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**Description of the funded research project**  
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# Assessing the Resilience Capacity of Small and Medium-Sized Enterprises to Flooding

Principal Investigator: Antonios Skouloudis

Reader-friendly title: SEALED

Scientific Area: Social Sciences

Institution and Country: University of the Aegean, Greece

Host Institution: Department of Environment, University of the Aegean

Collaborating Institutions: Hamburg University of Applied Sciences (Germany); Democritus University of Thrace

Project webpage: TBC



**Budget: 99,000.00 €**

**Duration: 2020-2022**

## Research Project Synopsis

Flooding poses unprecedented threats to modern societies and represents a much-debated issue strongly interlinked with current development policies. Small and Medium-sized Enterprises (SMEs) that constitute a driving force of economic growth, employment and total value-added remain highly vulnerable to and ill-prepared for such environmental perturbations.

SEALED aims to assess SMEs resilience to flood impacts and to identify enabling factors that define effective SMEs responses to such environmental stimuli. The project will focus in flood-prone areas in Greece and will operationalize parameters of SMEs ability to withstand, adapt and recover from flood impacts and empirically frame enabling measures which can promote their capacity to effectively respond to such environmental perturbations.

With the overarching aims of providing empirical evidence on a rather underresearched academic field, and relying on prior work performed by members of the research team on SMEs sustainability, SEALED will include the application of a mixed methods approach involving the development of scales measuring factors of SMEs resilience to flooding, complemented with a qualitative analysis for the appreciation and identification of latent variables affecting SMEs' resilience to flooding.

The project seeks to provide essential research findings for practitioners on SME management in relation to flood preparedness and set forth linkages with current mechanisms for policy intervention at European and national levels towards an appropriate flood resilience agenda for SMEs.

## Project originality

SEALED's originality stems from its contribution to the emerging field of climate services and the considerably under-researched topic of organizational resilience to Climate Change/CC and Extreme Weather Events/EWEs. In line with UN's Sustainable Development Goal (SDG) 1 - Target 1.5 ('by 2030, build the resilience of (...) those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters'), it is the first study to provide a realistic quantification of business resilience capacity to flash flooding in Greece and to link this information to SMEs' characteristics.

Empirical evidence on organizational responses to (CC) impacts primarily focus on efforts to manage the carbon footprint of large business entities, while empirical findings on business adaptation to CC (including floods) is still sparse with mostly case study evidence from large corporations (i.e. termed responsible corporate adaptation). Still, evidence suggests that 90% of companies face climate-related impacts (primary in the form of EWEs), but only 30% are actively responding to those threats. Taking into account that economic damages from EWEs have reached record-breaking levels over the past decade and the frequency of such natural hazards is escalating, the ability to cope with flash flooding becomes a sheer necessity.

In this respect, SMEs responses to flooding stimuli is a largely understudied topic as literature tends to place emphasis on community- and household-level assessments or is mostly fueled by normative assumptions of how business resilience on CC impacts and under nonlinear weather conditions can be fostered. Despite the fact that SMEs potentially face greater losses from the effects of floods and their role within supply chains is deemed vital, the business literature rarely concentrates on SMEs' resilience capacity to CC and EWEs, with the exception of very few studies.

## Research Project Impact

SEALED is an innovative project that will provide a bottom-up approach which can be scaled up to other more vulnerable and/or larger flood-prone areas across Europe for a better understanding of appropriate strategies to enhance SMEs resilience capacity towards flash flood disruptions.

The project will tackle questions of immediate scientific and policy relevance by developing a (self-)assessment tool for SMEs to diagnose their resilience status against flooding. Such suggestions can feed into high-quality, actionable and practical guidelines, manuals and/or standards on business preparedness to EWEs. In addition, the project's outcomes can assist local governmental bodies on how to incentivize SMEs to proactively prepare for such natural hazards in terms of financial and/or other means of support as well as by facilitating the coordination of multi-stakeholder partnerships for mobilizing actions through the dissemination of best-practices and screening tools.

As governmental policies on mitigating flooding implications tend to refer to household properties, the project shall inform policy design on the triptych of flood-resilience-SMEs. It will offer a better understanding to governmental bodies of which assistance needs and policy interventions can shift the attitudes of businesses and, ultimately, enhance their flood resilience under the scope of cognitive, managerial and contextual factors found to be pivotal.

Our findings will suggest ways for an enabling environment for increased resilience of domestic SMEs towards flash floods. It shall yield new and novel evidence for policy-makers on the status of organizational responses to drastic environmental changes, through the provision of linkages with current mechanisms of policy interventions, at both European and national scales, towards the endorsement of a flood-resilient SME sector.

## The importance of this funding

*As an early-career research and given my growing interest the broad 'economy and the environment' field, being the Scientific Coordinator for SEALED is a unique opportunity for me to solidify my project and coordination skills acting as a principal investigator for a small-scale project, supported by a group of experienced academics with considerable expertise in planning, managing and running funded research projects. HFRI's funding of SEALED allows us to contribute to an emerging field of business research and offer fruitful evidence and actionable insights for the Greek case on the critical and increasingly pressing problem of adapting to climate uncertainty in the decades to come.*

*Dr Antonis Skouloudis*



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