FLOODS 2014
IN BOSNIA AND HERZEGOVINA
- lessons to learn -

Civil Protection in diverse societies
Council of Europe, Eur-OPA,
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Hydrological ID of BiH

• 38.719 km² out of 51.129 km², or 75.7% belongs to basin of Sava river/ Dunav river/ the Black Sea,

• 12.410 km² or 24.3%, belongs to basin of the Adriatic Sea,

• Annual rain falls in BiH are cca. 1250 l/m², and only in 3 - 4 days of 10 – 13 May = 300 l/m² of rain falls.
Situation development and consequences

• Enormous rainfalls, critical period, 10 – 14 May 2014.
• Inundation started from Canton Sarajevo and Sekovici, 14 May 14 (River Bosnia with tributories and Drina with tributories),
• 14 – 15 May, towns and cities near river Bosna got inundated
• 15 – 17 May, wider area of BiH inundated (near rivers Sana, Vrbas, Bosnia, Drina and Sava)
• > 10.000 km2 of territory under water (1/5th of BiH)
• > 60 towns < 500.000 inhabitants directly affected, and indirectly > 1 milion; long-term socio-economic cons eq. ahead,
• > 56.000 houses flooded and destroyed/damaged by landslide,
• > 50.000 people evacuated, 25 collective centres/shelters,
• > 200.000 hectares of agricultural land flooded,
• > 21 inhabitants dead (2 missing)
Situation development and consequences
Situation development and consequences

- Photos of 6 most severely affected towns out of > 60 towns and cities in BiH:

  In **Maglaj Town**, left (river Bosnia) and **City of Doboj**, right (r.Spreca, Bosnia) within <10' total inundation (> 3 m level)

  **B.Samac, 17/05/14 (Bosnia, Sava)**

  **Orasje embankments breached, 18-20/05/14 (r.Sava)**

  **City of Bijeljina, 15-28/05/ (Drina, Sava); directly >3.000 households**
Situation development and consequences

_Flood – related environmental, safety and health hazards/ risks_

Landslides, ... (prelim. >5.000)

Animal cadavers (> 10 tons per major town = health risk)

Dislocated UxOs and mines (suspected 1.367 km²; 210.000 mines)

Arable land pollution-
Toxic chemicals in soil (arsenic, chrome, mercury, nickel)

Increased health risk- microb’s, insects, rodents, reptiles
Response and Recovery

Support to local response

**MoSBiH/ OCC BiH- 112**

- Coordinated all efforts

- Int'l asst.teams (WR, HCP, FRT, WP) = 34 states,
  - > 850 responders,
  - 4 mil m3 pumped
  - 1 mil.litres purified

- Humanitarian aid (by air = > 300 t)

- 19 helic (BiH, EUFOR, SLO, HR),
- 2069 rescued, > 300 t cargo, > 660 flights;
- Totally > 1.800 soldiers (AFBiH, EUFOR, HR and SLO)
Response and recovery – int’l assistance

18 countries through EUCPM, asst.in: WR teams, HCP modules, WP modules, helicopters, flood recovery teams, equipment.

16 countries through Bilateral assistance in all above + financial contrib.

IOs (UN agencies + Save the Children)
Support to recovery efforts through int‘l exercise

For „Joint Effort-14“ 
Exercise 
Cca. 50 projects in > 19 municipalities

AF BiH = 750 soldiers
EUFOR (UK, SLO, SK) = 450 soldiers
MACA in following specialities: INF, ENG, COMM’s, AirForce, NBC, ArmVehicles,... (until 20/06/2014)
Preliminary lessons to learn

The system is too complex and during the floods quite clear DM gaps are distinguished for lessons to learn in DM cycle:

1. **Prevention and Preparedness** phase
   to make authorities at all levels risk aware and ready to recognise and treat vulnerabilities
   - Lack of (non)structural DRR measures (fragility of embankments and levees, inadequate water management on transboundary waters, inappropriate spatial planning /houses and settlements built in banned zones, inappropriate capacities for early warning and alarming and response)

2. **Response and recovery** (was rather effective in comparison with preparedness) : to improve communication and information management and to improve interagency coordination/ vertical and horizontal (the State level coordination weak function)
THANK YOU
FOR YOUR ATTENTION!