

A tipping point for policy transformation: case studies of water management in South Korea and Germany

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Abstract

This paper compares the adaptation policies of South Korea and Germany with a particular focus on water management. While South Korea pursued technical methods for flood control and drought prevention, Germany has turned its policy direction from river modification to re-naturalisation. The difference between the two countries can be explained by discourses and institutions which interact with each other affecting the policy process. This study can provide implications about the process of policy transformation to adaptation researchers and practitioners.

Keywords: *Water management, Policy transformation, Governance, South Korea, Germany*

Introduction

Effective adaptation measures are essential not only on the individual level but also across society. This PhD research project in progress rests on the assumption that national governments are the major actors with paramount importance for adapting to climate change.

Water is one of the major subjects in the adaptation literature. Due to more extreme and frequent weather events resultant from climate change, both floods and droughts are being intensified all around the world. Thus, many governments deal with water management measures in their adaptation plans. However, national policies on water are diverse and this cannot be attributed to geographical differences only. South Korea, for example, pursued the Four Rivers Project which put a high emphasis on technological solutions that included building 16 dams and dredging the riverbed of the major rivers aiming for better flood control and drought prevention. Meanwhile, for the same policy purpose, Germany has underlined re-naturalisation of its rivers that have been formerly modified by dams and canals. Why do Korea and Germany pursue different adaptation policies for water management while similar climate

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change effects are expected? This study analyses the factors that influence the policy-making process in both countries.

South Korea and Germany are interesting cases for comparison. They are industrialised countries with a high level of income. Particularly, after the Second World War, both countries have experienced a period of fast economic growth. This point is notable considering the relevance of economic development and environmental politics. In the political aspect, the two countries show a high level of democracy (e.g. Democracy Index 2017 by the Economist Intelligence Unit). In addition, increasing flood risk and water stress as a result of climate change is a crucial problem for both countries because they are densely populated. Nevertheless, the water management policies in their first adaptation plans established between 2008-2010 show substantial differences as aforementioned.

Methodology

In order to analyse the policy process of the case countries, this study takes two analytical frameworks that are widely used in political science: discourse and institutional analyses. Discourse can be defined as "*a specific ensemble of ideas, concepts and categorisations*" (Hajer 1995), and discourses are closely related to political practices and power (Dryzek 2013). The focus of discourse analysis is the frames, symbols and narratives that actors use in their speeches or written statements. Meanwhile, understanding the institutional context of the policy process is a necessary step when analysing policies (Polski and Ostrom 1999; Hall and Taylor 1996). Formal institutions such as laws and regulations as well as informal institutions such as rules-in-use and norms are analysed in this study.

In addition to the literature review of academic papers, media reports and government documents, 46 semi-structured interviews were conducted in South Korea and Germany between February 2017 and April 2018. Interviewees include government officers, journalists, researchers, scholars and NGO activists specialized in adaptation and/or water management. The content of the interviews is analysed qualitatively, focusing on the keywords and narratives used by the interviewees.

Findings

In South Korea, many interviewees pointed out that the discourse based on techno-centrism and developmentalism is dominant in the country and consequently influence the implementation of technical solutions for adaptation, such as the Four Rivers Project. The government framed the project as a technology-based measure which could boost economic

growth, and this frame matched the prevailing discourse. In terms of institutions, the policy-making process in South Korea has been heavily under the control of developmental-state institutions developed in the fast economic growth period. A developmental state can be characterised by a coalition of the government bureaucracy and major companies (Woo-Cummings, 1999). The government has a strong control over finance, and channels resources to big business with the aim of effective economic growth. Decisions are made within a top-down structure for state-driven economic plans. Developmental-state institutions did not disappear after the fast growth was over in South Korea, and they have continued to influence various sectors, including environmental policies. Many interviewees argued that the Four Rivers Project is a result of such institutional practice because major construction works involved in the project were beneficial to the big business.

Germany straightened its major rivers and made a number of dams from the mid-18th century until the 1960s, with the purpose of flood control, navigation and hydropower. Strong belief in science and technology was common among the public and political leaders (Blackbourn, 2006). However, the high level of river modification resulted in severe pollution. Environmental movements in Germany since the 1970s created discourses in favour of the restoration of natural rivers for better water quality and ecosystem protection. Furthermore, the Sandoz chemical spill on the Rhine River in 1986, alongside major flood events, provided momentum for policy change. Consequently, the combination of increased environmental awareness and external shocks led to changes in the river management policy. Furthermore, the multi-level governance from EU to local governments in Germany allowed alternative discourses to be brought into the policy-making process. The EU Water Frame Directive promotes the natural state of rivers and this policy direction is reflected in the German adaptation strategy.

In the two cases, it can be found that both discourses and institutions influence the adaptation policy making process. Discourse plays a critical role as a power to change (in the case of Germany), or sustain the policies (in South Korea's case). But discourse is not the only driver in the policy process. A 'tipping point' for policy transformation may be created when the growing discourse meets a window of opportunity, such as a substantial accident or regime change. While historical institutionalism highlights the impact of external shocks on the policy process, the cases investigated in this study show that the role of social discourses as well as the interaction between discourses and institutions need to be equally considered when discussing policy change.

Conclusion

This study can give insight into the possible drivers of policy transformation which are sought by many adaptation researchers and practitioners. Regarding adapting to climate change, transformation emerged as an alternative framework that addresses the need for profound changes in the social system. In order to facilitate transformation in practice, concrete case studies of policy transformation and the policy process behind the changes are critical. In this regard, the historical cases from South Korea and Germany can provide not just theoretical but also practical implications: policy transformation can occur when an alternative discourse is mature and the policy institutions are able to allow the alternative discourse to be considered in the policy process. In addition, the case study of South Korea could be useful for some participants in Adaptation Futures 2018. Although South Korea is now seen as an industrialized country, the political and social legacies from the fast development period are still affecting its environmental policies. Thus, the Korean case can be an intriguing example when discussing the future of sustainable development in the Global South. Lastly, in order to learn from each other across different countries and regions, international knowledge sharing and mutual exchange of opinions among various actors is crucial.

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