

Implementation of the Action Programme for Sustainable Flood Protection in the Danube River Basin

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ICPDR Stakeholder Conference, 28-29 June 2005, Budapest

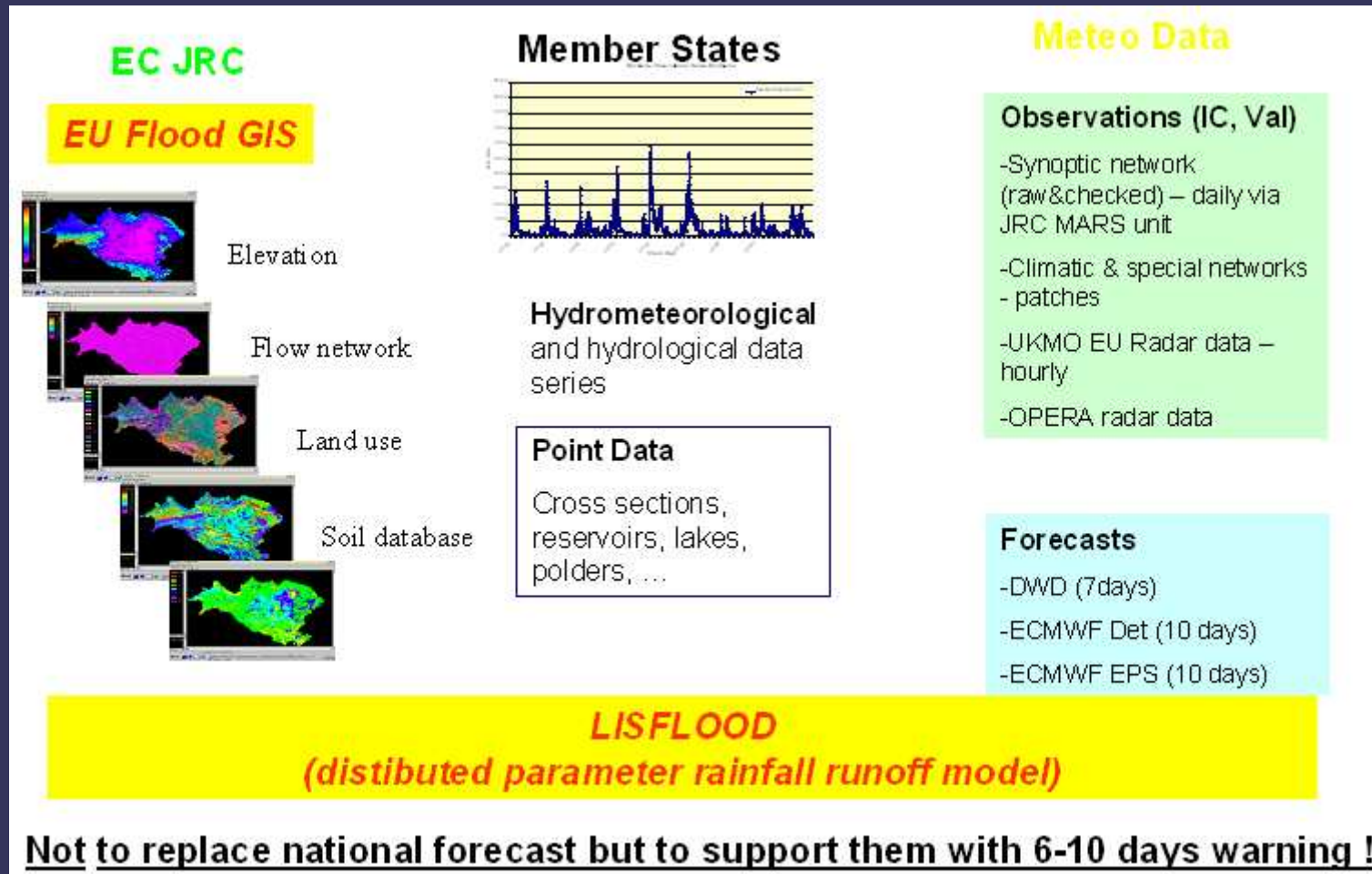


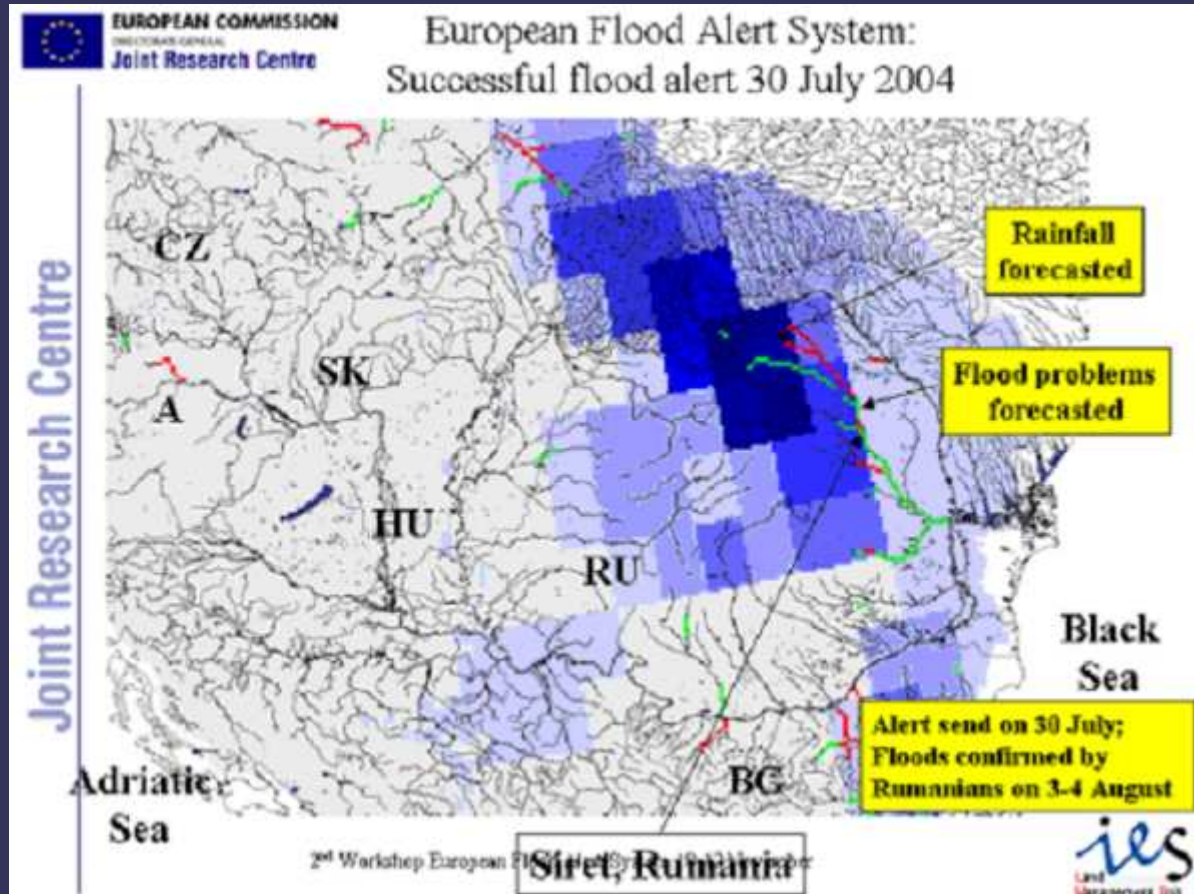
Targets of the DRB AP SFP

Basin-wide – task of ICPDR FP EG

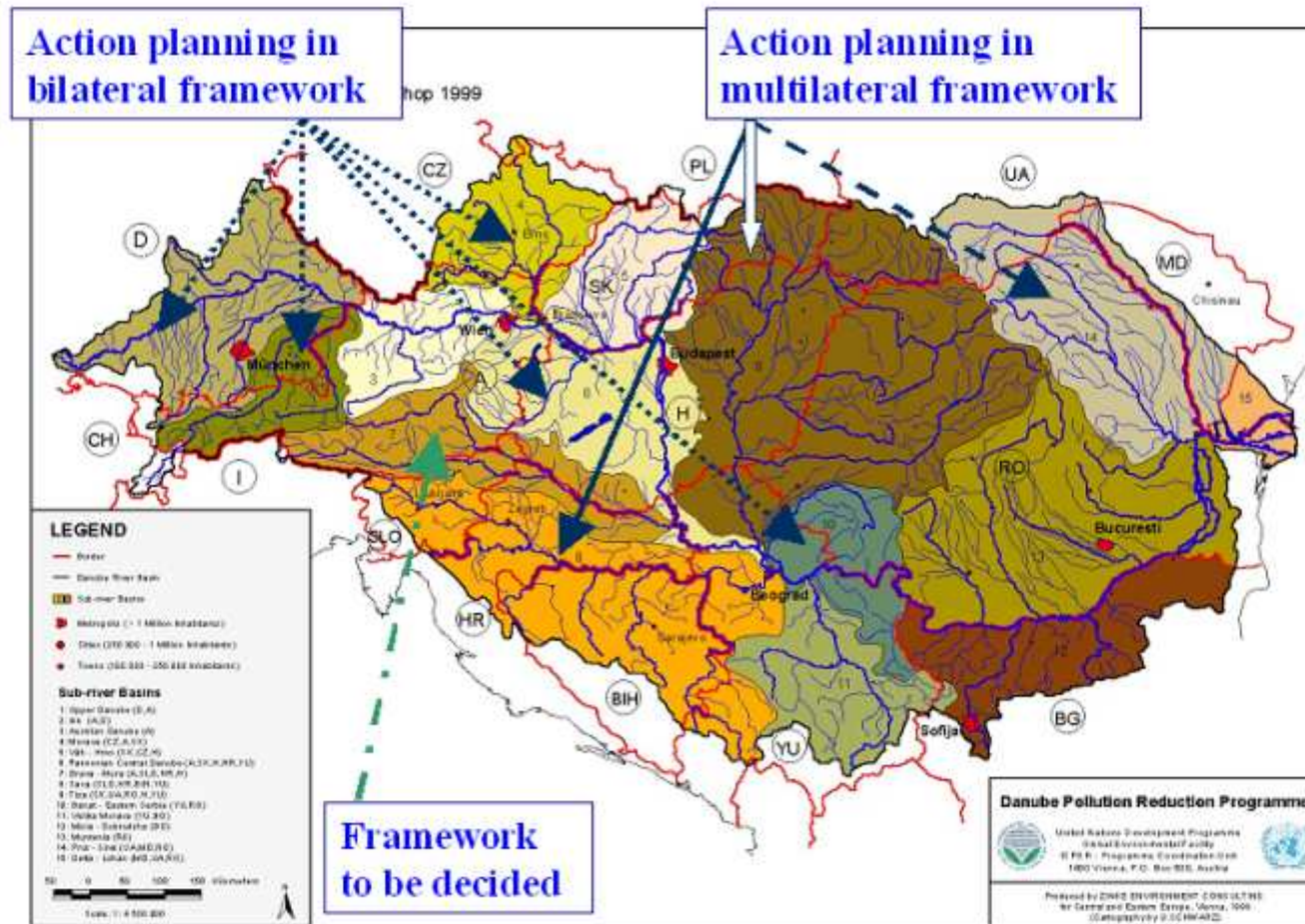
- improvement of flood forecasting and warning:
 - EFAS – LISFLOOD
 - interlinking national or regional systems
- **Supporting the preparation and co-ordination of sub-basin wide action plans (Guidance Document)**
- **Creating forums for exchange of expert knowledge** (inter- and intra-river commission, workshops, websites, training, establishment of expert groups)
- **Recommendation for a common approach in assessment of flood prone areas and evaluation of flood risk**

European Flood Alert System





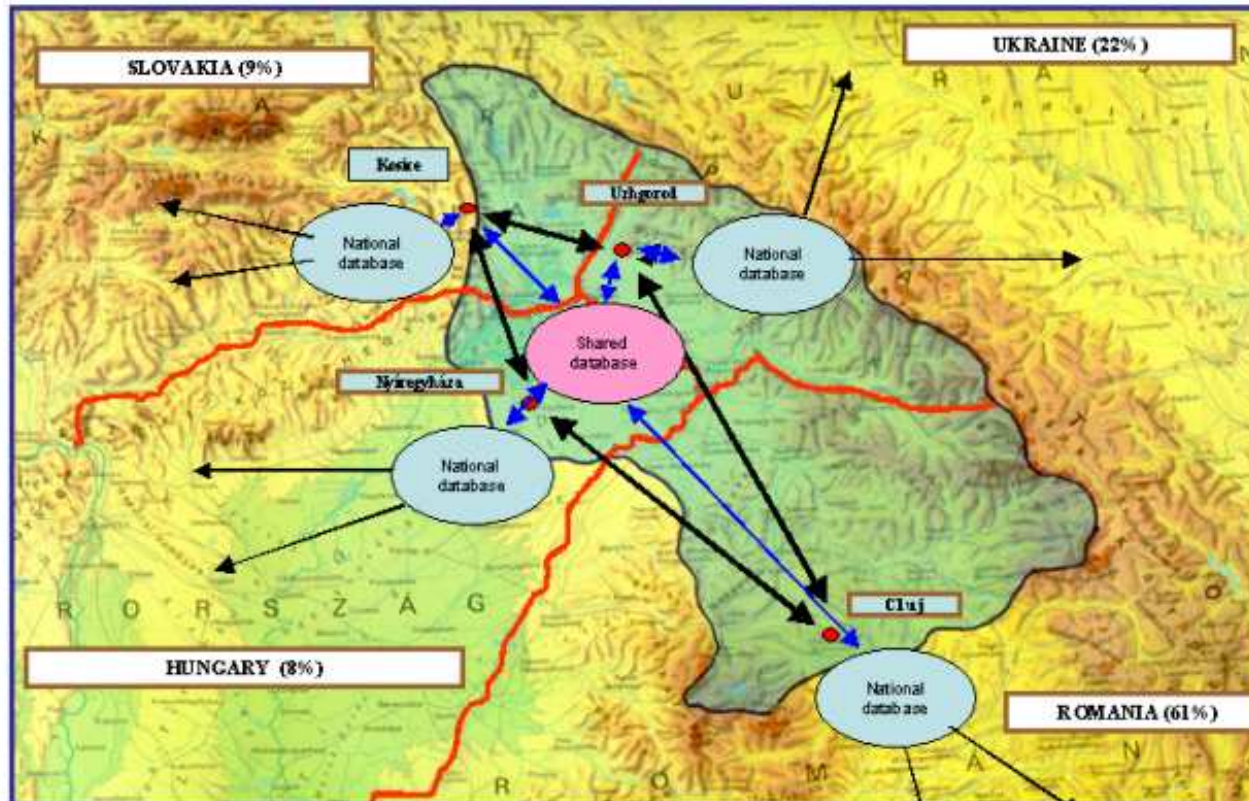
Supporting the preparation and co-ordination of sub-basin wide action plans



Targets of DRB AP SFP – cont.

Sub-basin-wide – task of the countries:

- Development and implementation of a **long term flood protection and retention strategy** to reduce the adverse impact and the likelihood of floods in each sub-basin
- To improve flood forecasting and warning suited to local and regional needs as necessary (**example: virtual flood mgmt centre**)
- To increase the **capacity building**, raise the preparedness of the **organisations responsible for flood mitigation** (advancing contingency plans, organisations, mutual assistance, defence exercises, etc.)
- To **develop flood maps** to raise the awareness and preparedness of the general public, to promote appropriate land use and to support managing the risks
- To **harmonise design criteria and safety regulations** along and across border sections
- To **prevent and mitigate pollution of water** caused by floods



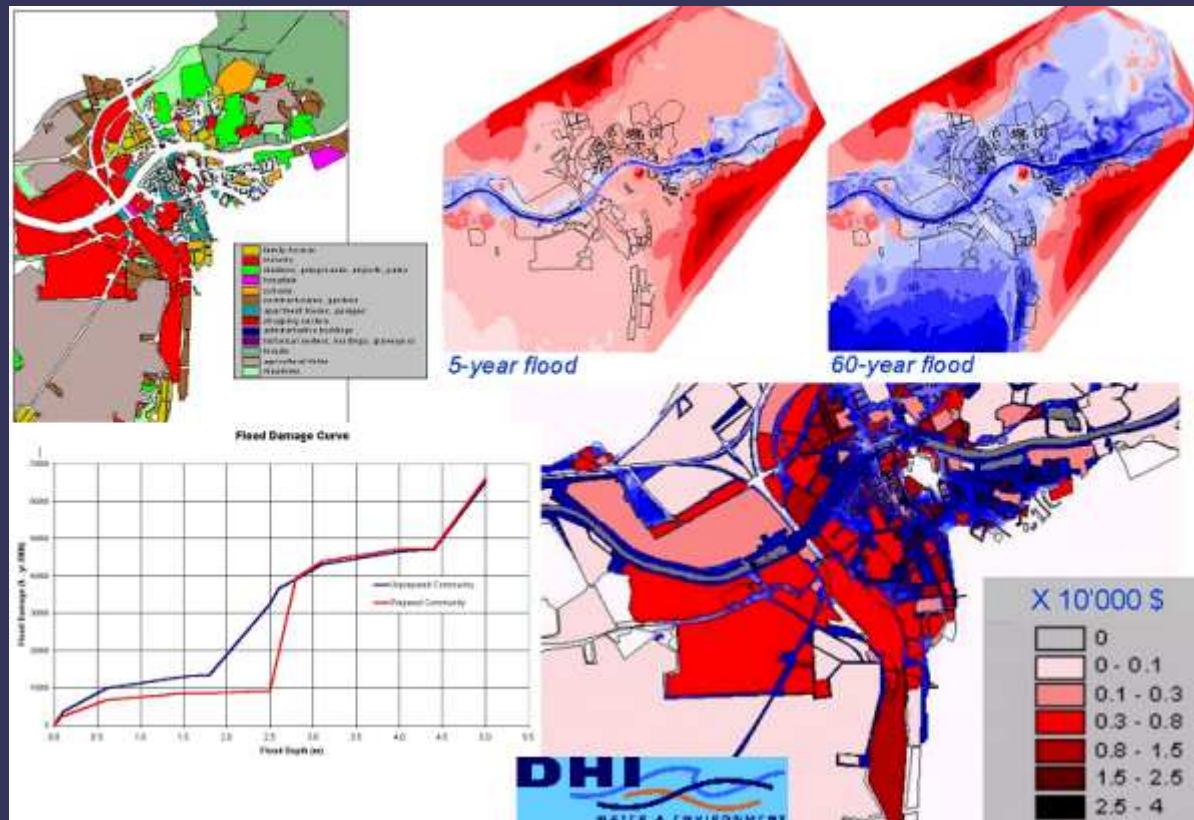
Virtual flood mgmt centres common geospatial, hydromet data (based on automated monitoring and radar images), forecast and simulation

Measures of the DRB AP SFP

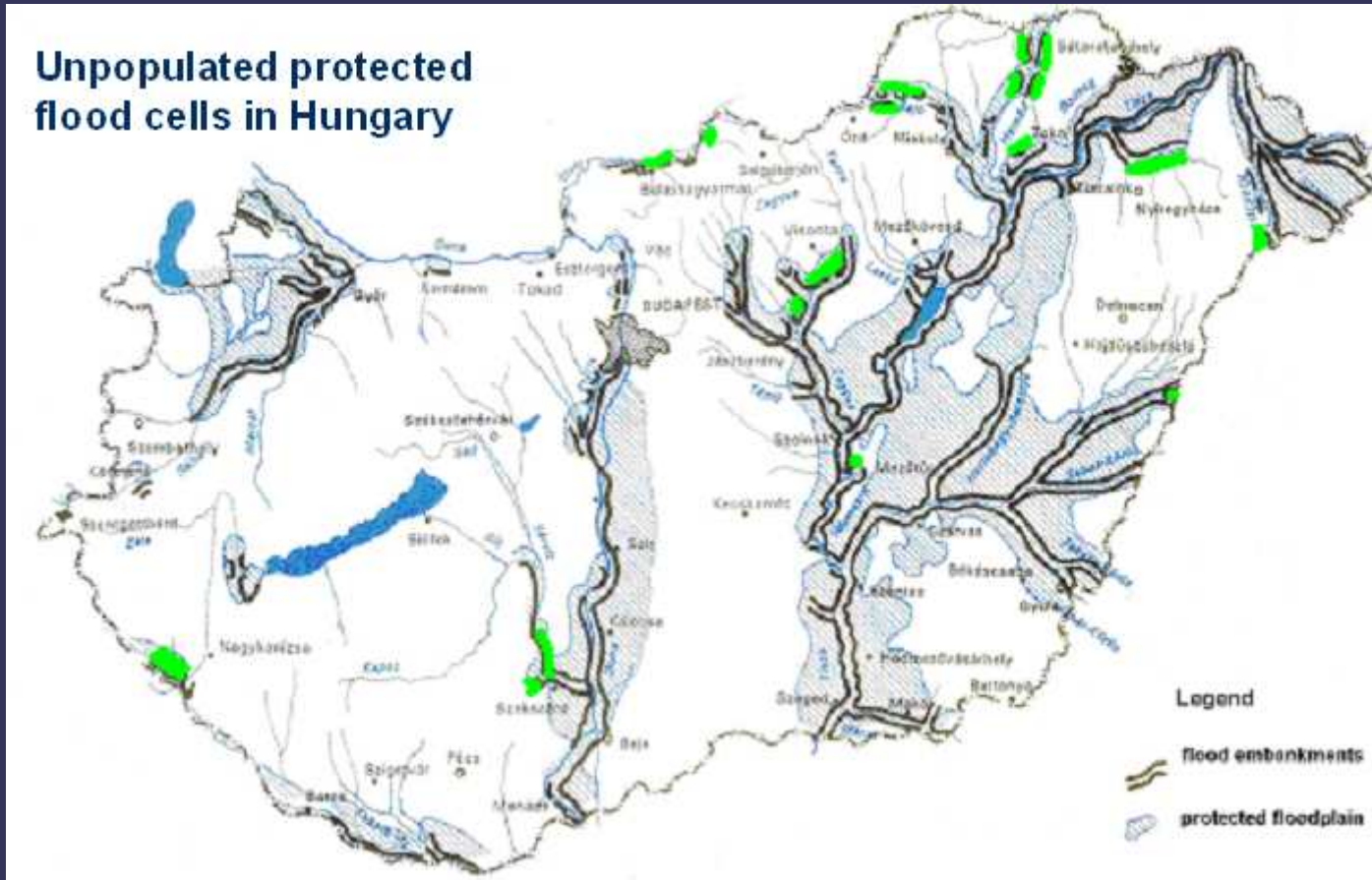
Non-structural measures

- = **Flood risk analysis and mapping**, recommendation on harmonised methodology – three step approach: indicative inundation maps, hazard (zoning) maps, complex risk maps
- = **Adequate land use in the headwater sections to reduce run off, mud and debris flow** (afforestation, erosion control of slopes and river channels)
- = **Adequate land use and spatial planning on the floodplains to reduce risk potential** (floodplain zoning, relocation)
- = **Renaturalisation of river channels, partial reactivation of floodplains and wetlands, flood retention to reduce flood crests**
- = **Review of legal and institutional framework**
- = **Contingency planning, emergency management planning**
- = **Prevention of water pollution related to flooding as well as management of such cases**

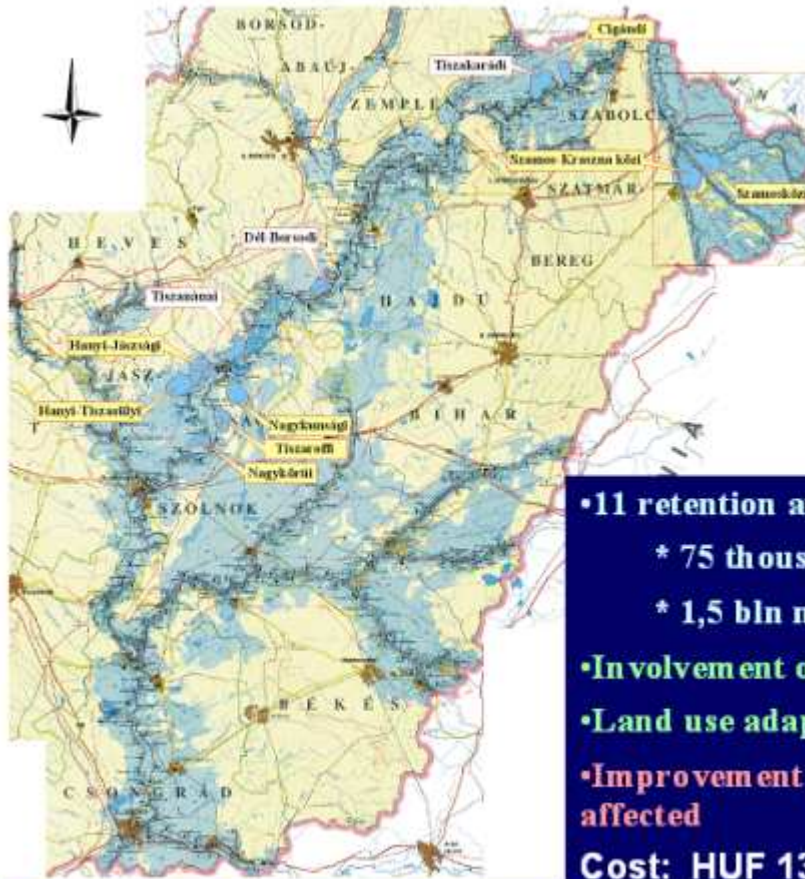
Red	Elevated degree of hazard Construction of new houses is prohibited
Blue	Moderate degree of hazard Construction is permitted with restrictions
Yellow	Low degree of hazard Restrictions for sensitive objects only (e.g. hospitals)
Yellow white	Remaining hazard Indication for potential hazard (emergency planning)
White	No known hazards No limitations



Renaturalisation of river channels



Possibility for increasing green corridors **by abandoning protection**
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Space for rivers – floodplain reactivation

- 11 retention area with controlled inundation

* 75 thousand ha ➡ 3.5 * that of IRMA

* 1,5 bln m³ capacity ➡ 7.0 * that of IRMA

- Involvement of oxbows, wetland development

- Land use adaptation to risks

- Improvement of living conditions of the population affected

Cost: HUF 130 billion (€ 520 M)

Result: - Flood crest reduction by ~ 1,0 m; - protection against 1 in 1000 yrs floods

Measures of the DRB AP SFP

Structural measures

=List of measures (planning only in sub-basins)

- ✗ Runoff control (slope staggering, flood retention, mountain entrapment, etc.)
- ✗ improvement of flood conveyance capacity, flatland flood detention
- ✗ Flood dikes and walls, diversion canals

=Impact assessment

- Hydrological impacts
- Risk reduction
 - ✓ Socio-economic impacts
 - ✓ Environmental impacts (**WFD!!**)
- Cost/Benefit

Evaluation: weighted matrix

Implementation of DRB AP SFP

Economic and organisational conditions

- List of competent authorities - identified
- Monitoring system and procedure – in the frames of ICPDR FP EG
- Financial resources
 - =National budget and other resources
 - =Stakeholder involvement
 - =EU funds incl. new cohesion policy for relevant and eligible projects
 - * Common Agriculture Policy,
 - * European Regional Development Fund,
 - * **INTERREG IIIB CADSES**,
 - * Special Action Programme for Agriculture and Rural Development (SAPARD),
 - * LIFE
 - * PHARE Cross Border Co-operation (CBC),
 - * TACIS
 - =Loans offered by IFIs



INTERREG- CADSES region

DRB FAP Timetable

Task	Deadline
Further development and testing of a basin-wide Danube Flood Alert System as part of the European Flood Alert System for medium-range forecasts - based on the LISFLOOD system, to provide additional information to national and regional flood forecasting authorities by EC JRC –ICPDR	Dec 2006
Publication of Progress reports every three years, publication of the 1 st Progress Report	end of 2007
Preparation of sub-basin Flood Action Plans – plans to be adopted and published by countries and/or international sub-basin arrangements	preferably by the end of 2009

Thank you for your kind attention!