



# Elements of flash flood management strategy

Lessons from the CEE countries experiences  
Summary and follow up programme

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# Overview

- 1. Why a national strategy?**
- 2. What are the elements of a flash flood management strategy?**
- 3. Who takes action?**
- 4. How to get started at the local level?**
- 5. Strategic considerations on the national level**



# Why flash flood management strategy?

- **Specific characteristics of flash floods require a different approach**
- **Most flood victims from flash flooding**
- **Coordinated action of various sectors required under very challenging framework conditions towards a common goal**



# Why a national strategy?

- **Flash flood management**
  - is a multi-disciplinary pursuit
  - involving various layers of government
  - Requires greater understanding of phenomenon
- **Lack of technical capacities at municipal/ community level in areas subjected to flash floods**



**What are the elements of a flash  
flood management strategy?**



# Who and what is at risk?

- **Preparation of Flood Hazard and Risk Maps**
  - Hazard maps usually show the flood extent corresponding to a specific flood flow (limits of flooded area, water depth and flow velocity)
  - Hazard maps also provide indications about what is being flooded under such scenario and what the expected consequences would be (people affected, damage potential, flooding of key infrastructure)
- **EU Flood Directive contains binding provisions to prepare flood hazard and risk maps**



# Who and what is at risk ? (cont.)

- **Data and information sources**
  - Historical floods (living memory, chronicles) especially important for flash floods
  - Post flood analysis
  - Hydrological and Meteorological data series
  - Info about consequences of failure of hydraulic infrastructure



# Flash Flood guidance, forecasts and warning

- **National forecasting and warning system outputs**
  - Meteorological forecasts
  - Specialized forecasts on rainfall rates (QPF)
  - Severe weather warnings on smaller spatial scales (e.g. provinces)
  - Flash Flood Guidance (assessment of flash flood risk based on rainfall threshold values)
- Guidance and watch as the basis for **increased levels of alertness** of crisis services and citizens

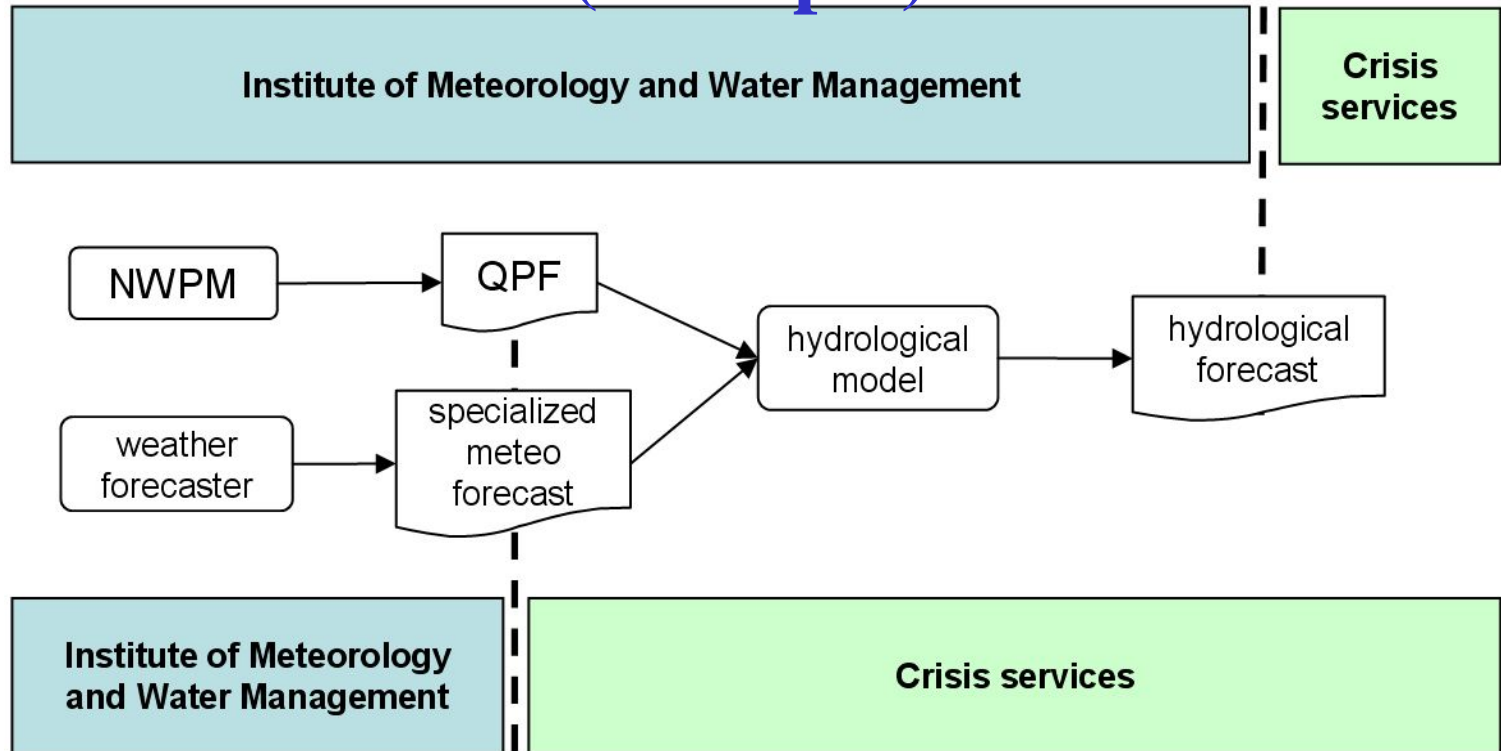


# Flash Flood Guidance, Forecasts and Warning

- **Local flood warning system for high risk areas**
  - Local water level and rainfall monitoring data
  - Simplified hydrological forecasting for the specific (small) catchment area
  - Inhabitant warning system
- **Warnings as a concrete basis for action of crisis services and citizens (evacuation, securing of specific sites...)**



# Splitting institutional responsibilities (example)



## Questions to be addressed:

- Legal mandates
- Local capacity and resources
- Organizational interfaces
- Technical interfaces



# Local Warning and Response System Participatory Planning and Implementation

- **Aim of a warning: induce the right response of those at risk!**

Can only be achieved through a participatory planning process and ongoing educational activities on the local level (long-term commitment)

- Key requirement for swift and coordinated response action of various actors
- Aims at minimizing flood losses on the local level



# Raising awareness and preparedness levels

- **Specific approach for different target groups**
  - Crisis services
  - Local administrations
  - Floodplain residents
  - General public (adults and children)
  - Specially vulnerable groups (tourists, elderly, etc.)
- **Key role of local leaders and educators as multipliers**
  - Mayors, School teachers, Journalists, Social groups



# Legal and Institutional Framework – What for?

- Defines institutional mandates (basis for accountability and budget allocation)
- Determines and protect rights and obligations, both of institutions and individuals
- Provides mechanisms for dispute management



# Spreading financial risks

- **Limited applicability of flood insurance**
  - «Scattered » nature of flash floods
  - Perceived as secondary to other risks such as fire
  - Combined insurances for several hazards
- **Other risk sharing mechanisms**
  - Governmental reserve funds on national, provincial and local levels
  - Catastrophic bonds



# Who takes action?

- **Flash flood management**
  - as a multi-disciplinary pursuit
  - involving various layers of government



# National level

- **Central Government**
  - Formulation of flash flood management strategies as part of wider flood/water resources management and disaster management strategies
  - Adjusting the legal and institutional framework to facilitate implementation of such strategy
  - Facilitation role in public flood awareness raising and research
  - Facilitation of necessary upgrades of the hydrometeorological services to assume the mandated roles



## National level

- **Hydrological and Meteorological Services**
  - Continuous improvement of operational flash flood monitoring, forecasting and warning products
  - Contribute to flood hazard and risk mapping
  - Outreach to the user community in advising in the design and implementation of local flood warning systems as well as local preparedness and response plans
  - Where necessary further strengthen the cooperation between hydrological and meteorological communities



## Provincial/Basin level

- **Provide consistent set of flood hazard/risk maps for the basin, including flash floods**
- **Integrate (flash) flood risk into water resources management plans**
- **Planning, implementation, operation and maintenance of hydraulic infrastructure**



## Local Level

- **Assume leadership in initiating local flood warning system and flood preparedness and response plans**
- **Foster conditions for the cooperation of various institutions on the local and higher levels → setting a clear goal of cooperation based on local needs**
- **Facilitate the inhabitants' inclusion in various forms in the process of managing flood risk at the local level.**



# Spatial Planning

- **Limiting the flood damage potential by regulating the use of high risk areas**
- **Protecting natural retention in the catchment area**
- **Limiting the potential of negative environmental fallout from flooding through secondary hazards (chemical or bacteriological spills)**



## Company and Individual Level

- **Securing a property against flooding damage,**
- **Organizing life in the household in a way that reduces its susceptibility to damage,**
- **Preparing the staff/family for a flood,**
- **Reducing individual risk through available risk sharing mechanisms**



# Supporting Groups

- **Private sector through professional consultancy, sponsorship or by playing an active role in response and recovery efforts**
- **Teachers through educational outreach**
- **Media through public outreach**
- **NGO's through local volunteers and in consultations**



## How to get started on the local level?

- **Evaluating Community Readiness to engage**
- **Create a planning team**
  - Required competencies
  - Required members
  - Work principles
- **Provide consultation opportunities with the broader community**



**Thank you!**