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Characterizing Climate Change Adaptation in Copenhagen

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In Copenhagen, Denmark, stormwater management is linked to and almost synonymous with climate adaptation. The city has already experienced significant damages and political turbulence as a result of extreme pluvial flooding. The professionals tasked with adapting the city to the future climate work with a range of solutions from large cloudburst tunnels, to separation of the sewage, to Water Sensitive Urban Design. They work in fast pace with more than 300 concurrent climate adaptation projects in Copenhagen and Frederiksberg Municipalities alone; plus an unquantified number of projects in the surrounding municipals and on private property. Practitioners with different backgrounds are working on a multitude of parallel projects; and it is unclear how well the scope and goals of these projects are aligned. Therefore, we have investigated the current definition of climate adaptation in Copenhagen.

Interviews were conducted in two rounds. The first round focused on the context of the city innovation system, and resulted in 6 semi-structured in-depth interviews with key actors. The second round investigated three specific climate adaptation innovation and implementation cases and the actors’ day-to-day processes, and resulted in 26 semi-structured in-depth interviews.

This study shows that definitions among actors are segmented. Different actors apply different event magnitudes, spatial scales and goals when developing or implementing climate adaptation, which results in ambiguity and eventually different choices of technologies. If there is not agreement among the actors on one or more of these counts, conflicts can arise. The conflicts are prominent in several activities in regards to implementation of climate adaptation, however also present in knowledge-sharing and knowledge-developing activities. These conflicts can be mitigated by a constant statement and discussion of the above-mentioned factors. The ambiguous definitions display the fact that climate adaptation is a new development in an old field of stormwater management. However, the field is in on-going development with a large momentum, leading to new technologies, processes and implementation projects that may eventually lead to major innovations at the city scale.