Risk Perception and Engagement in a Coastal Area of Thailand

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ABSTRACT

This study has investigated the preparation and implementation of disaster prevention and climate change adaptation measures in coastal areas, identified the relevant stakeholders and their disaster risk perception. Basic information was collected to prepare a questionnaire for future surveys. Preliminary research in May and June 2022 included surveys of central and local authorities, including the Department of Marine and Coastal Resources (DMCR), the municipalities of Songkhla and Muang Ngan in Songkhla province, and the municipality of Chaeng Talay in Phuket province. The interviewees were asked to describe current projects related to disaster prevention and adaptation measures and how administrative plans were designed and implemented, as well as how other stakeholders were involved. Beach erosion control is one of the main DMCR projects, and the criteria for determining the content of projects emphasize environmental friendliness. Such projects include bamboo or timber pile seawalls, mangrove reforestation, and so on. No mention was made of projects related to climate change adaptation by central and local governments were reported. Regarding stakeholder engagement for any project, public participation is solicited, and design ideas are shared before any project is launched. In terms of disaster risk perception, there is a local resident did not perceive most disasters as crises, while another resident was unique in that he perceived torrential rain and typhoons as crises. In terms of community involvement, both respondents showed a high level of trust in local people and active participation in local activities. Future research will clarify what factors may have caused this difference in disaster risk perception.

KEYWORDS: disaster risk perception, stakeholder engagement, disaster prevention, resilience, climate change adaptation

1 INTRODUCTION

To improve resilience to climate change, defined as the ability to overcome and recover from the extreme events that are expected due to accelerated climate change, collaboration among stakeholders at the local level must respond to the actual community context. Lack of communication between decision makers is a particular problem in coastal areas whose populations have diverse values, although each stakeholder has different roles, responsibilities, and perceptions of disaster risk.

In Thailand, the Department of Environmental Policy and Planning, Ministry of Natural Resources and Environment has taken a leadership role in preparing the National Adaptation Plan on Climate Change. While the plan is being formulated at the national level, but there is a gap with the level of implementation on the ground has lagged behind [1], and a method is needed to prioritize and promote implementation of actions to achieve a resilient society, based on an understanding of the current situation and needs on the ground. Likewise, a method is needed to prioritize and promote the implementation of actions to realize a resilient society, based on an understanding of the current situation and needs in the field [2]. The issues elucidated in this study may contribute to promoting more effective policy planning and implementation in regional governance in coastal spaces. This study has investigated the preparation and implementation of disaster prevention and climate change adaptation measures in coastal areas and identified the relevant stakeholders. Basic information was collected to prepare a questionnaire for future surveys.

2 METHODOLOGY

Disaster-vulnerable areas along the coast of Thailand in Songkhla and Phuket provinces were selected, in accordance with previous studies. Preliminary research in May and June 2022 included a semi-structured interview survey administered to central and local authorities, including the Department of Marine and Coastal Resources (DMCR), the municipalities of Songkhla and Muang Ngan in Songkhla province, and the municipality of Chaeng Talay in Phuket province. The interviewees were asked to describe current projects related to disaster prevention and adaptation measures and how administrative plans were designed and implemented, as well as how other stakeholders were involved (Table 1). Subsequently, a preliminary questionnaire survey was administered to stakeholders interested in coastal conservation and use in a workshop on coastal zoning held in Songkhla province. The survey items included coastal use and value consciousness of the local coast in coastal communities, disaster experience and risk perception, community involvement, and attributes as shown in Table 2.

Table 1 Research Outline for Semi-structured Interview

Topic	Question
Current projects related to disaster prevention and adaptation measures	<ul style="list-style-type: none"> - Disaster reduction efforts - Perceived risks of natural disasters - Perception of climate change adaptation impacts
How administrative plans were designed and implemented	<ul style="list-style-type: none"> - Prerequisites, data, etc. - Environment, ecology, economy, landscape, residents' opinions, cooperation - The formulation process
Other stakeholders that are involved	<ul style="list-style-type: none"> - When and how will stakeholders be involved? And which stakeholders will be involved? - How important is the explanation and cooperation with local

	communities, and how much are their opinions reflected and emphasized? - How do you cooperate with other government agencies?
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Table 2 Research Outline for Questionnaire

Topic	Question
Beach	Frequency of going to local beach, value consciousness in coastal communities [3], and priorities for achieving your ideal coast [4]
Disaster	Disaster experience and risk perception [5]
Social characteristic	General trust (trust in people in village) [6] and community involvement
Personal attribute	Age, gender, family member, occupation, income, and educational level

3 RESULTS AND DISCUSSION

Beach erosion control is one of the main DMCR projects, and the criteria for determining the content of projects emphasize environmentally friendliness. Such projects include bamboo or timber pile seawalls, mangrove reforestation, and so on. As each project proceeds, the approval committee at the provincial level includes seven elected experts and the head of the provincial office. Public participation is required before the project is implemented. The priority assigned to the projects depended on the degree of erosion as assessed every five years. No mention was made of projects related to disaster prevention or climate change adaptation.

No projects related to climate change adaptation by local governments were reported. The municipalities of Songkhla and Muang Ngan have budgets for emergencies, and they have sand fences to prevent the large waves caused by monsoons. In the municipality of Chaeng Talay, the budget includes a lifeguard salary, and the Ministry of Digital Economy and Society pays for maintenance to the tsunami warning system tower. As agreed to at a public hearing, the Marine Department provides beach nourishment for coastal erosion control in consultation with the municipality of Songkhla; however, these responses to the public hearing are conducted by the municipality.

In the municipality of Songkhla, public hearings are held regarding project design, so each relevant project can incorporate stakeholders in the project design with a view to collecting opinions from the 55 communities in this area. In the municipality of Muang Ngan, opinions are collected from the local people, and the only stakeholders are the residents. The municipality of Chaeng Talay has a relatively large budget for these purposes, as it is a popular tourist destination. It cooperates with the provincial office of Phuket, the Department of Public Works and Town Planning, and the Ministry of Environmental and Marine Department on tourism, wastewater treatment, and river mouth construction projects. Public participation is solicited, and design ideas are shared before any such project is launched. A preliminary survey was conducted with two workshop participants, both fishermen and from the target village, with different levels of education: A was in his 50s and had a university degree, and B was in his 60s and had an elementary school degree. Both participants had visited the beach about four times or more per week. Both of them valued the beach as a “healing place,” “new or old playground,” and “place to catch fish.” However, A only experienced storms and typhoons, and B also experienced high tides. In terms of disaster risk perception, A did not perceive most disasters as crises, while B was unique in that he perceived torrential rain and typhoons as crises. In terms of community involvement, both respondents showed a high level of trust in local people and active participation in local activities. Future research will clarify what factors may have caused this difference in disaster risk perception.

4 CONCLUSION

This study has investigated the preparation and implementation of disaster prevention and climate change adaptation measures in coastal areas, identified the relevant stakeholders and their disaster risk perception. Basic information was collected to prepare a questionnaire for future surveys. No mention was made of projects related to climate change adaptation by central and local governments were reported. Regarding to stakeholder engagement for any project, public participation is solicited, and design ideas are shared before any project is launched. In terms of disaster risk perception, there is a local resident did not perceive most disasters as crises, while another resident was unique in that he perceived torrential rain and typhoons as crises. In terms of community involvement, both respondents showed a high level of trust in local people and active participation in local activities. Future research will clarify what factors may have caused this difference in disaster risk perception.

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