



Bundesministerium  
für Umwelt, Naturschutz  
und Reaktorsicherheit



## Precautionary Flood Protection in Europe

### International Workshop

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## Workshop Report

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# 1. Background and Aim of the Workshop

Flooding is a natural phenomenon and not a new problem. Flooding only becomes a catastrophic event when the lives or property of human beings are affected. During the last two decades flooding events have become noticeably more frequent, in Europe and elsewhere. Since August 2002, when summer floods brought the worst natural disaster in living memory to Central and Eastern Europe, flooding has become one of the major issues within Europe. The effects of the floods included enormous damage to human infrastructure with significant economic consequences. More precautionary measures must be taken in order to be better prepared for such disasters in the future.

In the light of recent events and the current situation, and on initiative of France, the EC Council of Ministers (Environment) addressed the issue of precautionary and sustainable flood protection in Luxembourg on 17 October 2002. A month later, in November 2002 in Copenhagen, the European Commission and the Water Directors were requested to move forward on an EU strategy for sustainable flood prevention as a basis for further Council decisions. To this end, a "Core Group on Flood Protection of the water directors" was established. It operates under the joint chairmanship of the Netherlands and France.

During the Copenhagen Meeting in November 2002, it was agreed to hold a high-level meeting on flood protection in Budapest on 30 November and 1 December 2002 and an international workshop on the working-level in early 2003 in Germany.

On 5 and 6 February 2003, approximately 100 representatives from European Institutions, Member States and Accession States, Norway, Switzerland and Candidate Countries, environmental non-governmental organisations and international river basin commissions came to Bonn for the "International Workshop on Precautionary Flood Protection in Europe".

As considerations for precautionary and sustainable flood protection are under way on the European level, it is of primary importance to first understand work in progress in the Member States, Accession States and the Candidate Countries. The goal of this two-day workshop was therefore to exchange experiences of best practices in precautionary flood management and of lessons learned from recent flood events, to identify areas in which a common strategy would be productive.

## 2. Discussions and Results of the Workshop

In their opening speeches the German Federal Environment Minister Jürgen Trittin and the Vice Minister for Transport, Public Works and Water Management Melanie Schultz van Haegen of the Netherlands pointed out the increasing danger of floods and the importance of international co-operation in flood management.

Due to climate change as well as changes in human behaviour, the circumstances in dealing with floods have changed. On the one hand we face increases in the frequency and intensity of

extreme weather events as well as changes in headwater ecosystems that lead to rising flood peaks and larger areas being flooded than in living memory. On the other hand, increases in mobility and a desire to live or work in the attractive areas close to water bodies with their beautiful natural environment lead to a marked increase in the number of humans and the value of assets in areas at risk of flooding. In many instances, people settling in such risk areas were unaware of the extent of the danger presented by extreme flooding.

Before this background, the following issues were discussed during the workshop:

- Flood protection in European policy;
- (National) flood action plans;
- Interdisciplinary flood protection;
- Civil protection, response and regulation of damage;
- International and European co-operation;
- Next steps of a European strategy on flood prevention.

Within each session, the experiences from different countries were presented and provided a basis for discussion. The last workshop session provided an overview of the next steps that will be taken by the "Core Group on Flood Protection of the water directors".

## **2.1 Flood protection in European policy**

With regards to the relation of flood protection and other European policy areas, it was pointed out that the Water Framework Directive (WFD) might play a considerable role, and that an integration of flood control into other related policy areas and vice versa is crucial.

### **Flood protection and the WFD**

There is a need to clarify the role of the WFD in precautionary flood protection, which is currently not explicitly addressed in the Directive. The issue is, however, addressed indirectly given that the Directive demands that there be no further deterioration of river systems. Further, a stated goal of the Directive is to reduce the impact of floods, though precautionary flood protection measures are not specifically prescribed. The implementation of the WFD over the next years may be used as a "window of opportunity" to strengthen ecologically-oriented sustainable flood protection. The role of wetlands, floodplains, and structural issues of water bodies will be strengthened through the Directive; An integrative approach would reduce costs in water management but require that flood protection be included in guidance for implementing the Directive.

### **Flood protection and other policies**

Apart from the WFD, the European strategy on flood protection must also make use of and integrate other policy fields such as transportation, shipping, urban development, emergency management, and especially nature conservation. The WFD provides a platform from which to introduce new and more creative and sustainable forms of water and land management into

regional planning and development decisions. However, legislation to date has not been integrated and interests as well as decision-making procedures regarding regional planning, industry, agriculture, or transportation have not been dealt with in an interdisciplinary manner. During the workshop, the question of the EU's potential role in this process was raised. Possible EU measures might include guidelines for the development of flood prevention programmes, with the obligation to integrate all relevant policies, and to mediate different interests.

## 2.2 (National) Flood Action Plans

During the workshop, flood prevention activities at the European, international, and national levels were addressed. For some international river basins, such as the Rhine, Elbe, Danube, Oder, Meuse, Moselle and Saar, flood action plans already exist or are currently being developed. It became clear that there are few general rules for designing flood action plans.

But it was repetitively stated that floods only become a catastrophe when men/women and their assets are affected (man, woman + assets + flood = catastrophe). In flood action plans, therefore all these factors need to be considered.

Ecosystem-based flood management was identified as one of the key issues that has to be considered within designing flood action plans. This refers to the recurred motto of "Rivers need more room to move". Workshop participants agreed that there is a growing need to restate, review and rehearse water management principles in relation and in response to flooding.

It is necessary to distinguish between different kinds of flooding and the environmental conditions that contribute to the problem. For instance, there are significant differences between sudden flooding in upstream or headwater areas where mitigating risk involves a wide range of innovative small-scale solutions on the one hand and lowland flooding where warning periods and the duration of flood events are longer and large-scale measure have to be taken. While flood action plans across Europe will take different shapes depending on regional and local circumstances, the participants agreed that no measures should be taken that increase flooding problems downstream in any circumstances. During the discussion, a number of further controversial issues were raised:

- Should settlements and infrastructure be rebuilt in case of periodical flooding or should individual buildings, communities or transport routes be re-located? Which is the lower cost option in the long run?
- Should further development of areas liable to flooding be allowed? What if areas become flood-prone because of new development which reduces the storage volume of natural water retention areas?
- Which flood prevention measures should be used? Measures to prevent a 10-year flood might have no effect under 500-year flood conditions.
- How can engineering and ecological flood prevention measures be integrated? With this respect the procedures to identify and designate Heavily Modified Water Bodies (HMWB) in the implementation of the Water Framework Directive can be used as a starting point.

## **2.3 Interdisciplinary Flood Protection**

Historically there has been little or no integration of water and land management. In order to be prepared for flood disasters in the future, it was widely agreed during the workshop that interdisciplinary precautionary measures have to be taken in relation to both, water and land management. Because of the complexity of flood prevention, there is a strong need to cooperate not only across different disciplines but also over several levels or scales of planning and decision-making. This includes different administrative levels (EU/national/regional/local) as well as various types of organisations (governmental/public/municipal/private.) It is necessary to approach flood prevention from the integrated catchment management approach, as provided for by the Water Framework Directive.

There was considerable discussion and agreement at the workshop about the need for an improved integration of regional planning and water management. When measures are planned in the field of flood protection and water management, land use planning with respect to agriculture and forestry, the protection of natural areas, the development of settlements and recreational use play an important role. Spatial planning in particular will be needed to mediate among the different interests along a river or in a catchment area.

New presentation aids like GIS-based systems will play a major role in better information management, public consultation, and decision-making.

The following obstacles to interdisciplinary flood prevention efforts were identified during the discussions at the workshop:

- The responsibility for flood-management issues is located in different administration levels (local/national) and sectors (water, development, agriculture, shipping);
- Each discipline uses a “language”, or jargon, of its own;
- Learning to use a common “language”, the same concepts or terminology, or at least arriving at better mutual understanding is a very time consuming process.

## **2.4 Civil Protection, Flood Response and Regulation of Damages**

Under this topic a wide range of issues were discussed, focusing on tools to help improving public awareness, flood responses and the compensation of damage. As a main problem it was noted that people are often not aware of the dangers flooding can cause, and that they are not informed about precautions that must be taken before and during floods.

Damage costs are rising because people own more assets of higher value than ever before, and the accumulations in areas liable to flooding are significant. High-tech and valuable equipment is now often located in the basements of a buildings; this includes e.g. house installations, children’s playrooms and home offices equipped with computers.

During the workshop there was general agreement that better public awareness of flood risk can help mitigating the direct and indirect impacts of flooding. In the presentations, useful tools like (annual) reminders of past flood events and flood risks were highlighted (pictures, statutes, high-water marks). Information was also presented on the flood-risk awareness of households and businesses in flood-prone areas. Risk maps were discussed as another important tool for raising public awareness and planning purposes. Such risk maps should:

- Display all relevant information on flooding to assist decision-making. The public should be prepared for the worst-case scenario.
- Display information such that different institutions and authorities (planning administration, civil protection guards, etc.) can use them.

During the discussion some representatives indicated that public information on risk is very difficult due to protection of data privacy. A possible way to overcome this is the UN/ECE Århus Convention, which sets basic guidelines for promoting citizens' involvement in environmental matters by not only providing public access to environmental information but also establishing a duty on public authorities to actively disseminate such information.

Opening maps to the public could have effects on property value. If people become aware that a property is being flooded every 10 or 20 years or even more frequent basis, their willingness to pay high prices for that property will decrease. Some participants saw this as an obstacle to the publication of risk maps, while for others it highlighted the need for public information to avoid inefficiencies in property markets resulting from information denial by sellers of land in areas liable to flooding.

The topic compensation and restitution of flood damages remains as needing further work. One of the largest, unanswered questions during the workshop was "who is responsible for flood damages?" In the Members States, different regulations apply. In some countries, the government covers flood-associated risks and the public pays for this "service" in the form of taxes. In other countries, there is a tendency to encourage citizens to take out additional insurance policies against disasters. This is a question between liberalism and (state-imposed) solidarity. Insurance schemes also vary among the Member States from obligatory over regulated to no regulations at all.

Within this wide range of possibilities for financing flood damage, the following ideas attracted attention:

- The EU Common Agricultural Policy (CAP) might pay for reduction in agricultural land values that might result if either information of any flood risk is more readily available or development of the land is prohibited or made more expensive by more frequent flooding events.
- Economic instruments should be used to set effective incentives to guide land-use and development decisions in the right direction.
- Flood information might be included on property deeds. The resulting public awareness could decrease damages and costs.

## 2.5 International and European Co-operation

The workshop showed clearly that there is a strong need for co-operation and sharing of experiences among international river basins and Member and Accession States, Candidate Countries and other European states, because we have to "live with floods". Documentation, harvesting lessons from other countries and gathering of local best practices are needed for all aspects of flood prevention, preparation, and disaster management. Based on the results of joint exercises in policy learning, all embracing flood management plans could be developed for river basins.

It was agreed that the EU should play a role within this co-operation and information-sharing process. Participants at the workshop suggested the following to reinforce the EU's role:

- The EU should finance (more) research and training;
- The EU can help evaluate disaster management after floods;
- There was a strong request to develop decision-making support on flooding within the EU that links local and national interests;
- The EU should facilitate the development of a methodology for the establishment of risk maps, and of information on flood and climate data;
- The EU should produce guidelines on the protection and management of natural wetlands or constructed wetlands, as well as flood action plans. These guidelines should take into account the requirements of nature conservation.

It was agreed that more research on floods is necessary for a better understanding of effective measures for preventing and managing floods. This research should include modelling and data sharing as well as forecasting. There is a clear need for a better definition of interfaces between different data sources and minimum requirements for data exchange. Existing models and modelling practices should be compared by applying them within the same catchment. This would allow to find out which models are most predictive.

Structured analyses should review best practice approaches, measures, and experiences to prevent and fight floods. Efforts should focus on prediction, protection, prevention as well as mitigation during times of no floods. More international co-operation, sharing of experiences and opportunities to learn from each other are needed. Forecasting and early warning systems must be better linked together. Based on information won from these systems, best practice measures should be developed and established. To this end, a strong horizontal and vertical co-operation between stakeholders and different administrative levels will be required.

### 3. Next steps of the European initiative on flood prevention

It was agreed among the countries concerned and welcomed by all participants that an ad-hoc drafting group should be formed to prepare a "best practice document" to be presented to the next water directors meeting in Athens (17-18 June 2003). The drafting group shall have the following members: France and the Netherlands as co-chairs; Hungary, to provide input from the Budapest initiative; Germany, to provide input from this Bonn workshop; and the European Commission. The objective and expected outcome of this drafting group will be an inventory of (local) best practices on all the topics concerning the reduction of flood risk, based on experiences from across Europe. The inventory will cover prediction, protection, prevention, as well as mitigation during times of no flood. Moreover, an additional document may be prepared to review existing EU legislation related to flood such as EU funds for flood prevention and protection. An urgent need for the extension of existing legislation is presently not obvious.

It was announced that the Netherlands' EU presidency in the second half of 2004, will give special attention to the issue of floods in Europe.

The European Commission is developing a horizontal action on prevention, preparedness, and response to both natural and man-made risks.

#### **Timetable for the core group on flood prevention for 2003<sup>1</sup>:**

21 February: Presentation of the terms of reference of the "best practices document" to the Strategic Co-ordination Group (SCG) meeting and discussion.

28 February: Documents should be sent by all participants to the to the core group concerning their experience (best practices).

#### **Preparation of the first draft**

14 March: Meeting of the drafting group in Brussels.

2 April: Core group meeting<sup>2</sup> and meeting of the drafting group in Brussels.

#### **Preparation of the second draft**

25 April: Second draft sent to Strategic Co-ordination Group<sup>3</sup>.

5 May: Presentation to the Strategic Co-ordination Group meeting and discussion.

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<sup>1</sup> The information on the timetable stems from the terms of reference on "Water's directors initiative on flood prevention" that was presented to the Strategic Co-ordination Group on 21 February 2003.

<sup>2</sup> In the terms of reference that were presented to the Strategic Co-ordination Group on 21 February 2003, it is stated that a "working group meeting and meeting of the drafting group" is planned.

<sup>3</sup> In the terms of reference that were presented to the Strategic Co-ordination Group on 21 February 2003, it is stated that the second draft will be sent to the "water directors".

**Preparation of the third draft.**

23 May: Meeting of the drafting group in Brussels.

30 May: Third draft will be sent to water directors.

17-18 June: Presentation at the Water Directors Meeting in Athens.

**Draft review by the Drafting Group****Upcoming events:**

A conference on flooding will be the UN/ECE conference in Helsinki on 28-29 April 2003.

Germany will be hosting a Conference to discuss the application of guidelines for precautionary flood protection within the framework of the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes in the beginning of 2004.