

FLOOD RISK MANAGEMENT PLAN PILOT PROJECT GLEISDORF STYRIA, AUSTRIA

Robert Zach, Ingenos.Gobiet.ZT GmbH

ABSTRACT

General Information

The corporate town of Gleisdorf is situated on the orographic left side of the river Raab. Additionally four streams cross the urban area of Gleisdorf, however three streams (Gleisbach, Greithbach and Mitterwiesenbach) reveal the greatest effect on the urban area during flood events. All four streams discharge into the Raab.

Flood History in Gleisdorf

The record of historic flood events in Gleisdorf goes back to about 1894 and includes different types of flood scenarios. Whilst at one point the Raab was causing the flooding of urban areas, other times the local precipitation led to increasing water levels in the streams and therefore to flooding. In 2005 the Raab and the streams together caused a major flood event that affected most of the urban area of Gleisdorf.

Flood Protection Projects

For the Raab a flood protection project with a retention basin and longitudinal protection measures (dikes) along the Raab was built. Also at the stream Mitterwiesenbach, which mostly affects the industrial park, has now a Q100-flood protection with three retention basins and longitudinal protection measures. Currently in construction is a second retention basin at Gleisbach and furthermore longitudinal protection measures such as raising of side walls. To also achieve a Q100-flood protection for the stream Greithbach, another similar project is planned.

Development of the Flood Risk Management Plan

Preliminary Flood Hazard and Flood Risk Maps

The Austrian Ministry of Agriculture, Forestry, Environment and Water Management together with the Austrian Ministry for the Environment created flood hazard and flood risk maps, using existing data such as run-off-analysis data and various GIS-based data. For the pilot project flood hazard maps showing the flood extent, the water depth and the velocity for the flood events Q30, Q100 and Q300 as well as flood risk maps displaying the potential adverse consequences of each of those three flood events on human health and life, environment, cultural heritage, economic activity and infrastructure were created and used for the project.

Stakeholders

In the development of the Flood Risk Management Plan of Gleisdorf a “Core Team” with various authorities and representatives of Gleisdorf, and an “Extended Team” with representatives of the neighbor communities and representatives of the ecological, economical and agricultural sector were involved.

National and Regional Measure Catalog of the Flood Risk Management Plan, Prioritization Method

Based on previous pilot projects a national measure catalog was revised and further developed. The catalog consists of five categories which include measures to prevent flooding, furthermore measures for flood protection, increased awareness concerning the flood hazard and risk, preparation measures in case of an impending flood event and finally measures concerning the rehabilitation after a flood event.

After defining the National Measure Catalog, the implementation of each those measures on the local level were verified.

Another task of the pilot project was to create a prioritization method to evaluate the priority level of each measure for Gleisdorf. The resulting list of priorities shall be used to support decision makers in further planning steps. The created prioritization method

determines the relevance and the realizability as well as the evaluation of the measure in the pilot region based on effectiveness and feasibility of the measure and expenses for the implementation of the measure in the pilot region.

Summary and Outlook

The creation of the Flood Risk Management Plan only on the national level will probably be relatively imprecise. Therefore it was suggested to label the data quality with the MAXO-code, which specifies measured data (M), approximations (A), vague data (X) and not terminable date (O).

The regional application of the Flood Risk Management Plan revealed that many of the measures of the catalog have already been executed or are currently under construction. Some of the detected deficiencies include the need to put more effort into raising public awareness about the residual risk, as well the implementation of flood aspects in regional development plans and the implementation of the existing flood prognosis model at the river Raab.