

FACTSHEET RISK REDUCTION MEASURES

Participative development of a concept for heavy rain risk reduction and sustainable soil management

Where was it implemented?

Freital (district Niederhäslich), Saxony, Germany

Fields of action

- Farmland
- Settlement area
- Risk communication

Related to measure from the catalogue of measures

- Strategic documents
- Interactive communication and participation formats
- Stabilisation of runoff pathways
- Infiltration belts (grass) and buffer strips (permanent vegetation)
- Promoting and enforcing property protection measures



Massive sediment deposit into the Poisenbach after a heavy rainfall event. Source: Dirk Winderlich, Niederhäslich

Area characterisation

Area type: rural

Landscape type: hilly

Problem

Several heavy rainfall events caused soil erosion on arable land above the settlement area. Mudslides led to massive sediment input into the nearby Poisenbach and to damage on inhabited property. Conflicts arose between the owners of the agricultural land and the residents affected.

Description and aim

Within the framework of the LIFE LOCAL ADAPT project, the Freital town administration and the Saxon State Office for Environment, Agriculture and Geology initiated a climate adaptation measure. It is an → **informal planning** and → **interactive communication and participation process**. The process consisted of the following steps:

- 1) A concept for improving water retention and better drainage of surface water runoff in case of heavy rainfall (long-term and valid for the whole area).
- 2) Proposals for measures on private properties to improve the runoff situation (short-term).

The process was characterised by a continuous and comprehensive, multi-level participation of all stakeholders, in particular by the intensive involvement of flood-affected residents, the municipality and farmers. Great importance was attached to a thorough assessment of the initial situation with participation of all stakeholders. Technical analyses of an engineering office were combined with a moderated communication process. This process was carried out together with a company specialised in this field and ensured that local knowledge carriers were able to contribute their local knowledge and that a valid surface runoff model was set up. Based on this model and again in consultation with local stakeholders, the effectiveness of various conceivable measures was then simulated and evaluated. The ultimate goal of the participation process was to reach a consensus on recommendations for action to derive and develop preventive measures to reduce soil erosion during future precipitation events. The process was structured as follows:

- Part 1: basic evaluation / current state: resident and stakeholder interviews, location inspection, identification of vulnerable spots
- Part 2: development of a measure concept by considering concerns, requests and preferences of all stakeholders; modelling of three different possible solutions; presentation to the public
- Part 3: modelling of the preferred solution with EROSION-3D and check for its effectiveness; public discussion and agreement

With regard to the implementation of the planned measures, it was advantageous that the City of Freital is the owner of some agricultural land parcels. The activity was accompanied by media and was documented and communicated as a practical example through the EU-funded project LIFE LOCAL ADAPT.

Effect of measure

The intensive participation of affected residents and the public served to develop a strategy for action and measures that can be supported and implemented by all those involved. Both interested citizens and professional institutions established cross-references to water law and nature conservation. Through the involvement of the various stakeholders, it was possible to identify risk factors that are not in responsibility of farmers (e.g. maintenance of forest paths, residential buildings in drainage channels, overbuilt drainage pipes). In addition to the identification of suitable measures for long-term risk reduction (→ **greened runoff paths**, → **buffer strips**), the concept of measures also contributes to targeted risk communication and promotes → **self-provision**.

Description of implementation

Effect horizon:
long-term

Costs:
44.400 Euro, noninvestive services

Initiator / responsible:
City of Freital, Saxon State Office for Environment, Agriculture and Geology

Implementation:

- 08/2017: submission of the project proposal
- 11/2018: commissioning of the external contractor and kick-off event
- 02-03/2019: resident and stakeholder survey
- 03/2019: location inspection
- 03/2019: public event, presentation of results
- 04-07/2019: planning of measurements and stakeholder involvement
- 08/2019: presentation of preferred solution

Involved stakeholders:

- City of Freital
- Saxon State Office for Environment, Agriculture and Geology
- district administration of Saxon Switzerland
- TU Dresden
- land owners
- owners of adjoining land parcels
- owners of affected properties
- leaseholders of arable land
- external contractor

Lessons-learned

Main success factor:

- Early and constant participation of all stakeholders
- Opportunity for exchange and interaction

Main challenge:

- Different levels of concern
- The development of a joint solution is based on the willingness of all parties involved to compromise.

Synergies / beneficial aspects:

The participants expressed their wish to continue the joint exchange even after the end of the project (for other projects).

Conflicts / constraints:

Ideas for problem solving drifted apart among stakeholders, so that solution finding was complicated.

Key message to others starting with a similar task	Contact
<p>Those who do not talk to each other cannot find a solution. Whether residents, land owners or land users - everyone can contribute to solving the situation. An optimal solution requires the willingness to change by everyone involved.</p>	<p>City of Freital, Dresdner Straße 56/58, 01705 Freital Second Mayor E-Mail: 2bm@freital.de</p>
<p>Further information</p>	<p>Strategy for climate adaptation at the Poisenbach. Press release of the City of Freital from 28.06.2019, URL: https://www.freital.de/index.php?object=tx 2476.5&ModID=255&FID=2476.8005.1</p>