



TACTIC

TOOLS, METHODS AND TRAINING FOR COMMUNITIES
AND SOCIETY TO BETTER PREPARE FOR A CRISIS

Short report on Workshop 1, Case Study Floods in Central Europe

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Preamble

The overall aim of the **TACTIC** project is to increase preparedness to large-scale and cross-border disasters amongst communities and societies in Europe. This will be achieved through drawing on state-of-the-art literature related to risk perception and preparedness as well as creating a catalogue of good practices in education and communication. This information will be drawn together in the form of a community preparedness audit. The audit will assess the risk perception, preparedness and existing capacities of a given community and use this information to point communities towards those good practices in communication and education that best reflect their needs. All these findings and outputs will be presented in an online learning platform which aims to ensure the sustainability of the use of the project's outcomes after the project has come to an end.

A first version the **TACTIC** Online Training and Auditing Platform (TOTAP) has been developed for each of the four case studies (e.g. terrorism, floods, pandemics/epidemics, and earthquakes). These first versions were presented, discussed and further developed during a first round of case study workshops (February and March 2015). This collaborative project strategy aims to ensure that the outcomes of the project reflect the needs of end users and that the project's outcomes have a life span after the project has officially ended. This report focuses on the results of the workshop on floods. This case studies deals with cross-border flood events that have repeatedly occurred (e.g. in 1997, 2002, 2006, and 2010) in Central Europe, with a particular focus on Germany (Free State of Saxony), Poland (Województwo Dolnośląskie / Lower Silesian Voivodeship), and the Czech Republic (Liberecký Kraj / Liberec District). The number, spatial extension and variety of flood events during the last two decades in this area allows for a good opportunity to study the private and public perception, behaviour changes and preparedness measures of various actors ("communities") in a cross-border situation and to floods very different in nature and scope. The objectives of this case study are to:

- identify key stakeholders, including non-governmental organisations (e.g. Emergency Support Foundation), public emergency management authorities, municipalities, the private sector (e.g. local businesses), community leaders, etc.);
- evaluate lessons learnt from previous disasters, good practices of community participation and hindering factors related to this participation based on an examination of research findings and grey literature, and the findings of a first workshop;
- evaluate facilitating and hindering factors for community preparedness for multiple hazards;
- provide a case through which to develop, test and validate the community preparedness audit (WP2), the communication and education material and practices (WP3) and the overall long-term learning framework (including evaluation) (WP8).

This deliverable contains a summary report on the first stakeholder workshop of WP5 that took place on 5 March 2015 in Ostritz, Germany.

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Expectations from the DoW

Task 5.3: Workshop 1 – Presenting and testing the community preparedness audit, assessing the needs with regard to communication and education material and practices (including evaluation)

Task leader: LfULG

The case study stakeholders will be actively involved in the development and testing of the audit and the communication and education practices and materials. This task involves the members of the case study community such as employees of organisations charged with risk, local residents and business owners who are affected by the risk. Therefore, it is important to identify who should be involved and developing incentives for how to go about this in order to attract a representative audience for the audit. The tool will then be tested and its strengths and weaknesses described as encountered within this workshop as well as making further suggestions with regard to its content and overall structure. Furthermore, stakeholders will be introduced to different communication and education material previously identified as relevant (in the sense of a good practice). Stakeholders will provide feedback on what kind of material and practices they consider as needed in order to increase preparedness to floods. This first workshop will be (rather) hazard (= flood) specific.

The workshop will also provide initial input regarding the functionality and the user interface of the training and auditing platform to be developed in WP9.

1 Description of the case study

1.1 Floods as a hazard in the case study area

Floods are the most costly disasters (EEA 2010) in Europe. Although floods are quite common in many parts of Europe, they still pose a profound challenge to emergency and risk management agencies. This is particularly true in the large-scale river basins that run through different national (and regional) territories. This case study focuses on the cross-border situation between Germany, Poland and the Czech Republic, with particular attention given to the Oder/Odra, Lusatian Neisse, Elbe/Labe, and Mulde Rivers and their smaller tributaries by concentrating on the border triangle of Germany (Free State of Saxony), Poland (Województwo Dolnośląskie / Lower Silesian Voivodeship), and the Czech Republic (Liberecký Kraj). These areas were affected by a series of large-scale as well as some smaller flood events in 1997, 2002, 2006, 2010 and 2013.



Figure 1: Drawing of the case study site. Source: Christina Mante, LfULG.

The number, spatial extension and variety of flood events during the last two decades will allow for a better understanding of private and public perception, behaviour changes and preparedness activities by (with respect to) different national and subnational management schemes. This case addresses debates surrounding the importance of standardisation (international) and individualisation (local) of management activities in regards to flood risk management, thus how international and national / regional flood risk management issues impact upon community preparedness in relation to who is involved in preparedness activities and the role of residents, businesses and tourists at risk in this context.



Figure 2: 2013 flood in Grimma, Germany. Photo: Gunnar Dressler, UFZ.

1.2 Relevant actors

The case study looks at the preparedness of communities to small as well as large scale and/or cross-border flood events that have repeatedly occurred (e.g. in 1997, 2002, 2006, 2010, and 2013) in Central Europe, with a particular focus on Germany (Free State of Saxony), Poland (Województwo Dolnośląskie / Lower Silesian Voivodeship), and the Czech Republic (Liberecký Kraj / Liberec District).

TACTIC aims to understand the role of risk communication before, during and after an event on community preparedness (e.g. the ability of a community to “effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions” (UNISDR, 2007). Guiding research questions aim at mapping the network of stakeholders that are involved in risk communication, evaluating their current risk communication strategy and investigating on the potential for improvement. While flood risk is managed on various levels (EU, national, regional, local), the practical risk communication mainly takes place on the regional and local level. That is also the spatial/organisational focus of our case study.

The Water Framework Directive (WFD) (2000/60/EC) and European Flood Risk Management Directive (Floods Directive) (2007/60/EC) are two examples of international policy which provides political support for communication. Article 14 of the WFD focuses on public information and consultation. It stated that “the success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, including users” (WFD, 2000). Member States shall encourage the active involvement, which is defined in the Guidance Document no. 8 (EC, 2003) as a higher level than consultation (considered as making documents available for written comments). Active involvement implies that stakeholders / “interested parties” are “invited to contribute actively to the planning process by discussing issues” (p. 11). This includes implementation of the WFD, in particular in the production, review and updating of the river basin management plans. A similar approach is taken in the Floods Directive, in which Article 10 states that all interested parties should be encouraged to become actively involved in the development of flood risk management plans. Flood risk management aims to provide a holistic approach to the management of flooding (Nye et al, 2011; FLOODsite, 2009). In addition to traditional approaches which focus largely on structural flood defence measures, flood risk management encourages a focus on adding alternative non-structural measures to a communities

flood management portfolio. These alternatives include proactive measures such as planning (e.g. providing more room for the rivers), relocation, building codes, infrastructure design, forecasts, early warning, insurance, and communication (e.g. encouraging local actors to take measures to protect themselves) (Wehn et al. 2014; Krieger 2012; 2007/60/EC Article 7 §3; Kelman 2001). The flood risk management measures include three stages, 1) preliminary flood risk assessment, 2) the development of flood hazard/risk maps, and 3) the development of the flood risk management plans (FRMPs) (2007/60/EC). International agreements also exist. For example, along the Elbe which crosses the border from the Czech Republic before entering Germany there is an international commission which has existed since 1995 called the International Commission for the Protection of the Elbe between Germany and the Czech Republic, the International Commission for the Protection of the Oder against Pollution between Germany, Poland and the Czech Republic, and the International Commission for the Protection of the Danube between Germany and the Czech Republic.

The following paragraph provides a brief overview about relevant institutions at the state level. Relevant institutions on the national level in Germany are the Ministry of the Environment (BMU, water resources management as a part of environmental policy), the Ministry for Transport, Building and Urban Development (BMVBS, administration of federal waterways and supervisor of the German Federal Institute for Hydrology (BfG), the Federal Ministry of the Interior (BMI, head of the Technical Relief Service (THW)), and the Ministry of Defence (BVM, head of the German Armed Forces). In addition to these organisations, the German Committee for Disaster Reduction (DKKV, non-commercial association) and the German Association for Water Economy, Waste Water and Waste (DWA) are relevant institutions on the state level.

In Poland, relevant ministries are the Ministry of the Environment (flood prevention), the Ministry of Infrastructure and Development , (flood prevention for the seaside), the Ministry of Agriculture and Rural Development (rivers important for rural development and flood embankments) the Ministry of Interior (crisis management actions), the Ministry of Administration and Digitization (collection of information about hazard losses), the Institute of Meteorology and Water Management – National Research Institute (IMGW - PIB , atmospheric and hydrospheric hazards forecasting and warning) and the National Water Management Authority (KZGW, water conservation, water management and use, flood prevention).

The Ministry for Agriculture also plays a key role in the Czech Republic (water body management, channels, water supply and waste water management). Together with the Ministry for Environment (water body and ecosystem protection), the Ministry for Agriculture developed and implemented a water management policy. The national forest administration and the river basin boards are the main watercourse administrators. The Czech Hydro-Meteorological Institute is responsible for flood warning systems in cooperation with the River Board Authorities, local authorities and the meteorological institute of the Czech armed forces.

On a regional level, Germany and Poland have regional water management boards that are responsible for the implementation of national and international laws. Flood committees based on the requirements of the Water Act of the Czech Republic (2001) were also established on the national, regional, and local level of the Czech Republic.

In Germany each state is responsible for managing flood risk within its state's borders. In the Free State of Saxony a state which shares its borders with Poland and the Czech Republic, the Higher Water

Authority is the Saxon State Ministry for the Environment and Agriculture, the Supreme Water Authority is the Saxon county authority (*Landesdirektion Sachsen*) and the Local Water Authorities are District offices or departments/local offices of the Saxon Ministry of Environment, that are responsible for the implementation of legal frameworks, such as the Water Resources Act (*WHG*) of the Federal Government of Germany and the Saxon Water Law (*SächsWG*) as two examples of regional and local implementation of the water framework directive and the floods directive.

Poland does also have Regional Water Management Boards (RZGWs) are responsible for the water management and flood protection. In addition, *voivodes* (province governors) responsible for crisis management on the regional level and preparation of operational flood protection plan for the region provide advice on provincial flood risk assessment. Marshals (leader of the regional self-government) are responsible for the regional spatial management plan and regional development strategy, supervise water installations and provide comments on preliminary flood risk protection measures. In addition, crisis management centre on the district (*powiat*) level (second level in Polish administration) exist. The centre coordinate the emergency services when the flood exceeds the area of one community based on the crisis management plan prepared for the district. The centre also advises local communities (*gminas*) regarding the preparation of local crisis management plans (*gmina* level).

The Czech Republic has environmental authorities with offices responsible for water affairs on regional level. In addition to that, River Basin Authorities were established for different river basin districts. These state enterprises are responsible for the control, monitoring and evaluation of streamflow in the main river basins and they organise long-term flood management activities in cooperation with the Ministry for Agriculture.

On a communal level in Germany, actors such as the mayors, the Local Water Authorities, fire fighters, first aid and civic organisations, NGOs, the Technical Relief Service (all potentially supported by the armed forces) are actively involved in flood risk management, flood defence and flood risk communication.

Local crisis management centres in Poland are responsible for crisis management before, during and immediately after the flood when returning to normal conditions. During the crisis the Centre has the task of supporting the Mayor in coordination of work of the emergency services in the area of the *gmina*. They are also responsible for preparation of crisis management plans for the communes.

In the Czech Republic, local flood committees with elected members and with the mayor being the head exist. These committees have specified tasks before, during and after floods. In addition to that, the Czech Republic has an integrated rescue system consisting of ambulance, fire fighters, and the police.

The goal of the case study was to bring representative of the above mentioned organisations together in order to take part in the workshop and to gain a solid understanding of their different perspectives on the topic. Members of the general public previously affected by a flood (general public without duties in flood risk communication) were invited to participate in the workshop, but were unfortunately unable to attend. However, many of the official representatives had themselves been personally affected from previous flood events and could report on existing communication gaps from that perspective of the general public.

Large-scale, cross-border floods have been regularly occurring events during the past decades in the study area (with the last major flood in 2013) and all participants had flood experience which they could discuss and share with each other.

1.3 Flood risk communication pathways

Flood communication on communal level starts with basic information on flood hazards, the publication of flood hazard maps (e.g. <http://www.umwelt.sachsen.de/umwelt/infosysteme/weboffice101/synserver?project=wasser-hwrg&anguage=de&view=hwrg>), and information on how to personal preparedness actions. Invited participants said that they would use websites, brochures or announcements in the local gazettes to inform the population about existing flood hazards in their environment.

Flood risk warning in Germany (Free State of Saxony) is organised as shown in Figure 3. Meteorological data are continuously being monitored through the Saxon Flood Centre (as part of the Saxon State Office for Environment, Agriculture and Geology) with support from the Czech authorities.

In case of emergency, as soon as defined alarm stages are reached at the (mainly) automatically monitored gauges, flood alerts are issued and sent to the respective districts or district towns (lower water authorities). Depending on which of the four warning stages are reached, measures are taken by the affected municipalities.

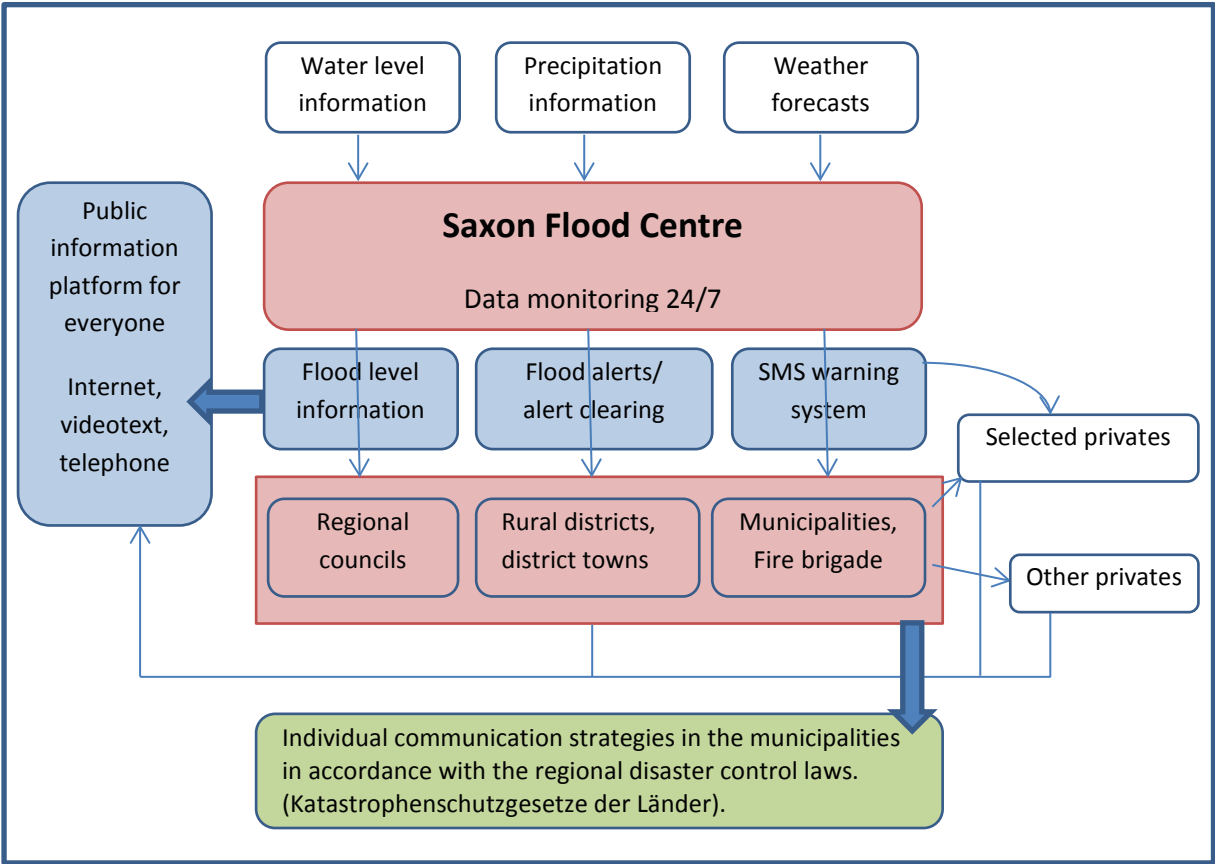


Figure3: Flood risk communication in Saxony (Germany). Adapted from LfULG.

Warning stage 1 starts with high water levels and the river might start overflowing its banks. Warning stage 2 (inspection service) indicates that the water level reaches the foot of the dykes (for dyked rivers) and that agriculturally used or forested areas are flooded. First traffic obstructions are possible. As soon as warning level 3 (guard duty) is reached, i.e., as soon as the first residential areas are flooded, the Free State Saxony (regional level) finances all required flood defence measures, including the support by the German Armed Forces that are located at the national level. Before that warning level is reached, the municipality has to pay the costs for all flood defence actions. Warning stage 4 (flood defence level) means that people, livestock, objects, and facilities are threatened and might need to be evacuated, dykes need to be protected as their stability is endangered. The Saxon Flood Centre has recently established an SMS warning system for registered potentially affected customers of the Saxon Flood Centre.

Warnings to the population are issued from warning level 3 onwards via the Internet, radio, video text, and SMS. Once the lower water authorities and mayors are informed, individual communication chains start in the municipalities depending on the local conditions in terms of population size, previous flood experience, existing master plans, warning time, etc. The design, functionality, efficacy and deficits of these communication strategies were analysed in the scope of the workshop.

A number of participants reported that they actually go from household to household in order to inform people as electricity might no longer be available during a flood, telecommunication systems might have failed or elderly people might need help to cope with the situation. Information during a flood event is often spread using cars with speakers on top of the roof if the roads can still be accessed.

Special care is required in the response phase but also in the recovery phase, when damage is being removed and compensation is claimed. Local networks were being established, for example in the town of Flöha, to help people identifying potential resources to obtain money for damage reimbursement. This phase is regarded being most sensitive and many PCSPs said that appropriate ways of communication would be required that are a) efficient and b) help rebuilding trust as this is a very emotional phase of the disaster risk management cycle.

The official damage assessment of non-private items after the flood has receded is carried out by the Ministry of the Interior (regional level), damage on structural measures such as dikes are assessed by the Dam Authority of Saxony. Private damages are reported to the insurance companies or the Development Bank of Saxony (*Sächsische Aufbaubank, SAB*). A comprehensive analysis of the flood is also the task of the LfULG.

In Germany, despite the call for the encouragement of interested parties in the development of flood risk management plans, such involvement is limited to planning (e.g. *Planfeststellungsverfahren*) or implementation (e.g. private protection measures) (Begg, et al. 2015). Communication regarding the types of private actions that could be taken by home owners is limited to brochures and handbooks (Kuhlicke et al., 2014)

The communication practices in Poland addressed to endangered people are shown in Figure 4.

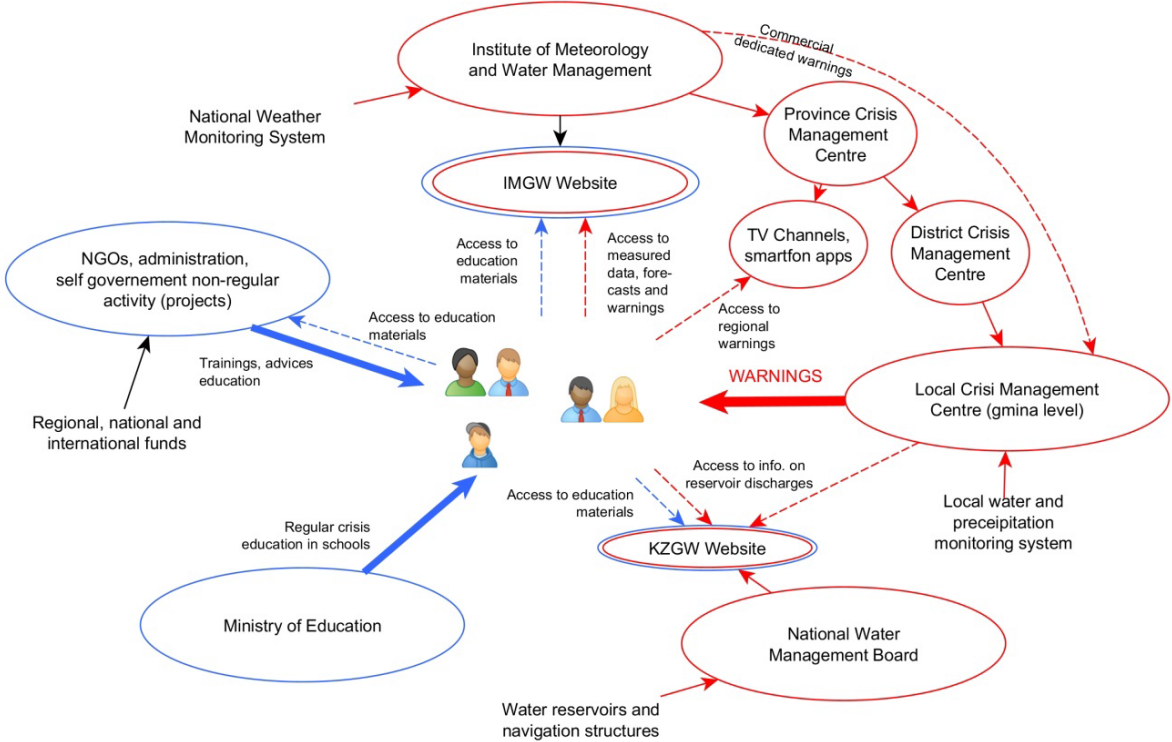


Figure 4: Communication practices before (blue) and during (red) a flood in Poland. Source: IMGW.

Basically, there are three moments of flood communication in Poland: during a flood, before and after a flood.

Many institutions are involved in the flood warning system in Poland but every action starts from forecasts and evaluations of weather situation prepared by Institute of Meteorology and Water Management (IMGW PIB). Polish regulations oblige the Institute to disseminate all forecasts and warnings to institutions on central and province level. Crisis management structures (located in Poland on each level of administration) are responsible for sending this information down to the next level. Summarising, the organisational structure of the existing warning system in Poland is hierarchical: warnings prepared by the Institute of Meteorology and Water Management and transmitted to the regional crisis management team are forwarded to the district crisis management centres (ZRK) and then to the *gmina* centers —and only from there, to towns and villages within the area of the *gmina*.

In the mountainous South of the country that is at risk of flash floods this path is too long. Warnings might not arrive at all or they arrive too late to be able to secure one’s property. It was one of the reasons that the local self-governments decided to build their own local monitoring and warning systems. Currently, such systems are relatively popular in southern Poland. Some of them are very simple and consist of two or three water level sensors. Others are more sophisticated and consist of 30 to 40 rain and water telemetric sensors, software which analyses the data and informs the staff by SMS as soon as a certain thresholds value is exceeded.

Crisis management centres on the local level are responsible according to regulations to warn people living within the potentially affected area. The most popular tools used for warning are sirens and loudspeakers. Also, SMS notification systems are becoming more and more popular: some surveys indicate that more than 15% of local communes use such systems to disseminate warnings.

This system is supplemented by the Regional Warning Systems, newly implemented, which is based on cooperation work with TV channels. The staff of TV stations publishes warnings on the bottom part of TV screen as news ticker immediately after receiving the warnings from the regional crisis management centres. The same information is available in special smartphone applications.

Communication initiatives between before and after floods focus on school education. Preparedness to natural and human caused disasters is a compulsory subject in secondary school in Poland. Unfortunately, analyses show that the lessons focused so far mainly on response to such disasters, passing over prevention and recovery.

Of course there are some activities of NGOs, self-governments or administrations on different levels in the field of educating people, training them or advising them but it is still only a drop in the ocean of needs that we can identify. The reason is that it is mainly only campaigns that raise awareness irregularly rather than an establishment of regular day-to-day activities.

2 Workshop participants



Figure 5: Group photo with the workshop participants. Photo: Bernd Voigtländer

2.1 German participants

- There was a representative of the Department Planning of the District of Central Saxony (Landkreis Mittelsachsen). Many cities of the Landkreis Mittelsachsen were severely affected by the 2002 as well as by the 2013 flood and have expressed their interest in developing new ideas and approaches for increasing the preparedness for respective communities.
- A representative of the community of Augustusburg. He is one of the first receivers of flood warning information. He is also trying to involve local residents in urban land use changes to reduce flood risks.
- A representative of the town council in Flöha and who was severely affected by the 2002 and 2013 floods with his private property. He is also involved in civic engagement and the progress of local structural flood protection measures.
- A leading representative of the municipality of Döbeln as well as a technical division manager at the town council in Döbeln.
- A representative of the community of Frankenberg who was also affected by the 2002 and 2013 floods and works for the German Armed Forces.
- A leading representative of the city of Leipzig who is the manager of the operational planning, steering and disaster protection as well as the deputy director of the municipal fire brigade. He was responsible for the coordination of the emergency operation centre during the flood in 2013 and is responsible for strategic decisions regarding preparation and resilience building for the city of Leipzig.
- A representative of the district office Bautzen's department disaster protection. The district office is responsible for the availability, appropriate training, equipment, accommodation and

the operational capabilities of forces and means for disaster prevention depending on the local hazard level. Moreover it is in charge for the preparation and updating of local alarm and action plans.

- Member of the Görlitz fire brigade.
- Member of the district office Görlitz in the Department for disaster protection and rescue service.
- As a representative of a non-governmental organisation (arche noVa e.V.), an organisation working in the field of humanitarian aid with place in Dresden, Saxony.

2.2 Polish participants

- A representative of the Bogatynia crisis management centre on the *gmina* level (basic level in Polish administration) who is responsible for the preparation of crisis management plan.
- A member of the Zgorzelec crisis management centre on the district (*powiat*) level (second level in Polish administration).
- A member of the staff of the Powiat Crisis Management Centre.
- A representative of the Zgorzelec Department of Property, Spatial Planning and Agriculture on the basic level of administration (*gmina*). The department is responsible for management of public property, protection of environment (air, water, wastes...), preparation of local spatial plans for selected areas of the *gmina* and decisions on location of public buildings and in zoning decisions.

2.3 Czech participants

- Two representatives of the Joint Secretary of the Cities Network "Little Triangle - Zittau (D), Bogatynia (PL), Hradek nad Nisou (CZ)" in Hradek nad Nisou.
- A representative of the the community of Hradek nad Nisou as well as one from the municipality of Varnsdorf.

Language

As the participants of the workshop came from three different countries and spoke three different languages, simultaneous interpreters for Czech-German-Czech and Polish-German-Polish were hired to translate all presentations, comments and questions from the participants. The interpreters were located in booths at the backend of the conference room. All participants were thus required to speak slowly and clearly. Even though that seemed to be challenging at the beginning it worked very well and helped to foster exchange between the different countries. Due to technical limitations the interpreters were not available for the group work activities. This is something that we aim to improve in the second round of workshops. Participants need to get an opportunity to discuss across borders. Although, not being able to engage in cross border discussions outside of the plenary discussions could be seen as a negative aspect of the workshop, it also meant that we were able to gain an impression of each countries perspective that could help us draw out commonalities and differences that could be used as the basis for discussion in the second round of workshops.

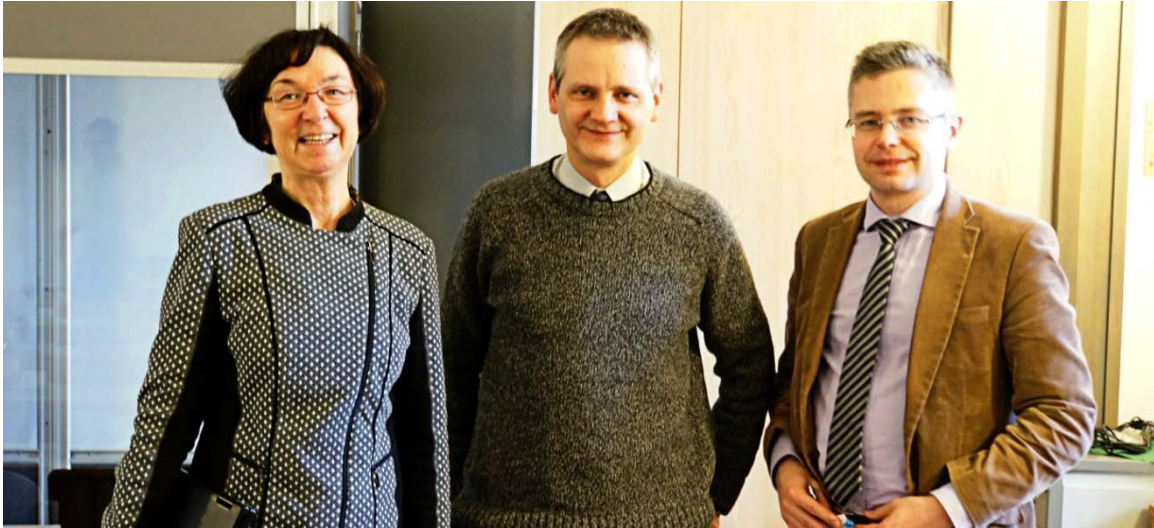


Figure6: Three interpreters were hired to translate simultaneously during the presentations. Photo: Bernd Voigtländer.

Signed list of participants



Workshop zur Fallstudie Hochwasser in Mitteleuropa
5. März 2015, Internationales Begegnungszentrum St. Marienthal

Name	Stadt / Einrichtung	Unterschrift
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Demuth-Majda, Anna	Urząd Gminy Zgorzelec / Gemeindeamt Zgorzelec	
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Hanns, Thomas	Stadtverwaltung Döbeln, Dezernent Stadtplanungsamt	
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Kucharski, Tomasz	Urząd Miasta i Gminy Bogatynia / Gemeinde Bogatynia	
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Pawlas, Piotr	Starostwo Powiatowe w Zgorzelcu / Kreis Zgorzelec	
Proszyński, Kazimierz	Urząd Gminy Zgorzelec / Gemeindeamt Zgorzelec	
Restetzki, Uwe	Feuerwehr Görlitz, Leiter	
Ruge, Ingeborg	Landratsamt Görlitz, Amt für Katastrophenschutz und Rettungswesen	
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Stephan, Yvonne	arche noVa - Initiative für Menschen in Not e.V., Dresden, Leitung Fluthilfprogramm	
Sucharda, George	Městský úřad Varnsdorf / Stadtverwaltung Varnsdorf	
Szymański, Jacek	Starostwo Powiatowe w Zgorzelcu / Kreis Zgorzelec	
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Walczkiewicz, Tomasz	Institut Meteorologii i Gospodarki Wodnej / Institut für Meteorologie und Hydrologie	
Weigner, Stefan	Stadtrat Flöha	
Wittich, Anja	arche noVa - Initiative für Menschen in Not e.V., Dresden, Referentin Fluthilfprogramm	
Zimmermannová, ThMGr. Hedvika	Svazku měst Malý trojúhelník / Städteverbund "Kleines Dreieck", Hrádek nad Nisou	
JAN KREČTAN	- 11 -	

Figure 7: Signed list of participants

3 Presentations and group work

3.1 Morning session presentations

After the welcome note of Christina Mante, **TACTIC** partner of the Saxon State Office for the Environment, Agriculture and Geology, **TACTIC** partner Tomasz Walczykiewicz of the IMGW briefly introduced his institution and welcomed the participants.

Chloe Begg (UFZ) then provided an introduction to the **TACTIC** project, informed about the current state of the **TACTIC** activities and presented the goals and expectations of the workshop.

The flood case study was introduced directly after that by Annemarie Müller (UFZ). The introduction of the case study was also used to introduce the participants and their role in risk communication. Therefore, a poster showing the different stages of the disaster risk management cycle (before, directly before, during, directly after, after/before) was hung up (see Figure 8) and the participants were asked to write their names, institutions and main risk communication activities on a card that can then be positioned on the prepared poster. It turned out that most of the participants were active in risk communication throughout the entire flood risk management cycle.

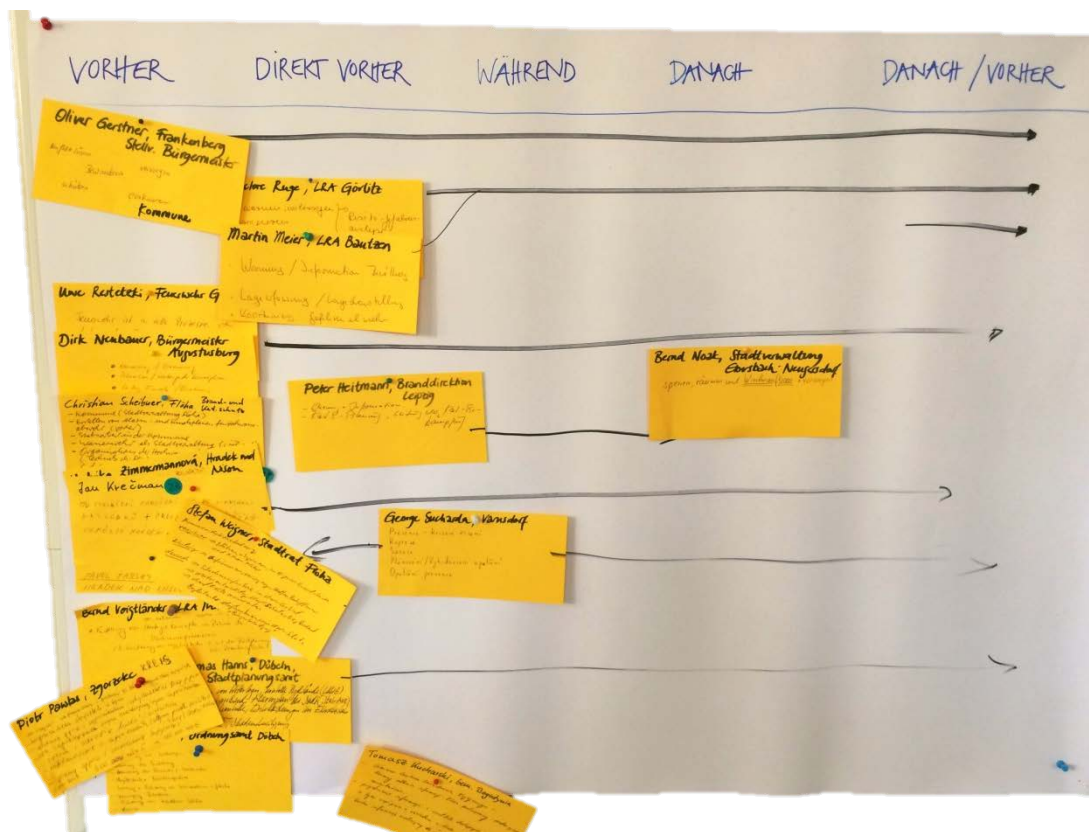


Figure 3: Introduction round: overview about the risk communication activities of the participants.
Photo: Maximilian Beyer, UFZ.

After the first coffee break, Christian Kuhlicke (UFZ) held a very interesting and informative presentation on aims and methods of risk communication. After introducing the five steps that are required for the creation of a communication strategy, each of the steps was explained in more detail (defined aim of the communication strategy, identify the target group, define a key message, select possible communication methods, specify mechanisms that allow for an evaluation of the strategy).

The main aims in flood risk communication are:

- Aim 1: Warning in case of emergency
- Aim 2: Raising awareness for a hazard
- Aim 3: Strengthening capacity to act
- Aim 4: Providing information as basis for decision-making/participate in decision-making
- Aim 5: Resolving disputes/conflicts
- Aim 6: (Re)-building credibility and trust

These aims are also covered in the self-assessment tool that is being developed in WP 2 and they were used as input for the first group work.

Different methods to define and group the target audiences were presented to provide a practical help for the workshop participants. As the definition of a key message is very place- and context-specific, it was mainly mentioned that this part needs to be clear and concise in a first instance. The list of possible methods for risk communication is long and was presented using a number of practical examples. The participants were asked to discuss these methods in the first group work that started right after the presentation.

3.2 Morning session group work

For the group work 1 (on risk communication), four groups were created. As mentioned before, the interpreters could not translate during the group work due to technical limitations. As a result, we created one Czech, one Polish and two German groups. The first German group consisted of people actively involved in disaster response (such as firefighters and members of disaster protection agencies). The second group was formed by people working in the urban/communal administrative sector such as mayors and people working in the planning sector.



Figure 4: Morning session group work on current and future risk communication activities. Czech group.
Photo: Maximilian Beyer, UFZ.

The group work took place in separate rooms equipped with flipcharts and a large poster (Figure 10) showing the six aims of flood risk communication that were presented by Christian Kuhlicke in the morning.

Goals of risk communication	(1) Warning in case of emergency (providing information, guiding actions, etc.)	(2) Raising awareness for a hazard (information about hazard and consequences, etc.)	(3) Strengthening capacity to act (preventive actions, emergency actions, etc.)	(4) Providing information as basis for decision-making/participate in decision-making (scientific knowledge, expert evidence, expectations, responsibilities, role, etc.)	(5) Resolving disputes/conflicts (providing credible information, exchange on expectations, values, etc.)	(6) (Re)-building credibility and trust (creating transparency, fact finding, consistency between words and actions etc.)
Methods of risk communication						
Publications in newspapers (incl. official gazette)						
Brochures, Leaflets, etc.						
Official flood maps						
Own flood maps						
SMS						
Website						
Social media (Twitter, Facebook etc.)						
Sirens						
Showcases						
Public exhibitions						
Public meetings/hearings						
Public workshops						
Mediation						
Simulations (e.g. public emergency exercise)						
Role-playing						
Theater plays						
Movies, podcasts						

Figure 5: Poster matrix with goals and methods in risk communication. Source: UFZ

The rows of the table on the poster listed a number of communication methods that can be used in risk communication. Participants were asked to revise their existing communication strategies and to mark areas of expertise and practical experience with green stickers and areas that they would like to learn more about with red stickers. In addition, a two page questionnaires asking the participants open questions about their existing and desired aims and the methods they are using in their strategy were distributed to be filled in at the end of the session. The results are presented in the next section.

3.3 Presentation of the group work results

The results presented in that first part of the section are being drawn from the matrix of goals and methods and the group discussions. The second part of this section contains the interpretation of the two page questionnaire.

German group 1

Actors involved in flood response and emergency management are mainly concerned with flood warning activities in case of emergency and with raising flood hazard awareness. Some activities provide advices on appropriate reaction in case of a flood event, but more activities are desired in that field. Participants found it hard to determine if people are actually reached through the existing communication strategy. Another central question was how people can be motivated to collect flood risk relevant information and to adopt those in practice, i.e. in case of an emergency.

Ziele von Risikokommunikation	(1) Warnung im Notfall (Informationen bereitstellen, Handlungsanweisungen, etc.)	(2) Gefahrenbewusstsein steigern (Informationen über Gefahren, Konsequenzen, etc.)	(3) Handlungsfähigkeit steigern (Vorsorge, Handeln im Notfall, etc.)	(4) Bereitstellung von Informationen als Grundlage für Entscheidungen/um an Entscheidungen teilnehmen zu können (z.B. wissenschaftliche Informationen, Gutachten, Rollen, Erwartungen, Verantwortlichkeiten)	(5) Lösung von Auseinandersetzungen und Konflikten (Bereitstellung von glaubwürdigen Informationen, Austausch über Erwartungen und Wertvorstellungen, etc.)	(6) (Wieder-)Herstellung von Glaubwürdigkeit/Vertrauen (Transparenz, Konsistenz zwischen Wort und Handeln, etc.)
Methoden der Risikokommunikation						
Veröffentlichungen in Zeitungen (Amtsblätter etc.)	●	●				
Broschüren, Handreichungen etc.		●	●			
Offizielle Hochwasserkarten		●				
Eigene Hochwasserkarten		●				
SMS / Telefon	●	●				
Website	●	●				
Soziale Medien (Twitter, Facebook etc.)	●	●	●	●	●	●
Sirenen	●			●		
Aushänge/Schaukästen				●		
Öffentliche Ausstellungen						
Öffentliche Versammlungen/Anhörungen			●			
Öffentliche Workshops	●					
Mediationsverfahren						
Simulationen (öffentliche Katastrophenübungen)						
Rollenspiele						
Theateraufführungen	●					
Filme, Podcasts						

Figure 6: Results of the morning group work on risk communication. German group 1 (disaster managers). Photo: Maximilian Beyer (UFZ).

Most of the group members said that they are already applying a variety number of communication methods, such as the distribution of flyers, information in the gazettes, and on websites. However, they would be interested in learning more about how to actively encourage the involvement of residents in learning and the assessment of former flood events. It was stated that the interest of affected people in discussing previous flood events with the aim to draw out lessons learnt was very small, especially in larger cities. The reason is that many people rely on the service and responsibility of official disaster managers (e.g. fire fighters) instead of being able to cope with smaller risk situations themselves. As a result, the willingness to improve their own capabilities to react to a flood appropriately is low as it is not considered being their duty. The situation is different in smaller towns and villages, though. People are more likely to appropriately deal with a flood situation and to help themselves there and they are more likely to engage in community preparedness activities. However, a member of a local district at the Polish border also mentioned that the general public is no longer invited to discussion rounds after the event because the interest is so low.

All participants were very interested in learning about new methods to solve conflicts and to rebuild trust after an event as this is considered being crucial but hard to achieve in practice for the reasons named above.

Basic and emergency-related information on floods is provided on websites of most of the institutions. In addition to that the local gazettes are used to also reach that share of the population that is not using web-based information sources.

The role of social media during a flood event was seen to be critical in terms of efficiency and helpfulness. Partly false information was spread during the 2013 flood in Leipzig. In addition, the number of volunteers was much higher than the demand. Their coordination and efficient distribution in the flooded areas was not accounted for prior to the flood. Most of the participants, however, regard social media as an important tool that needs to be considered in future risk communication activities at all times of the disaster risk management cycle.

German group 2

Most of the group members have a current emphasis on either warning communities at risk or at increasing risk awareness among residents; to a certain extent they also see an emphasis on increasing the capacity to act of citizens. Most often used are social media, publications in newspapers and brochures and websites.

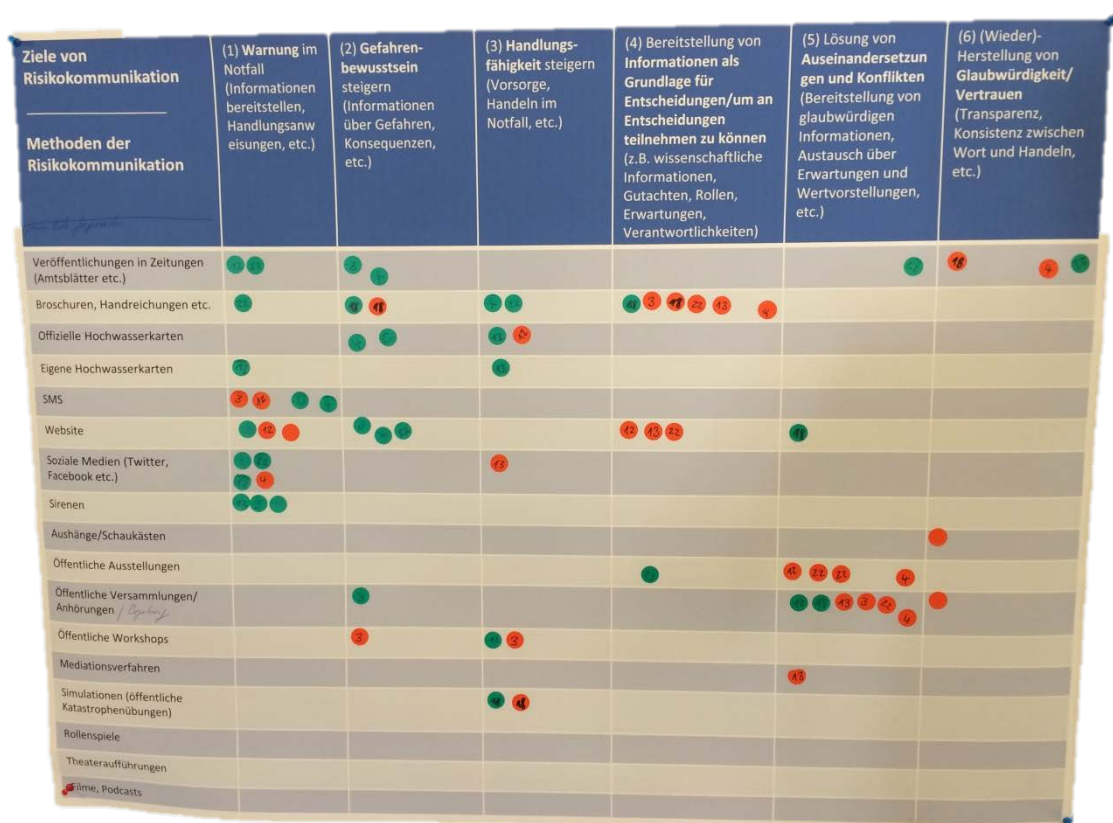


Figure 7: Results of the morning group work on risk communication. German group 2 (communal authorities). Photo: Maximilian Beyer (UFZ).

The greatest interest, however, would be in learning more about how to encourage people provide information as a basis for decision-making and for informing citizens as well as on how to result conflicts in flood management through public exhibitions and public gatherings or public hearing. Although not displayed in figure 12 there is also a great interest in learning more about how to use social media for increasing awareness and the capacity to act.

Czech group

The results from the Czech group reveal a relative clear picture on what is currently done and what could be improved. The communication activities already carried out by our Czech actors can be mainly allocated to the risk communication goals “warning in case of emergency” and “raising awareness for a hazard”. Here, various methods are applied, such as diverse publications, SMS warning, websites and social media as well as hazard maps. Public exhibitions and simulations are partly used to strengthen the capacity to act. However, the later goal is also considered as necessary to be improved as well as the decision making and conflict solving aspect. Here, public workshops and simulations (e.g. public emergency exercise) and training in mediation are desired measures.



Figure 13: Czech communication poster. Photo: Maximilian Beyer (UFZ).

Face-to-face contacts, personal experiences and trust are seen as strengths of the current risk communication. Although web-based media are widely used to inform and warn the public, a possible collapse of the systems is considered as a weakness of this method by all participants. Informal information events (meetings) and disaster management simulations have repeatedly been named as alternative communication methods in order to improve organizations’ risk communication.

Additionally, more information on financial support and improvement of disaster manager's qualification is required. Finally, the importance of cross-border information exchange between German, Polish and Czech actors has been emphasised.

Interestingly, in regards to the goals of communication, the Czech participants did not believe that building trust should be considered a goal. This is one reason why they did not place any dots in this column (with the exception of the one dot for films and podcasts as it was argued that films which explain what is being done and why could help to increase trust in authorities and managers). It was argued that if the communication, for any of the other goals, is done well then trust will arise as a result. Therefore, the only time that such a goal is needed is if communication has failed in the past and there is conflict, which is already included as a goal of communication.

Polish group

In the Polish group it turned out that most actions undertaken by participants focus on flood warning and improvement of hazard awareness.

Cele komunikacji ryzyka powodziowego	(1) Ostrzeżenie w przypadku zagrożenia (dostarczanie informacji, porady, inne)	(2) Poprawa świadomości zagrożenia (informacja o zagrożeniu i skutkach, inne)	(3) Wzmocnienie zdolności do działania (działania prewencyjne, reagowanie, inne)	(4) Dostarczanie informacji jako podstawy do podejmowania decyzji/udziału w decyzjach (wiedza, ekspertyzy, oczekiwania, kompetencje, role, inne)	(5) Rozwiązywanie sporów/konfliktów (dostarczanie rzetelnych informacji, wymiana oczekiwań, wartości, inne)	(6) (Od)-tworzenie wiarygodności i zaufania (budowanie transparentności, poszukiwanie faktów, zgodność między słowami a działaniami, inne)
Publikacje w prasie (wliczając w to oficjalne gazety)						
Broszury, ulotki i inne		1	1			
Oficjalne mapy powodziowe	2	1				
Własne mapy		1				
SMS	1					
Strony w Internecie	2	1				1
Media społecznościowe (Twitter, Facebook itd.)		1				1
Syreny alarmowe	1					
Pokazy						
Wystawy publiczne						
Spotkania z mieszkańcami		1			1	1
Warsztaty				1		
Mediacje						
Symulacje (np. publiczne ćwiczenia)		1	1	1		
Odgrywanie ról (role-playing)			1	1		
Występy teatralne	1					
Filmy, podcasty			1	1		

Figure 14: Polish communication poster. Photo: Maximilian Beyer (UFZ).

Institutions on local and district level use webpages, sirens and SMS to warn people in case of a flood. Additionally Bogatynia cooperates very closely with the local radio station to share information in case of an emergency. Both levels plan to use flood hazard maps in future.

With regards to the improvement of hazard awareness, institutions on local and district level mainly use webpages to improve people's flood hazard awareness. The crisis manager from Bogatynia

underlined the effectiveness of face to face meeting with inhabitants. Only local institutions plan to add something to the current activities: social media, brochures, leaflets and official hazard maps.

Only the Zgorzelec Crisis Management Centre has developed and distributed brochures and leaflets to strengthen people's capacities to act. In future the district prefers to implement exercises for emergency services and educational movies (together with the *gmina* Bogatynia). No efforts were made yet to provide information as basis for decision-making/participation in decision-making, but workshops and simulations are planned in the future. Both institutions on local level use public meetings as a method to resolve some of conflicts. No additional actions are planned for the future. Also, both institutions on local level build credibility using their website.

Evaluation of the questionnaire

The following section shows the feedback from the questionnaire on risk communication that was distributed during the group work.

What are the goals of your flood risk communication activities?

The results from the questionnaire showed that the main goal of the risk communication across countries is to increase risk awareness, the distribution of information and – along the borders – communication and information exchange with the neighbouring institutions. Especially in the group of German mayors and planners the goal of creating alliances and cooperation with other cities or institutions, i.e. improved networking activities, were discussed as aims of the strategy. Warning people and improving their abilities to respond appropriately were others aims of those people that are more actively involved in disaster response activities. A Polish representative stated that his main goal was to achieve the appropriate level of understanding of the situation, which refers to risk awareness and ability to act appropriately.

What key messages do you communicate (e.g. how to create an emergency kit) to achieve those goals?

The German disaster managers mainly replied here that they keep communicating that floods can reoccur at all times and that there is no 100% protection available. Information on the hazard itself, on experiences with the hazard and responsibilities of the general public were other responses to that question. The Czech partners emphasized the importance of the objectivity of information and the conciseness of instructions in case of a flood. The Polish participants also underlined that simple messages should be communicated.

Who are your target audiences? Which methods does your organisation currently use to communicate flood risk to each target audience?

The target audience varied widely depending on the work position of the participants. Most people are using different methods to reach their target audiences. Citizens in smaller or rural communities such as Flöha and villages in the district of Görlitz, but also in Poland and the Czech Republic are best reached through personal contact. Representatives of the Administrative District of Central Saxony explained that they do quite some effort to build networks with neighbouring communes and they therefore organise meetings. Younger people are reached using the Internet, older and local traders are reached through the gazette.

Disaster managers reach their target group that needs to be warned using the telephone in smaller communities, using sirens in the upper parts of river basins with shorter warning times and with an

automatic SMS or telephone service in cities like Leipzig and Dresden, where people can register for that service if they are very likely to be affected by floods. The fire fighters of Leipzig, as one example, also organise open house days, give public presentations or interviews in the local media to inform people about their work. Participants working in the planning sector use the official planning-related publications to inform people about flood risk zonation and future construction activities. The Polish partners mentioned the Province crisis management information system “Kleopatra” as one tool to share information with the public. Social media like Facebook seem to be of highest relevance in the Czech Republic as source of information.

What are the strengths of your organisation’s risk communication?

Both German groups and the Czech group named existing personal contacts, and knowing each other, local knowledge and experience as strengths of their system. Also, the non-existence of language barriers was mentioned. The acceptance of the fire fighters was brought in from the chief of the Leipzig fire brigade. Other disaster managers pointed out that they are able to act and inform people directly matching the specific situation. Timely delivery of messages, quick response times, well-educated staff, effective information dissemination systems and accuracy were named as advantages of the Polish communication strategies. The Czech participants also mentioned as an advantage that new media are involved in the communication plan.

What are possible weaknesses of your organisation’s current risk communication?

Potential deficits in the risk communication strategy are that not all people can be reached and that responsible actors are often not motivated to improve their risk communication skills. Additional people that can deal with new media would need to be hired in order to make better use of social media, as one example. Technical limitations, collapse of communication systems and weak radio connection were also named as weaknesses during floods. Another point that was addressed by German disaster managers is that reaction still dominates prevention. Continuous information campaigns would be required to achieve higher risk awareness. The Polish participants also mentioned that they would not be able to gather necessary information on time.

Are there alternative goals your organisation should pursue to improve the risk communication?

Most people would like to strengthen risk awareness of the local population. The Polish disaster managers would like to intensify the use of social media, to increase number of inhabitants registered in SMS warning system, to stimulate inhabitant’s activity, and to use different type of incentives to activate people. Furthermore, their goal is to promote the needs of cooperation among local institutions and to use incentives not only penalties. The Czech participants named the improvement of risk response skills of the potentially affected population as major aim. Also, the information and warning system should be enlarged. More scientifically-based information is desired.

Which target groups do you think you should pay more attention to?

Most people replied to that question that potentially affected population should get most attention. In addition to that, groups such as older and handicapped people were named here.

Which alternative communication methods should/could be used to improve the risk communication of your organisation?

The Polish participants clearly named social media here. A German participant also mentioned the importance of education and information on site. The Czech group found that more simulations and

meetings where concrete actions during emergencies are discussed should take place. Enhancement of the flood warning system, possibly through SMS was named here again.

What are the barriers for developing alternative emphases of your risk communication?

Personnel and financial deficits were identified as being the most relevant hindering factors for the creation and implementation of a successful risk communication strategy. Lack of knowledge and motivation was additionally named from the Polish workshop participants.

3.4 Afternoon session group work

The agenda included two options for the afternoon session. The first option was a longer presentation of the current state of the self-assessment tool; the (more appreciated) alternative was a continuation of the discussion on existing risk communication methods with a focus on networking activities and clarification of further needs and desired input from the **TACTIC** project for the decision makers. As the workshop with its numerous and diverse participants provided the opportunity to further discuss existing methods and to also unravel knowledge gaps in the field of risk communication it was appreciated that participants were willing to further engage in group discussions.

German group 1

As a general point in that second group work it turned out that most PSCPs have been using the same communication methods for years. However, it could only hardly be said if it served the purpose. Would people collect cards with important emergency-related information to different hazards that are provided monthly with the newspaper? Would they a) keep it and b) use it in case of emergency? Which methods and communication channels would people accept, what would motivate them putting the proposed ideas into practice?

Thus a major desired input from **TACTIC** was to provide a method on how to evaluate the effectiveness of existing communication methods and how to learn more about further needs and expectations of the target groups (i.e. the general public) for their communication strategy.

More specifically, international cooperation and communication was mentioned as a major challenge in flood risk communication during emergencies. Existing methods to exchange information are limited to the very simple exchange of pre-defined messages that are available in different languages. That is not sufficient in practice though as any further information request cannot be communicated or answered. New methods in cross-lingual communication, in communication without text, automatic translation, technical linking of control centres, etc. would be of high interest for the participants. Risk communication could be significantly improved if the chain of timely information would be enhanced in that direction. Learning more about the experiences made by other countries that are affected by cross-border hazards was a strong demand from the participants located along the German-Czech and the German-Polish border. Also, more legal and executive initiative from the regional government in that field of action would be highly appreciated by the municipalities who expressed that they would require much more governmental support.

Another language-related or trans-national issue are non-native speakers in general and asylum seekers in particular. Due to an increasingly high number of asylum seekers in the study area, new

methods need to be elaborated to ensure their safety in case of emergency. The question is not only related to language skills, it's also related to the reachability of the person. That guided the discussion to another major partly unknown factor: how do I reach people in general? And how can I reach the different target groups for my risk communication strategy. The desire for municipalities is to identify tools and methods that are as simple and at the same time as useful and as likely to be accepted by the general public as possible.

As another point, the lack of risk awareness among broad parts of the population, especially in urban areas and among the younger population was criticised by disaster managers. Valuable time and personnel resources of disaster managers and emergency aid teams are being used by people that are not able to help themselves in a basic way during emergencies. Again, too little support by the regional government was named as a hindering factor. New education strategies that inform young people about potential risks in their environment, appropriate response actions, and help for self-help were elaborated by a team of attendant disaster managers and were presented to the respective regional ministry, but it has not been implemented in the school education plan since.

German group 2

During the afternoon session it was highlighted by participants that the workshop and the morning session made them aware of the general relevance of "communication" as a key topic in disaster and risk management, particularly on the local level, as it includes not only the simple provision of information (as most participants thought) but also the setup of dialogical forms of communication with the larger community but also the communication between different actors involved in the management processes. Secondly, the systematic approach to risk communication was valued as very positive. Some expressed their interest to also use such a structured approach in their daily work. So there are great expectations to the outcomes of the project and a willingness to use the products after the project ends if they are designed and organised in a way that is useful for PSCPs. The relevance of scientific institutions contributing and trying to improve their daily work as end-users of scientific outcomes was particularly valued.

Participants were interested in three topics that should be covered in next steps. First, how different methods perform with regard to different goals? Which methods are more suitable to reach a specific goal and which methods should be rather avoided? This should be specified by the consortium and concrete outputs should be provided to the next workshop and also included in the self-evaluation. Second, participants wanted to have good example of how to conduct a cost-benefit analysis of specific measures but also of entire strategies in way that is not data-hungry and resource demanding. Additionally, they want more information on the difference between preventive and sustainable reconstruction, since both are connected with different modes of public funding.

Czech group

All participants from Czech Republic emphasised their experience in cross-border cooperation (including central contacts) and European projects. They informed members of the **TACTIC** consortium that they would be happy to assist **TACTIC** by providing examples of communication practices for the good practice library. Although a communication brochure exists, some communication barriers

should still be diminished in future. This concerns for instance the exchange of flood related information as warnings in case of a flood event and joint preventive measures.

As stated in the morning session more qualification and training activities are desired by the Czech neighbours in the future, e.g. specifically tackling target groups as people with special needs (sick and disabled people, people needing medical care). They further seek to implement a data base or some other system where such persons could be registered in order to assure that they get appropriate help in the case of a disaster. Also setting up emergency action plans for different target groups (e.g. private households, municipalities etc.). One particular example or preparedness communication that the Czech participants believe would be helpful for increasing the ability of residents to action to prepare themselves is a decision making chain or tree which provides people with clear and context specific information about what to do in a given situation. For an example see Figure 15.



Figure 15: Agility Recovery's example of a preparedness guidance tree (<http://www.agilityrecovery.com/library-resources/>)

In addition, the Czech participants would like the opportunity to further collaborate with the German and Polish participants of the workshop. It was suggested that this could be an improved focuses of the second workshop round.

Polish group

The common reflection of the Polish participants was that 2010 flood helped them to improve their communication system. The good example is Bogatynia where cooperation with local inhabitants is better than before the past flood event because the self-government still looking for more efficient measures of communication. Generally to warn people they use traditional measures like sirens and

loudspeakers, but all of them start to use more dedicated measures like SMS notification system or cooperation with local radio broadcasting stations.

During the discussion about future activities all participants emphasize the need of improvement of inhabitant awareness and to strengthen their capacity to act before, during and after disasters. Representatives of all three institutions selected movies and other promotional material about flood and actions that can be implemented by the inhabitants. Also, the role of social media was discussed. They additionally emphasized the necessity of improving the cooperation among different services and suggest that common practical exercises will help improving that in practice. The participants also underlined the evacuation problems during flood events and stated that the memory of the previous flood makes the entrepreneurs better protect the resources of their companies.

3.5 Afternoon presentation

The last presentation of the day (Annemarie Müller, UFZ) was an introduction to the self-assessment that is currently being developed in WP2 and to TOTAP, the overall framework. The discussion during the group work showed that there is a strong desire, to get some guidance on the evaluation of the existing communication strategy both on the suitability of the currently used methods and new methods and on assessing the demands from the general public in terms of risk communication. Both can be very well covered with the tools that we are currently elaborating. Participants were to a large part interested in testing the first version of the flood risk communication self-assessment (audit). Due to time constraints it was not discussed in detail during the workshop. Some participants already took printed versions of the draft version; others are available to review the latest version of the audit in the course of April.

4 Feedback from participants/Workshop evaluation

An evaluation form was handed over to the German participants at the end of the workshop, Polish and Czech versions of the evaluation form were emailed to the respective participants after the workshop. The feedback we obtained is listed below. The main points are taken up the evaluation of the workshop and the planning of the next steps in Section 5.

What did you find most interesting?

- Exchange of experiences, on an international level and between municipalities, to learn from other's experiences (3 times)
- Chance to connect science and practice, to learn about interlinkages and limitations
- Feedback to the own sphere of influence from a broad spectrum
- The beautiful setting of the monastery (workshop location)
- Contact to other responsible persons in the field of flood defence
- To meet other persons in charge for flood risk management, to get to know and understand each other (2 times)
- To learn about new communication methods
- Organisation and cross-border information
- Exchange about the communication with the general public

- Group work, personal contact for further exchange, joint discussions on issues that we all share, brainstorming ideas

What was missing?

- There was no direct exchange between Polish, Czech and German people during group works (3 times) [due to technical limitations]
- Possibly a better preparation of the participants
- Not enough time to discuss concrete solutions (2 times)
- Possible extension to two days
- Topics were not always placed in the general context

What would you like to have learned more about?

- Experiences and concrete information about the non-German participants
- Funding options for structural flood defence measures
- Concrete examples/techniques that can be implemented before and evaluated during the next workshop
- Examples of functioning communication strategies
- A set of concrete measures for implementation
- How to reach laymen, technically (communication channels) and communicatively (how does the information need to be prepared)
- Relationship between aims and methods of communication

Would you say that the workshop has encouraged you to further work on your communication strategy (development, revision)?

- Yes, certainly (7 times)
- Yes, and I appreciate the possibility to exchange information
- Yes, I think the communication channels need revision, I want to focus on long-term use and information transfer
- Yes, and I have concrete ideas
- The workshop has delivered thought-provoking impulses and the framework for further work

How could the next workshop be enriched?

- Case study examples for risk communication (3 times)
- Lessons learnt from municipalities
- Through the participation of key persons in charge from the State of Saxony and the Development Bank of the State Saxony (Sächsische Aufbaubank)
- Direct discussion and exchange with the Czech and Polish municipalities
- Support for the creation of alarm and operation plan for flood defence
- Solution to the identified issues, discussions with the target audience
- Exchange between science and practice
- Through an additional day (more time for discussion)
- Presentation of ideas collected in this workshop

All participants are interested in attending the second workshop and expressed their interest and readiness to provide feedback and input throughout the further progress of the project.

5 Evaluation of the workshop, implications for the project and next steps

Evaluation of the workshop

Overall, we are very satisfied with the workshop. It was very promising to see that participants enjoyed meeting each other and exchanging experience on their flood risk management, the situation of their municipality, the problems they have or the solutions they found. The main findings were that a lot of (good) communication is already in use. The methods vary across countries and depend on the size of the community and the local conditions, but have mainly been validated in practice. Participants seemed to be satisfied with their strategies to large parts on the one hand but they also expressed high interest in learning more about communication practices in order to check if those are appropriate for their needs and resources on the other. Partly the simple existence of flood risk communication material or education material for training disaster managers or municipal staff was unknown to participants. This indicates once more the need to prepare the good practices in a manner that makes it easy to read, understand and implement a measure.

Implications for the project

As it became clear from the group discussions, participants would like to learn more about resolving conflicts, raising people's awareness, reaching specific target groups (e.g. non-native speakers) and improving self-aid capabilities. Appropriate methods to achieve these goals and to reach the specific target groups have not been identified yet. Furthermore a high interest in the cost-benefit-analysis of measures was expressed by participants as well as in limits and opportunities of risk communication methods related to the aims described in section 3.1. Also, most participants expressed their interest in getting more involved in the use of social media as they have a large potential that can to date not yet be used.

There was a large interest in a scientific support for the choice of appropriate communication methods or for flood risk measures in general. It was emphasized by participants both from municipalities and practitioners in disaster management that science-based policy and action recommendations would be really helpful as a support for actions to be taken and decisions to be made, in particular if those have to be agreed upon with superior authorities. That is a strong support of the development of the self-assessment tool (TOTAP, i.e. **WP2, 8, and 9**), that would give guidance on the choice of appropriate communication methods to reach a goal under given framework conditions (such as available resources and specific target groups). TOTAP will also cover another important aspect that was brought up by the stakeholders and that is feedback from the target groups (i.e. the general public) on how risk communication should be designed. Most participants have a range of communication tools established but they are still not sure if they meet the needs of their target groups and what they could do to improve the efficiency and usefulness of their risk communication strategy. That means that we need to design the general public's part of TOTAP in such a way that it delivers information on specific requirements and desires of the target groups.

The newly established contacts and the feedback from the discussion on methods that are already in place are of great value for the further work on **WP3** and the work on/population of the database of good practices. While many practices can be found in literature it is very hard to get an impression on how efficient they are, in which context they work and what barriers might need to be overcome. The PCSPs are able to provide feedback on a variety of methods that have been used in practice – but also

on ones that could not have been used because several obstacles exist. We also learned that it would mostly be sufficient to have a very brief summary of the practice. The PCSPs would rather like to have access to the original source of information for a certain practice in order to get first-hand information and contact details to the people that have employed the method. The relevance of WP3 is very high and the suggestion of good practice examples is something that is very much desired and appreciated by the PCSPs.

Next steps

As discussed in Section 3.4 the group work with local planners (German group 2) resulted in the definition of further specific actions that are planned for the future: To further raise awareness among key decision-makers on the local and regional level the UFZ team will be invited to give presentations in different communities across Saxony focusing on the preparedness of people and how to increase it. Secondly, the UFZ team will be invited to participate in the regular meeting of mayors with the regional governors to present the TACTIC project, highlight the relevance of communication and provide an overview about key insights from current EU funded research project. These meetings will also be used to further specify how the project outcomes and results can be utilized and implemented in risk and disaster management beyond the project.

The next workshop will set a stronger focus on providing more scientifically-proven examples of communication practices and methods on how to solve cross-border communication constraints. Those were specific expectations from the participants for the first workshop that have not been met yet (but were also not planned to be part of that first workshop).

It also was mentioned a few times in the evaluation questionnaires that the participants would have liked to communicate much more intensively with the Polish and Czech participants (and vice versa), to learn more about their situation and to explore potential cross-border cooperation. In accordance with participants expectations TACTIC should strengthen the network and the cross-border cooperation in the course of the project. That is a clear aim of the next workshop: to further improve the exchange of experiences, expectations, and ideas between the involved nations.

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Appendix

Agenda



First Workshop for case study 2: Floods in Central Europe

5 March 2015

Internationales Begegnungszentrum St. Marienthal, Celsa-Pia-Haus, Ostritz-St. Marienthal, Germany

Programme

time	Session
9:00-9:30	Registration
9:30-11:00	Welcome, Introduction round
11:00-11:15	Coffee break
11:15-11:30	Presentation risk communication
11:30-12:45	Group work 1 – Risk communication (status quo, need for action)
12:45-13:45	Lunch
13:45-15:15	Group work 2 – Exchange of experiences on risk communication practices
Alternative	Introduction of the self-assessment tool, discussion of the self-assessment tool
15:15-15:45	Coffee break
15:45-16:00	Short presentation of TOTAP
16:00-16:15	Next steps, closing remarks

List of participants

	Urząd Gminy Zgorzelec / Urban (Commune) office in Zgorzelec
	Svazku měst Malý trojúhelník / Deputy Mayor Hradek nad Nisou
	Administrative District of Central Saxony, City of Frankenberg, Deputy Mayor
	Administrative District of Central Saxony, City of Döbeln, Department Head of the Urban Planning Authority
	Municipal Fire Brigade Leipzig, Chief Fire Officer
	Urząd Gminy Zgorzelec / Urban (Commune) office in Zgorzelec
	Urząd Miasta i Gminy Bogatynia / Head of the Municipal Crisis Management Centre
	Urząd Miasta i Gminy Bogatynia / Deputy Mayor Bogatynia
	District Bautzen, Caseworker disaster protection
	Administrative District of Central Saxony, City of Döbeln, Head of Office of Public Order
	Administrative District of Central Saxony, Augustusburg, Mayor
	Administrative District of Central Saxony, Ebersbach-Neugersdorf, Deputy of the Municipal Executive
	Starostwo Powiatowe w Zgorzelcu / Rural (county) office in Zgorzelec
	Urząd Gminy Zgorzelec / Urban (Commune) office in Zgorzelec
	Head of the fire brigade, Görlitz
	District Office Görlitz, Department of Rescue Services and Disaster Management
	City Council Flöha, Fire and Disaster Prevention
	arche noVa - Initiative für Menschen in Not e.V. , Dresden, Leitung Fluthilfeprogramm
	Městský úřad Varnsdorf / City council Varnsdorf
	Starostwo Powiatowe w Zgorzelcu / Defense and crisis management Inspector Zgorzelec
	Administrative District of Central Saxony, City of Döbeln, Economic development and construction planning
	City Council Flöha
Consortium	
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Müller, Dr. Annemarie	Helmholtz Centre for Environmental Research - UFZ Leipzig