



## **Can Coastal Europe Insure Against Climate Change: A Review of Experiences on Floods and Soil Erosion.**

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This paper deals with the implications of catastrophic events with regard to risk and uncertainty. It has a strong normative component as it aims to suggest what actions individuals, firms, and the government should take in anticipation of natural disasters. The emphasis is put on flooding and soil erosion (this work is part of the EU-FP7 THESEUS “Innovative technologies for safer European coasts in a changing climate” project) and the paper comprises of three main parts. In the first part, an attempt is made to answer the following questions: What are the categories of natural disasters and what is the relation with the structure of a country’s economy? What are the main characteristics of natural disaster risks? Which is the contribution of economic methods to estimate population and hazard-specific risks? With regard to this last question, the concept of Total Economic Value (TEV) is introduced and different ways to estimate this value are described. Furthermore, applications of these methods derived from literature are reported. Then the consequences of natural disasters are categorised and the responses of individuals, firms and government to natural disasters are explored through the prism of psychology and economics. More specifically the focus is on how do receivers of the impact value the costs of such disasters? How do insurers respond, and how should the government respond? It is regarded that answers to these questions will provide feedback for a policy design that integrates information on how private investment and individual protective behavior respond to the policy structure and relief effort. The second part of the paper comments on case-study experiences around Europe and in particular from Spain, UK, Italy, France, Poland and Bulgaria. The objective of these studies is to derive initial behavioural patterns and investigate the degree of awareness and knowledge on strategies of hedging natural hazards. Data is the product of questionnaire surveys run in the relevant countries addressed to residents, business owners, environmental NGOs, insurance companies and local authorities. The last part of this paper is policy oriented and integrates feedback of previous sections. Its aim is to review various flood mitigation measures and decision frameworks in order to address policy pitfalls but also possible strategies for coping with the enormous losses that follow catastrophic events. It is regarded that considered measures should be effective in promoting better understanding of coastal hazards and more effective responses in order to contribute to coastal hazard resilience. Overall, the main contribution of the paper is to shed more light on the procedures that generate risk beliefs and behaviours and make use of this output in order to provide guidelines for public intervention that considers both human behavior and private sector needs and characteristics.