

GENDER DIFFERENCES IN FLOOD RESILIENCE IN CENTRAL VIETNAM

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FLOODING IN THUA THIEN HUE, VIETNAM

Thua Thien Hue is a coastal province located in central Viet Nam (see Figure 1), where ~1.3 million people live. Almost 25% of whom live in Hue City, which was the national capital and seat of Nguyen Dynasty emperors until 1945 and is a UNESCO world heritage site⁽¹⁾. An important feature of the province is the

Huong River that flows through Hue City into the Tam Giang Lagoon and then into the Pacific. The Huong River and the lagoon provide water for the provincial capital of Hue and they are the lifelines for many poor and vulnerable people, who directly depend on their natural resources.

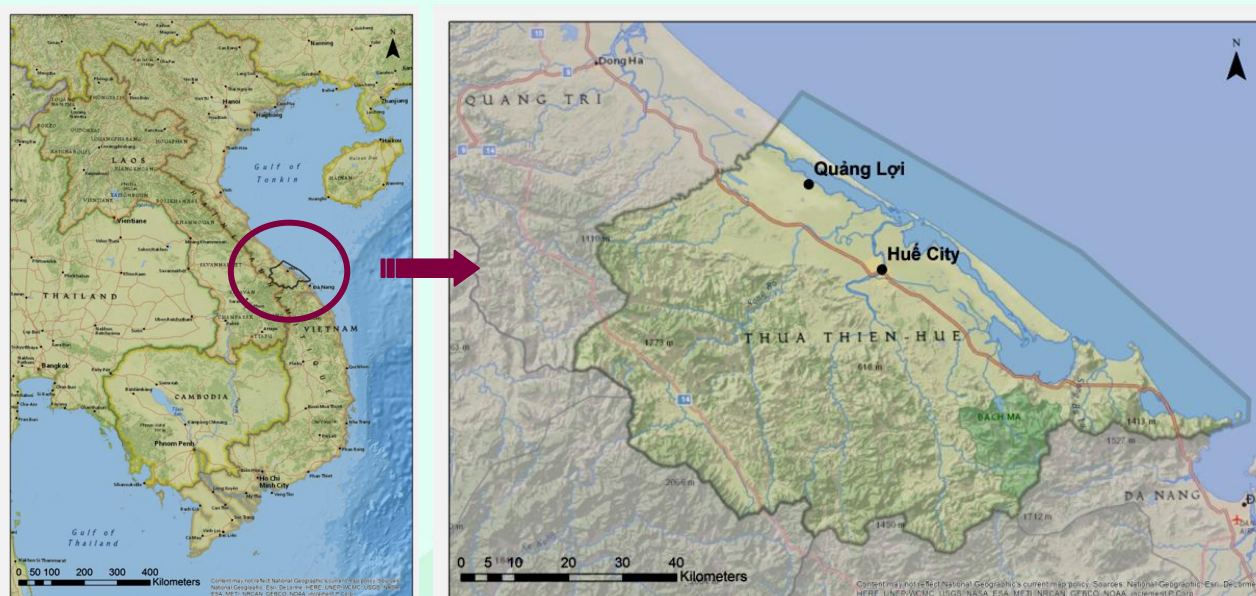


Figure 1: Location of case study within in Viet Nam (Left) and Thua Thien Hue Province (Right)

The province has been repeatedly affected by severe floods in the past decades, as floods occur from rivers, heavy rainfall, and the sea⁽¹⁾. The last flood was in November 2017. Across the province over 160,000 households were affected⁽²⁾, which inflicted an

estimated loss of over 830 billion Vietnamese Dong, with 9 reported fatalities^(3, 4).

Moreover, the future threat from flooding is likely to increase due to the effects of climate change⁽⁵⁾ rapid urbanization⁽⁶⁾, and the loss of natural ecosystems, such as coastal mangrove forests.



Photo: Ms Hoang Phan Bich Ngoc



Photo: Phan Thuý Tiên



Photo: Ms Hoang Phan Bich Ngoc



BOX 1: Resilience has become an important guiding principle in disaster risk management and climate change adaptation. This is because disaster resilience is proactive and forward looking in managing disaster risk. While no commonly accepted definition exists, flood resilience commonly builds on three pillars: resistance, recovery and adaptive learning. Resistance is the ability of an individual to absorb the shock caused by a disaster. Recovery relates to the time that an individual needs to return to their state from before the flood (both physically and mentally). Adaptive learning refers to an individual's ability to learn about and from (changing) flood events, so that they are better prepared than they were before the flood.

A significant portion of Hue's population has unstable livelihoods and lacks financial savings to handle shocks or disruptions. Additional factors include gender inequality and the fast disappearance of natural areas and ecosystems that both manage flooding (e.g. mangrove areas along the coast or ponds in the city) and support local livelihoods^(5, 6). However, despite the growing numbers of people harmed by flooding, there is little knowledge regarding the recovery of an individual or household from flooding. This is striking, as a speedy recovery is the ultimate goal of post flood efforts⁽⁷⁾. As part of the

ResilNam project we address this gap by investigating the factors that influence flood resilience with respect to self-reported recovery from flood experiences. Moreover, we focus on how these factors differ across women and men. This is especially relevant as there is widely recognised gender inequity in the disaster management process. Additionally, women are supposed to be more vulnerable to the negative impacts from natural disasters (see Results). Understanding how disaster recovery is experienced across genders is fundamental so that society as a whole is better prepared for natural disasters when they occur.



APPROACH

We interviewed over a 1000 households, with a roughly equal split between men and women, using a comprehensive survey. Our survey focuses on their flood resilience and recovery and factors which might relate to these concepts. Several specific questions on gender aspects of flood resilience and on flood perception were included. Urban (Hue City) and Coastal (Quang Loi Commune) communities were interviewed by local staff in August and September 2017. The survey was complemented by focus group discussions in the respective communities (for

a total of 368 participants) in order to gain an in-depth understanding of the situation on the ground, in their own voices.

We use the current state of the art scientific knowledge regarding flood resilience in addition to our survey to distil the factors that help to explain an individual's self-stated recovery, across genders within the Thua Thien Hue Province of Central Viet Nam. Finally, our approach is embedded in the current scientific approaches so that we can draw conclusions that are not only applicable within Vietnam, but are also globally relevant.

FINDINGS

Our findings indicate that men and women perceive flood risks and impacts differently. Women show higher levels of worry about flooding and have a more fatalistic view on flood impacts, in that they believe more strongly that nothing can be done to prevent flood losses. Moreover, our results show that psychological characteristics of the respondents (e.g. being stress resistant) and circumstances of the recovery process (e.g. having access to sufficient help from the government) are very important elements for an individual recovery⁽⁸⁾.

We also find that women recover less easily from flooding compared with men, even though the last major flood was 10 years ago. This could be associated with the different roles of men and women after a flood. The women respondents felt that it was their tasks to: look after children, elderly and the sick members of the household after and

during the flood as well as to carry on looking after their family. The male respondents more often stated that their tasks were to carry on working, to repair the house as well as looking after their family.

These differences in resilience and long-run impacts across genders (or, equally, across socially vulnerable groups) needs to be taken into account when designing risk management strategies. Decisions are currently based on a top-down approach focusing on structural measures like dikes or reservoirs⁽⁹⁾. While structural measures offer a degree of protection they are also often associated with negative environmental impacts as well as on poor and vulnerable communities. Therefore, these differences in short and long run impacts represent potential avenues through which society as a whole can be made more flood resilient.

BOX 2: Gender differences in flood resilience make women especially vulnerable to the impacts of flooding. Reasons for this are:

- the direct dependency of women's livelihoods on natural resources that are threatened by floods;
- their role and work-burden in the family, due to their responsibilities for children, sick and elderly;
- social, economic and political barriers that limit their resistance, recovery and adaptive learning.

Even though women play a pivotal role in managing natural and environmental resources and have the experience and knowledge to build community resilience, they commonly hold only minor roles at all decision making levels.

IMPLICATIONS FOR FUTURE FLOOD RISK MANAGEMENT

From the presented results the following three key implications for improving flood resilience of urban and coastal communities emerge:

- ***Gender differences in flood resilience exist. These gender differences need to be accounted for in flood management policies. This can be achieved by increasing the range and diversity of stakeholders involved in the decision making process.***
- ***The presence of gender differences in flood resilience has its basis in overall gender***

inequality (e.g. differences in education or social expectations). Therefore, measures aimed at reducing societal inequality between men and women will also increase flood resilience.

- ***Recovery efforts should better address the long-term psychological effects of flooding as a part of post disaster responses. Additionally, as we found that women are more heavily impacted by floods, policy interventions need to be in place that focuses on engaging women with suitable support to get back on their feet.***

THE RESILNAM PROJECT

In addition to this policy brief, the ResilNam project will complement these findings by also making further recommendations regarding:

- ***The benefits of ecosystem-based adaptation measures for strengthening the flood resilience of poor and vulnerable;***
- ***How local communities value ecosystem-based adaptation measures and their benefits;***
- ***The possible well-being impacts of flooding (across genders);***
- ***Gender dynamics in disaster risk management;***
- ***Community level adaptation projects.***

The policy recommendations across all of the ResilNam activities can help to increase flood resilience of urban and coastal communities in Thua Thien Hue Province. Additionally, the Resilnam Project directly invests in ecosystem-based adaptation measures in collaboration with local stakeholders to increase flood resilience and strengthen the role of women in disaster risk management. For instance, joint activities between the Women's Union and the Disaster Management Centre are facilitated.



ZURICH

More policy briefs and information on the project can be accessed at the [weADAPT platform](#).

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