

Flood risk management in semi-arid and arid areas

HoWaMan in Iran



Iran faces special challenges in the context of climate change due to its semi-arid to arid climate and its geographical characteristics. The country often suffers from severe drought, as rainfall is rare and irregular. These infrequent rainfalls are of short duration with very high intensities. Due to their sudden and unforeseen occurrence, the resulting flash floods pose a risk for living beings as well as material goods, which is often underestimated by the population. The catchment area of the Kan River in the province of Tehran must cope with these challenges. The area is characterised in the north by its steep mountain slopes and in the south by the capital city of Tehran with over 11 million inhabitants. This location mainly attracts local tourists who use the area for recreation.

Aim of the project

The aim of the project is to identify areas at risk of flooding in the catchment area of the Kan River, to develop a local early warning system as well as to design an effective flood risk management system. This will increase the risk awareness of the population and the authorities and integrate social components as an essential part of flood risk management in addition to economic and political aspects. This way, residents will be involved actively to integrate

private actions against floods in flood risk management. To strengthen local flood risk management in arid and semi-arid regions, an early warning system for the region will be developed. This system will use real-time monitoring data and flood forecasting processes to inform vulnerable citizens about upcoming floods in time. In addition, the vulnerability of the region will be reduced by developing a flood pass for buildings, so that potential dangers can be estimated better. Another important goal of the project is



to build the capacity of experts and to raise the awareness of different interest groups and inhabitants for floods with the help of risk communication. Within the framework of the project, a social media communication concept will be developed. Social sensing will be used for this purpose. In this way, an overview of the different interest groups in a flood case will be gained. From this, a recommendation can be developed on how social networks can be better used for risk communication between different stakeholders.

Project overview

PROJECT TITLE

HoWaMan – Flood risk management in semi-arid and arid areas in Iran

PROJECT PERIOD

03/2020 – 08/2023

PROJECTPARTNERS

Institute of Hydraulic Engineering and Water Resources Management (IWW), RWTH Aachen University; Chair of Sociology of Technology and Organization (STO), RWTH Aachen University; Magdeburg-Stendal University of Applied Sciences (HS-M); Centre for Flood Knowledge and Action (HKC); KISTERS AG, Business Unit Water Group; DMT GmbH & Co KG, Segment of Hydrogeology and Water Management; Isfahan university of technology (IUT); Center of Excellence for Risk Management and Natural Hazards

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