



Risk Management of Extreme Flash Floods

Receptors: Damages, Event Management and Preparedness - an Event Perspective of the Müglitz Flood 2002 -

Intention

What can be learnt from the disastrous flood in the Müglitz river catchment in 2002? The intention of this poster is to show some important problems that occurred during the flood event in 2002. Three problems are stressed: (1) high damage potentials in receptor areas, (2) complicated communication channels, (3) limited preparedness of citizens.

High Damages in Receptor Areas

The flash flood of the Müglitz in 2002 reached an extreme extent. Due to the extremely fast and strong drain, the floods grew to a disastrous size. 'Debris', carried by the Müglitz, strengthened the rivers destructive effect. The river cleared its way through narrow valleys and snatched everything that was not fixed.



In comparison to 'ordinary floods', for instance, a Elbe river flood, the enormously destructive power of the waters of flash floods causes a higher damage balance.

Area of damage	Damage caused by the river Elbe in € / m ²	Damage caused by Lockwitzbach and Vereingte Weißeritz in € / m ²	Damage-relation
Municipalities	11	25	01.02,3
Private property	2	9	01.04,5

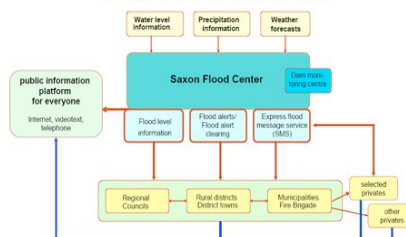
Numerous houses and streets, the historical railway track, the baroque park of castle Weesenstein and unfortunately also eight persons drowned in the floods.

The main part of the damages were covered by private financial and material donations. Now it is necessary to find ways to limit the damages of future flood events.

Complicated Communication Channels

In case of flash floods, a severe problem is that the time to react is very limited. In general, there is only a short time between the warning of the event and the event itself in cases of flash floods. Event management is very important for the progress and the speed of reaction. The transfer of flood information has to be guaranteed and the time of transmission should be short. - In case of a flood or another natural disaster the civil protection agencies take control. There is a hierarchy of the civil protection agencies: (1) The Ministry of the Interior is the supreme authority, the municipalities form the lower agencies. (2) The lower civil protection agencies initiate crisis management groups, whose members attended a special training dealing with extreme situations. They are assigned to supervise the units, technical devices, public relations and the cooperation of the fire brigade, the police and private aid organisations (e.g. DRK, THW). During the event in 2002, communication between these institutions was limited. - As one of the innovations realised as lesson from the flood disaster the Saxon Flood Center ("Landeshochwasserzentrum Sachsen") was established in 2002 to improve communication.

Future reporting and information chain for flood related messages in the Free State of Saxony



Limited Preparedness of Citizens

In case of a flash flood, citizens have to react swiftly. They have to be prepared for unexpected situations.



Hence, they have to know in advance how to behave during the event. For instance, a wail of sirens reaches all people, but its information content is very reduced. In August 2002, there was a good warning by sirens in Glashütte. But in the most cases there do not exist any sirens. So one improvement can be the installation of sirens. People have to be able to interpret sirens correctly. The advantage of loud speaker announcement is that the loud speaker can additional tell what to do. Unfortunately, it can be misused by unauthorized persons. Direct alert services like phone, fax, email or SMS have the advantage to transfer information directly. Their use is restricted by their service areas. Furthermore, it is not possible to send all citizens an email or SMS at the same time. The mass media are not the best way to warn people. At first the citizens have to be provided an access to a medium. Secondly, the mass media sort out information and cannot send all that is happening in the area. This shows that citizens have to consider a wide range of instruments to be prepared for extreme flash floods in the Müglitz river basin. During the event 2002, preparedness was limited. Many people were completely surprised and did not know what to do.



International Teaching Module
FLOODmaster
Integrated Flood Risk Management
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