



The potential of BRIGAIID's Testing and Implementation Framework (TIF) as a tool to promote Nature Based Solutions

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Since climate adaptation entered the political agenda, numerous efforts on the international as well as on the national, regional and local scale have been made to stimulate and support mechanisms for climate adaptation. The EU, for instance, stimulates the development of adaptation strategies by Member States, as well as the development of innovative climate adaptation measures (which may fit in the adaptation strategy) and decision-centered applications of climate research. The development of innovative adaptation measures is funded by both EU's LIFE Programme and Horizon2020. A special type of innovative adaptation measures are Nature Based Solutions. Nature Based Solutions deliberately use nature or natural processes (or mimic natural processes) and the services they provide to address societal challenges such as climate change or natural disasters. They also fit in EU policies to protect, preserve and improve the environment, including nature and biodiversity, for present and future generations. Although Nature Based Solutions fit in multiple policies and serve multiple objectives, implementation of these innovative climate adaptation measures is still limited.

In 2016 the EU project BRIGAIID commenced. BRIGAIID is a 4-year project under EU Horizon2020 aimed to effectively bridge the gap between innovators of climate adaptation measures and end-users of these adaptation innovations. One of BRIGAIID's objectives is to develop a comprehensive, standardized methodology (the TIF) for testing and implementing climate adaptation measures, in particular to assess their potential to reduce risks from floods, droughts and extreme weather, and guidelines for assessing an innovation's social readiness and impact across various geographic scales and socio-economic and environmental sectors. The goal of testing and assessing is to increase the technology readiness level (TRL) of the innovation, while simultaneously evaluating its societal acceptance and its potential for implementation. TRLs are a well-accepted measurement of the maturity level of particular technologies, and ranges from 1 (basic principles observed) through 9 (total system used successfully in project operations). BRIGAIID's TIF Tool covers TRL 1-3 and consists of a desk study which will result in a description of the climate adaptation innovation intended functionality (e.g., design criteria), the identification of possible failure modes, a preliminary theoretical social acceptance assessment, and an initial screening of the potential impact of the innovation on the environment and on important socio-economic sectors. This helps innovators to identify possible societal, technical, environmental and sectoral concerns that their innovations could raise early on – and iteratively throughout the development – so that they can modify their designs.

In this paper the potential of the TIF Tool to promote Nature Based Solutions is explored by applying the TIF tool on the Wide Green Dike concept and by analysing how the ex-ante impact assessment of this adaptation innovation could help to overcome the gap between the initial concept and the application of this measure.