



FLOODS 2014 IN BOSNIA AND HERZEGOVINA

- lessons to learn -

*Civil Protection in diverse societies
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Contents

- Hydrological ID of BiH,
- Situation development and consequences,
- Response and Recovery
- Preliminary lessons learned

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 conseq. ahead,
- > 56.000 houses flooded and destroyed/damaged by landslide,
- > 50.000 people evacuated, 25 collective centres/shelters,
- > 200.000 hectars 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 Dobo**, 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



Humanitarian aid (by air => 300 t)



Int'l asst.teams (WR, HCP, FRT, WP) = 34 states,

- > 850 responders,
- 4 mil m3 pumped
- 1 mil.litres purified

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

Operational folio- ANEX C

-  MOB - Butmir
-  MOB - Zenica
-  FOBs:
 - Žepče
 - AF barracks Dubrave
 - Bijeljina

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)



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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!**