Civil Preparedness for Climate Change Impacts: Studies of Local and Regional Vulnerability

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1 What is this study about?

The climate in Northwestern Europe is changing; average temperatures are even more rapidly increasing than the latest scenarios tell us. However, it is not just the uncertainty within these scenarios that causes implementation hurdles. Of equal importance is the complex political and social contexts where bottom-up adaptation policies are being developed. This article aims to contribute to understand the process of civil preparedness for climate change impacts in high-capacity countries.

The Netherlands are at the focus of this study. Due to its low-lying location and the close connection to the North Sea and the large rivers Rhine and Meuse, the country is particularly vulnerable to flooding risk. The country’s highly sophisticated civil engineering projects that are not designed for meters of sea level rise.

However, climate change risks do not only include the fairly predictable flooding risk induced by sea level rise and increasing river discharges. The increasing frequency of peak rains, heat waves and storms are also foreseen. These events are already causing substantial damage, and many deaths in case of heat waves (in 2006, 1,000 Dutch heat-related death were recorded by CRED). Derived impacts such as drought have already caused serious troubles.

Crucial is to determine how prepared our systems are to cope with the vast range of direct and indirect impacts from climate change. Currently, all layers of government are formulation adaptation strategies to cope with climate change adaptation. At national level, the National Adaptation Strategy was delivered in 2007. At regional and local level, more hands-on strategies are gradually being delivered. Locally, the scale and ambitions of adaptation strategies are very diverse.

A combination of quantitative and qualitative methods is applied to answer the research question:
• An inventory round of interviews with practitioners
• A qualitative survey among practitioners
• Thematic case study on civil protection and climate change
• Comparative case studies on driving factors for local climate adaptation policies
• Literature study and theoretical framing

The output of the PhD project is a selection of papers. These papers will be presented at international conferences and submitted to peer-reviewed journals.

2 What does this study add?

In the climate adaptation debate, the local government is crucial since climatic events will per se have local impacts to which these governments should to protect the community from. Yet only little is known about how and why this governmental layer deals with climate change adaptation as studies in this field are limited given the novelty of the issue. The current PhD project aims at a contribution to fill this gap by producing insights and knowledge on the driving factors for Dutch local authorities to act on climate change adaptation.

We focus on the concepts of institutional capacity and risk perception to explain the current status of climate change policies in Dutch municipalities (Figure 1). The empirical base for the PhD project is generated in three applied research projects (Figure 2).

Figure 1 Conceptual framework for local climate adaptation

Risk & Experience

Institutional Capacity

Adaptation

Driving Factors

Figure 2 Empirical basis of the PhD project

3 What is being done?

In my PhD project, I address the following research question:

What are the driving factors for local communities in the Netherlands to formulate climate change adaptation strategies, and what is the effect of risk and institutional capacity on the degree of activism of a municipality?

A book chapter and some conference papers were delivered on some preliminary conclusions:

Large municipalities with ‘green’ councillors most sustainable
Perception of climate change risks in the civil protection system is limited