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**ECONOMIC COMMISSION FOR EUROPE
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**MEETING OF THE PARTIES TO THE CONVENTION
ON THE PROTECTION AND USE OF TRANSBOUNDARY
WATERCOURSES AND INTERNATIONAL LAKES**

Seminar on flood prevention, protection and mitigation
(Berlin, 21-22 June 2004)

**EXPERIENCE WITH THE IMPLEMENTATION
OF THE 2000 UNECE GUIDELINES ON SUSTAINABLE FLOOD PREVENTION**

Evaluation of responses to the questionnaire prepared by Germany

1. General information

1. The allocation of responsibilities for the implementation of the Guidelines varies widely between the different states. Apart from environment and water ministries, ministries of the interior, agriculture and rural areas are mentioned. In many cases, the ministries work in cooperation with each other, or the individual functions, such as civil defence and public health, are divided up between a number of ministries.

2. All the States had binding legal regulations on sustainable flood prevention before the adoption of the Guidelines. However, these regulations varied widely with regard to their objectives and content. In many cases, regulations on flood protection were included in laws concerning other aspects of water management.

3. The situation following the adoption of the Guidelines has proved to be a diverse one. New regulations were not issued in all the countries surveyed after the Guidelines were adopted. In altogether ten countries regulations were issued. However, it is to be noted that the main recommendations set out in the Guidelines are contained in the laws that were already in force. The Guidelines have also been incorporated into many national programmes and internal agreements. There are national water management framework plans that take account of the recommendations set out in the Guidelines on Sustainable Flood Prevention, for example concerning early warning systems, forecasting systems and public participation. Furthermore, these recommendations have been taken into account in agreements between national governments and regional or local authorities. The Guidelines have also served as the basis for agreements with the insurance industry on the improvement of flood measures.

4. There has been a series of series of extreme floods since the Guidelines were adopted, as well as a large number of moderate and minor floods. Only a few flood events will be mentioned as examples:

Danube and Elbe 2002, Czech Republic, Germany, Austria, Slovakia

Gard 2002, France

Rhone 2003, France

Patras 2001, Greece

Preveza Area, 2003, Greece

River Thames, 2003, Great Britain

Tisza/Tisa River Basin, series of flood events 1998-2001, Hungary

Cisuri, Mures and Timis, 2000, Romania

River Tisza/Tisa, 2001, Romania

5. The flood events over recent years have led to varying conclusions. Flood forecasting and early warning systems comparable to those on the major watercourses are not in place on medium-sized and small rivers, so that avoidable damage has been suffered during floods in these areas in the past. This experience was made in the last years during the flood events at the Elbe and Odra river. Furthermore, not enough is being done to control and maintain flood protection systems adequately in smaller river basins. Complementary recommendations, recommendations that go beyond those set out in the Guidelines and additional recommendations can be identified in the field of emergency planning. In particular, emergency and contingency management plans are required in order to ensure that targeted assistance is provided when damage is suffered.

2. Achievements regarding joint and coordinated measures

Establishment of international river commissions

6. International river commissions have been established for most of the major river basins in Europe. In addition to this, there is a large number of transboundary agreements covering river sub-basins. Flood action plans have not been adopted for all these river basins. For example, there are action plans for the Rhine, the Odra and the Morava. Action plans for the Danube and the Schelde are in preparation. Bilateral or trilateral agreements have been concluded for a number of river basins, such as the Danube, the Tisza/Tisa and the Morava.

Major elements and categories of measures that make up/are foreseen in the national and/or transboundary action plans

7. The national action plans contain very extensive measures. For example, all actions plans include elements relating to structural measures, forecasting systems, the improvement of public awareness activities, the management of agricultural and forestry land, emergency and contingency management, the generation of hazard maps showing relevant hazard zones and many other measures.

8. The elements of the international action plans include structural measures and non-structural measures, sometimes with very specific targets. For example, the action plan for the Rhine sets out specific targets on how long it should take for the potential level of damage to be reduced by what extent. There are corresponding specific targets for the reduction of flood peaks and the plotting of risk areas on maps. Measures that could be used to achieve these goals are suggested. The possible measures that are mentioned include reforestation in river basins, the relocation of dykes and the creation of retention areas. Furthermore, the action plans contain targets for mutual support in critical situations, early warning systems and the exchange of information.

3. Dissemination of information

9. With a few exceptions (three countries, for example due to the geographical situation), the states have orders and plans for forwarding information to downstream riparian countries on rivers that are affected by floods, critical water levels or ice drifts. Agreements about these activities are in preparation or under consideration in a number of states.

10. Information about flood hazards is made available to the public in all the states. Above all, information about current critical water levels and flood forecasts is provided through various media. Information about the risks that are to be expected when there is a flood or ice drifting is not provided to the population everywhere. In the large river basins, information is provided on the Internet, by river commissions for example.

4. Mutual assistance, emergency situations and contingency plans

11. Local, national and transborder contingency and emergency plans are in place or in preparation in most states. Contingency exercises are not conducted in all the states, although the plans are updated and revised on an annual basis in some countries.

5. Public awareness

12. In all the states concerned, brochures, the Internet, leaflets and television or radio programmes are used to inform people who are affected with the aim of raising awareness among the wider public. In some cases, this information is very detailed and, for example, includes maps showing risk zones and flood plains. In some countries, public events alerting the population to the hazards connected with possible floods are organised within a local framework.

13. Requirements concerning public awareness raising activities are not stipulated in all the action plans. The answers given in the responses refer mainly to public information measures when floods occur, but less to precautionary measures.

6. Implementation of recommended management practices

14. Management practices, some of them very extensive, have been introduced and implemented in various states. They include, for example, the identification and designation of flood plains, the avoidance of soil compaction and erosion, the reclamation of flood plains and reviews of agricultural management and land use on flood plains (e.g. Hungary). Furthermore, risk assessment studies have been conducted and combined with recommendations on how flood risks can be reduced. Management practices have been introduced both within the framework of legal measures and on the basis of non-legal recommendations. In the Netherlands, management plans have been drawn up for the review of dyke constructions or the development of early warning and forecasting systems. The comments in the responses vary widely with regard to the level of detail given.

15. Programmes to fund sustainable flood management are almost exclusively paid for with state funding, grants, for example from the EU (INTERREG), or loans. Financial arrangements based on insurance schemes are only mentioned in one response.

16. The answers about research programmes showed a degree of diversity. Some responses draw a fundamental distinction between national and international programmes and projects. The research fields in which topics defined at national level are being investigated cover a broad spectrum of issues. Mathematical and statistical studies (for example on data management), development work on early warning systems, analyses of erosion processes in

river basins and the development of methods for the generation of flood maps are among the research fields that are mentioned several times in the responses. In addition to this, spatial planning issues and socioeconomic topics are also being examined. Only a few answers refer to international programmes, although it is to be assumed that in reality more use is made of these programmes than the responses would suggest. One response mentions EU programmes such as EFFs (European Flood Forecasting System) and HarmoniCOP (harmonising collaborative planning).

7. Need for further development and strengthening of the common framework for flood protection, prevention and mitigation strategies

Major obstacles and challenges to the implementation of the Guidelines

17. A large number of issues are mentioned as obstacles to the implementation of the Guidelines on Sustainable Flood Prevention. In many cases, reference is made to financial obstacles during the implementation process. The measures that are required demand high levels of funding that are not available. For example, the land that is required for the reclamation of retention areas is very expensive. The responses to the questions in Part 6 make it clear that most of the resources required are made available through state funds or loans, which obviously have limited potential. The development of economic instruments, which could for example be oriented towards the cost-benefit approach, will be a challenge in the future.

18. The fact that not all those involved or affected in river basins show a sense of responsibility is another obstacle to the implementation of the Guidelines. This results in an insufficiently broad view of the issues being taken when measures are developed for river basins.

19. The question of insurance for flood damage is addressed in several responses. The organisation of systems is proving to be difficult because the insurance industry does not wish to cover risks in hazard zones.

20. The public awareness of flood protection measures continues to be an obstacle in many places. In practice, this makes the appropriate measures more difficult to implement.

The most pressing issues that the Governments and/or organisations are/will be facing in the field of sustainable flood prevention

21. The issues mentioned in the responses are listed below without further comment: Designation of flood plains and risk zones; reclamation of flood plains; improvement of public awareness-raising work; optimisation, management and maintenance of forecasting models; procurement of financial resources, for example for the construction and maintenance of flood

defence systems; generation of risk maps; improvement of early warning systems; handling of erosion connected with urbanisation and agricultural practices; integration of nature conservation; awareness raising in relation to the designation of building land; special problems in the lower reaches of watercourses; rising sea levels due to climate change; consideration of ecological effects in flood protection; development of a monitoring system for extreme events.

Is there a need for the Guidelines to be supplemented or updated? Which additional recommendations should be added to the Guidelines?

22. Only a few of the States' responses to the questionnaire suggest points where the Guidelines should be supplemented or updated. Indeed, several countries do not consider any revision to be necessary. In this connection, reference is also made to the EU's Best Practice Document. This document was drawn up on the basis of the Guidelines on Sustainable Flood Prevention. On the one hand, it is suggested that the Guidelines be amended to bring them in line with the Best Practice Document. On the other, another response states that such an amendment would be unnecessary. Other suggestions concerning the revision of the Guidelines relate to the role of insurance companies in flood plains. Further ideas put forward include the suggestion that the issue of climate change should be discussed and possibly included in the Guidelines, and the suggestion that examples of good practice should be added to the Guidelines.

Topics that could be dealt with at the June 2004 Flood Seminar:

23. The following topics were proposed for discussion at the Flood Seminar in Berlin:

- Presentation of results since the adoption of the Guidelines
- Communication and reconciliation of the interests of downstream-upstream
- Economic topics, such as the funding of flood protection measures and insurance issues
- Progress concerning the application and development of flood forecasting models
- Occurrence of hydrological extremes; forecasting possibilities (climate change)
- Significance of water retention by polders
- Ecological conflicts with nature conservation
- Planning and implementation of emergency management systems
- Health aspects of catastrophic floods
- Development of early warning systems.

24. The evaluation of the responses showed that the question of funding and access to financial resources when flood protection measures are realised is a central issue for the implementation of the Guidelines. A need for exchanges of information on the implementation of the Guidelines can also be identified in the states surveyed.