

Meeting of the EC Expert group on Water Scarcity and Drought

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KULTURISK Knowledge-based approach to develop a cULTUre of Risk prevention



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KULTURisk

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develop a cULTUre of Risk prevention



FP7 Collaborative project

January 2011 – December 2013

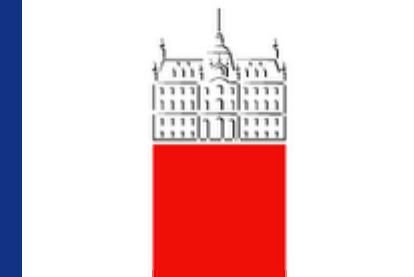
Total Budget 4.45 M€ (EC contribution 3.22 M€)

KULTURisk partnership

11 Partners from 6 Countries.



Univerza v Ljubljani



KULTURisk aims

Developing a Culture of Risk Prevention in Europe evaluating the benefits of different measures

- **Prevention as sensible investment:** the costs of preventive measures are less than those of post-event recovery
- Demonstration via case studies
- Analysis of different types of prevention measures

Water-related disasters

Urban fluvial flooding

- excessive rainfall, snowmelt



Urban pluvial floods

- excessive (local) rainfall
- impeded drainage



Coastal floods

- high tides & surge, wave action



Flash floods & Landslides

- high intensity rainfall
- fast responding catchments



Levee Breach

- failure or overtopping of dikes



Traditional approach

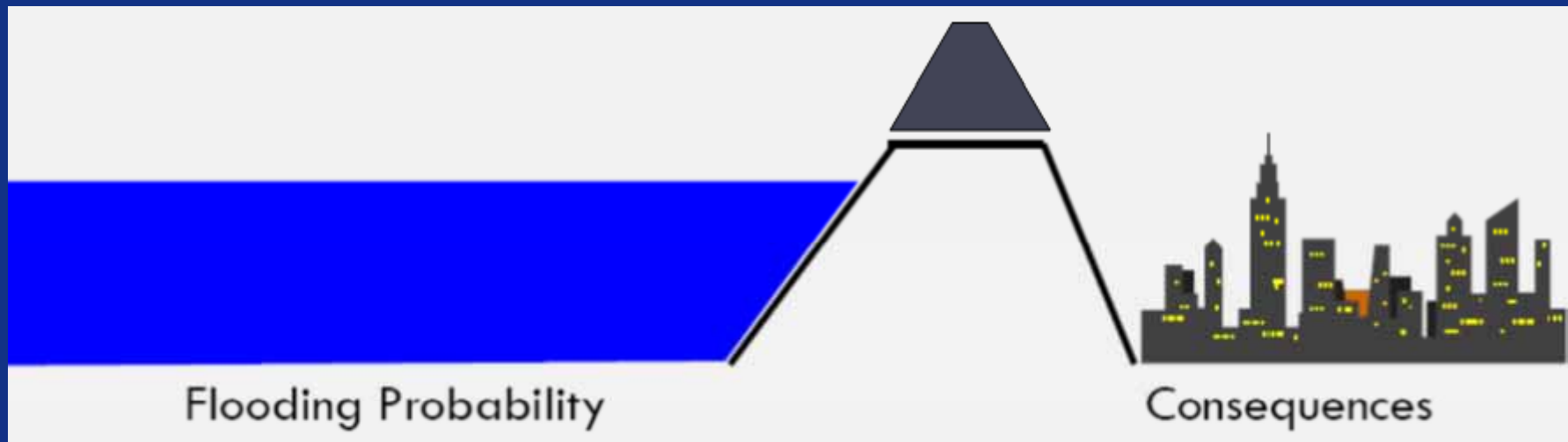


a) Risk = Probability * Consequences

b) Risk = Hazard * Exposure * Vulnerability

Traditional approach

> *Levee effect*



Current Approach

From *Flood Defence* to *Flood Management*
Living with floods instead of *Fighting floods*



Legislative context: the Floods Directive

Directive (2007/60/EC) “on the assessment and management of floods risk”

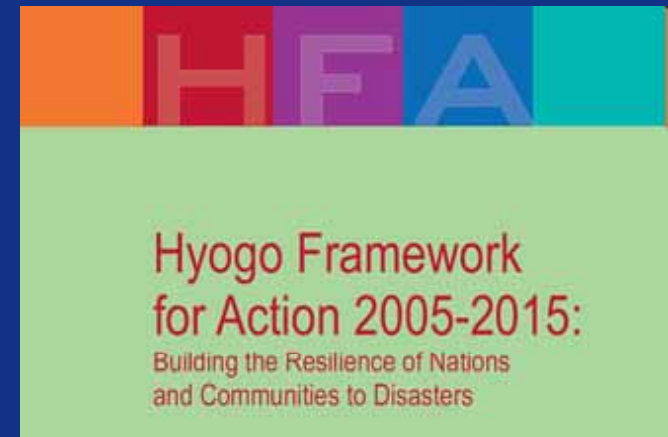
Three steps:

- preliminary flood risk assessment (by the end of 2011);
- flood hazard and flood risk maps (by the end of 2012);
- flood risk management plans, which include strategies and measures to reduce the risk (structural and non-structural) (by the end of 2015).

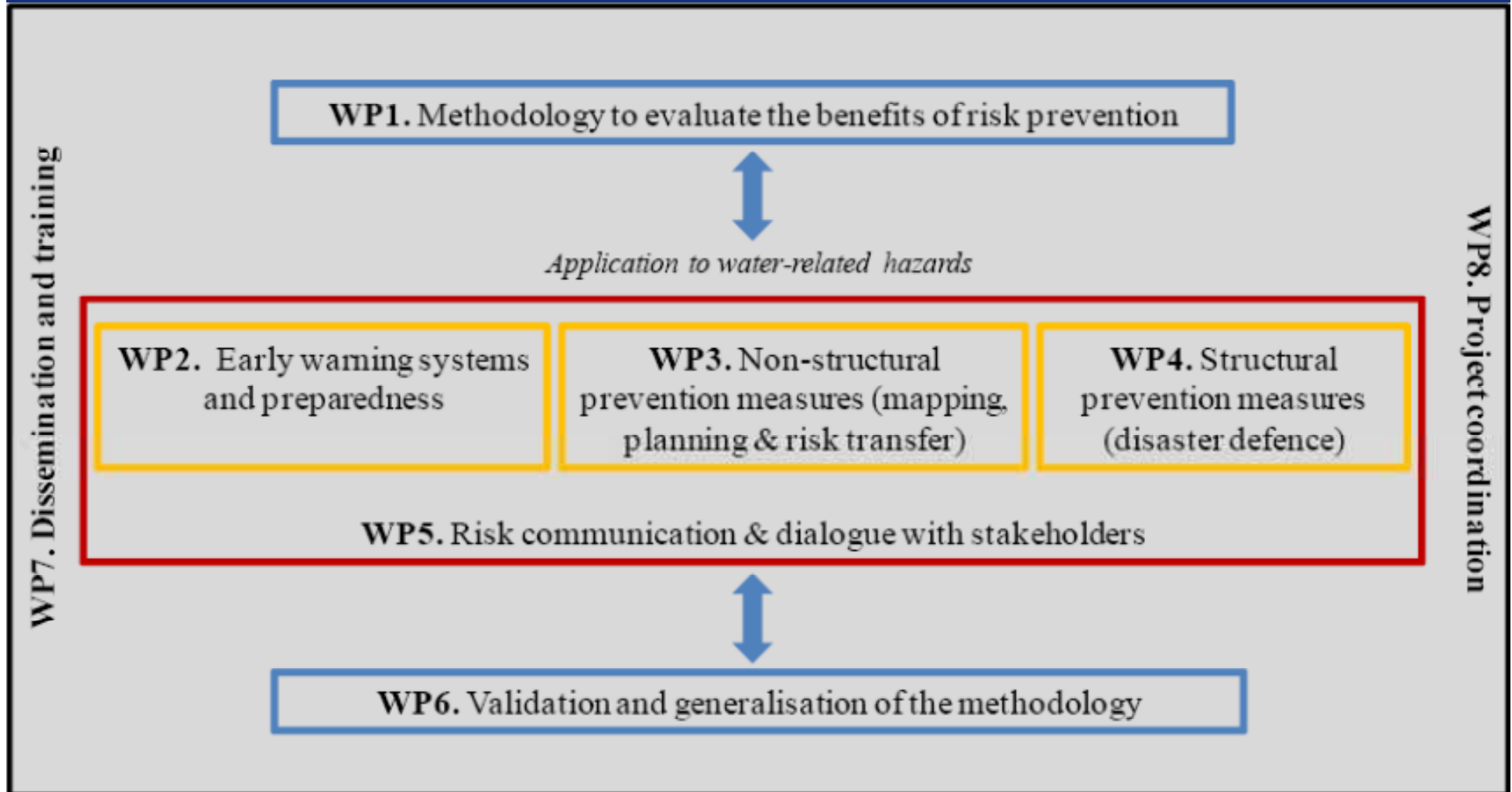
The HYOGO FRAMEWORK for ACTION (HFA)

Five priorities:

- Ensure that DRR is a national and local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risk and enhance early warning
- Use knowledge, innovation and education to built a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective response at all levels



KULTURisk - Structure



KULTURisk - Case Studies



Name	Type	Water-related hazards
Alpine areas (MAP D-PHASE)	Small catchments	Floods & Landslides
Danube	Trans-boundary large river	Large-scale inundations
Barcellona	Mountainous catchment	Landslides & debris flows
Carlisle	Urban area	Urban floods
Soča-Isonzo	Trans-boundary catchment	Floods & landslides
Somerset	Coastal area	Storm surges

KULTURisk – preliminary findings

First 6 months → Literature reviews on:

- *Risk prevention*
 - *Existing EU, national and international policies*
 - *Existing risk assessment and management methodologies*
 - *Existing methodologies to evaluate risk perception*
 - *Existing economic valuation methodologies*
- *Prevention measures*
 - *Existing early warning systems*
 - *Hazard mapping and risk transfer*
 - *Structural measures*
- *Risk communication*

KULTURisk – preliminary findings

There is a need for **CLEARER TERMINOLOGY**

Strictly speaking, the term risk prevention is not technically accurate, since risks can only be reduced, not prevented.

The term **risk reduction** has been recommended to refer to the policy objective and **risk management** to refer to the set of tools to achieve such objective.

KULTURisk – preliminary findings

COMMUNITY INVOLVEMENT

All too often the participation of the community is relegated to the final selection of risk management measures, instead of being considered as an integral part of the process from the very start.

KULTURisk – preliminary findings

INTANGIBLE COSTS of disasters: controversial to monetise but crucial to identify

The full impact of a disasters includes costs (and benefits) that are difficult to identify and quantify. They comprise all direct, indirect, tangible and intangible costs and benefits. Given the significant limitations concerning the monetisation of intangibles, a cost-effectiveness approach is more appropriate for a comprehensive assessment of risk prevention measures.

KULTURisk – preliminary findings

RISK PERCEPTION

new research opportunities

Risks perceived by ordinary people are more complicated than those calculated by experts

More research is needed to develop methodologies for incorporating these components of risk perception into the framework of risk assessment.

KULTURisk – preliminary findings

PROBABILISTIC FLOOD MAPS

Probabilistic approach technically is more correct than deterministic approach as it accounts for uncertainty in the modelling process. However it still is difficult to implement and communicate

KULTURisk – preliminary findings

COLLABORATION can improve the performance of **EARLY WARNING SYSTEMS**

Stronger involvement by private and public stakeholders and greater transparency about EWS methods and performance are key factors in encouraging public confidence in, use of, and consequently benefit from EWS. This process requires more communication both to the public and within the scientific community as well.

KULTURisk – Further directions

The KULTURisk research project team is currently working on the risk prevention framework in the selected case studies, and developing the baseline for the application of the risk-based methodology for the different risk prevention measures.



THANKS FOR YOUR ATTENTION

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