



EUrban Water  
Aid Project

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# FIELD HANDBOOK

BEST PRACTICES  
AND RECOMMENDATIONS



[WWW.EUWA2016.ORG](http://WWW.EUWA2016.ORG)



Humanitarian Aid  
and Civil Protection

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# INTRODUCTION

## The EUWA 2016 Project

As for the future, disasters getting intensified with the effects of climate change, water supply of the population [evacuated or lacking drinkable water at home] will be more and more important in this region as well as it already in large scale emergencies all over the World. A specific characteristic of floods and water-related disasters is that population and infrastructure – especially water infrastructure – are both struck at the same time. Lacking an operational drinking water network, search and rescue units deployed in the area have to provide for their own drinking water needs as well, raising logistic costs, unit size and putting unnecessary burden on themselves.

Water purification units – especially those of non-authority background – face serious challenges in times of deployment, due to lack of familiarity with the area and to their difficulties of connection to the local disaster management centers.

Generally, USAR modules are deployed first, followed by WP modules later on, yet in most cases WP modules are responsible solely for the drinking water supply of the local population, while USAR teams remain to depend on drinking water transported for them from a distance. This way, both WP modules are wasting capacities and USAR modules are wasting resources on unnecessary logistical work and expenditures.

There are numerous precedents where USAR and WP modules were deployed parallel [2010 Haiti, 2011 Japan, 2013 Philippines, 2014 Serbia and Bosnia and Herzegovina] but

none of the precedents shown joint deployment of the two modules. Hungarian WP units have been deployed in Sri Lanka [2005], in the Philippines [2013], in Serbia and Bosnia and Herzegovina [2014], with no connection to USAR or other modules, providing drinking water solely to the local population, while unable to make a reliable connection to the USAR modules deployed in the very same time and area.

## **The main objectives of EUrban Water Aid [EUWA 2016] are:**

- 1      Improve civil protection preparedness and response to flood related disasters
- 2      Work out a cooperation framework between the WASH [Water, Sanitation and Hygiene] sector and civil protection in emergencies that is practical and exportable to transnational and international levels
- 3      Test the activation of the EU Civil Protection Mechanism and its tools according to a disaster scenario on large flood on the river Tisza
- 4      Test the implementation of the Host Nation Support in case of disaster exercise
- 5      To promulgate the use of GIS based risk assessment at the planning and intervention phase of disasters
- 6      Improve the efficiency of professional and volunteer rescue teams and water purification modules in civil protection assistance interventions.

## Purpose of the Field Handbook

The Field Handbook is part of a work package called “Co-operation framework between WASH and civil protection in emergencies” which aims to identify the possible points of connection between urban search and rescue [USAR], high capacity pumping [HCP] and emergency drinking water purification [WP] activities, to enhance cooperation, to solve problems and to find solutions for the effective combined application of these modules. These possibilities for solutions were discussed during four workshops, which give the backbone of the 2016-17 EUrban Water Aid [EUWA] project. The recommendations are compiled and published in the form of a Field Handbook. The Field Handbook summarizes the background information, elaborates on the practical aspects of operations and formulates solutions and proposals. It is intended for the participating countries as well as all other regional and non-regional EU member states and partner organizations that face joint action in emergency situations. It could serve a useful guide and a preparation tool for all stakeholders mainly from emergency management authorities, etc.

# Introduction of Partners



National Directorate General for  
Disaster Management Hungary  
[coordinating beneficiary]



**BUDAPEST**  
**WATERWORKS**

Budapest Waterworks



Belgrade Waterworks and Sewerage  
[Serbia]



Republic of Croatia National Protection  
and Rescue Directorate



Fire and Rescue Service [Slovak  
Republic]



Humanitarian Aid  
and Civil Protection

The European Commission's  
Humanitarian Aid and Civil Protection  
Department [DG ECHO] [Project Donor]



# BASICS

## USAR + WP + HCP joint application in flood situation

Usually USAR (Urban Search and Rescue) and HCP (High Capacity Pumping) teams are not designed for drinking water supply. But there are some cases, when the joint work is needed.

**The main task of USAR teams is search and rescue in urban areas. Their capabilities and capacities could be used in flood situations, for tasks such as:**

- Building light constructions
  - Temporary pipe systems
  - Water storage
  - Sanitation and hygiene facilities
- To find the pipelines
- Water delivery in heavy accessible area
- Simple checking of stability of buildings and other constructions (bridges, roads)
- Providing access to water source
- Providing sufficient workplace (removing obstacles, preparing the ground)
- Providing safety measures of the workplace
- Host Nation Support (HNS) possibilities
- Sharing of equipment

**The HCP units can be an efficient supporting team for WP. They can provide the following tasks in joint application:**

- Delivering water from water source from short and long distances [long is at least 1 km]
- Contribution to building temporary storages [from provided equipment [sandbags, pools, barriers]]
- Filling up temporary storages with raw water
- Filling up vehicles which are able to transport raw water
- Removing water from flooded areas
- Sharing of equipment

**How WP [Water Purification] units can support USAR and HCP units:**

- Providing water:
  - Drinking water for the staff
  - For hygiene
  - For the equipment [washing up, high pressure water cutting systems]
  - For the rescue animals
- Sharing of equipment

**To deploy USAR, HCP and WP units the following general information is needed:**

- Assessment of the situation
- Prognosis of the developing of the situation
- Hydrological prognosis [expected water level]

- According to the requirements of the factsheet of the modules
- Place of deployment
- Place of Base of Operation
- Safety and security measures
- Local specifications about the electric supply (different voltage, sockets)
- Local communication specifications
- Place of RDC (Reception and Departure Centre)
- Possible duration of the mission
- Information about the infrastructure (damaged and working [roads, communication, etc.]
- Information about the possibilities of fuel supply
- Climate, weather conditions

**To deploy USAR units the following specific information is needed:**

- Category of needed USAR team
- Possible tasks
- Specific rules for animals
- Veterinary measures

**To deploy HCP units the following specific information is needed:**

- Horizontal and vertical distances of transport of water
- Horizontal and vertical distance between the water source and place of installation for the pumps

- Chemical contamination of transported water [oil pollution, etc,]
- Requirement to transport warm water with temperature more than 40 °C
- Requirements for transporting muddy water, which has more than 5% of solid elements and particles with size more than 40 mm

**To deploy WP units the following specific information is needed:**

- Chemical contamination of raw water [especially petrochemical]
- The amount of raw water available
- Drinking water needs
- Type of delivery [package, storing, etc.]
- Distance of water source and place of equipment installation
- Other useful information:
  - Standards in the country on drinking water
  - System of water supply infrastructure in the affected area

## Additional related capabilities

- Water rescue and other teams involved
- Providers of construction vehicles (bulldozers, dumpers, cranes, etc.)
- Available supporting personal and equipment which can help in the situation
- Possibilities for communication
- Possibilities for contact person with local knowledge

# ASSESSMENT OF CURRENT LEGISLATION ON FLOODS AND WATER SUPPLY

One of the key areas of the Field Handbook is an assessment of current legislation on floods and water supply in the respective countries and proposals for their standardization and harmonization. Overall, we have found that EU member state participant countries [Croatia, Hungary, Slovakia] have already harmonized their laws and regulations with EU legislation and requirements. Serbia, which is an EU accession country, has much to do and a long road ahead in harmonization with EU regulations.

## European Union legislation

The main EU legal body pertaining to floods and water supply are listed below. The full text of the legislation is found at the internet link provided.

- **Directive 2000/60/EC** – framework for Community action in the field of water policy [http://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC\\_1&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC_1&format=PDF)

- **Directive 2006/118/EC** of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration [OJ L 372, 27.12.2006, pp. 19-31] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:372:0019:0031:EN:PDF>
- **Directive 2007/60/EC** of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks [OJ L 288, 6.11.2007, pp. 27-34] <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0060&from=EN>
- **Directive 2008/105/EC** of the European Parliament and of the Council of 16 December 2008 on **environmental quality standards in the field of water policy**, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council [OJ L 348, 24.12.2008, pp. 84-97] <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:348:0084:0097:en:PDF>
- **EU Drinking Water & Bathing Water Directive (98/83/EC)** of the European Council <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:330:0032:0054:EN:PDF>
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions — **A blueprint to safeguard Europe's water resources [COM(2012) 673 final, 14.11.2012]** <http://ec.europa.eu/transparency/regdoc/rep/1/2012/EN/1-2012-673-EN-F1-1.Pdf>

- Communication from the Commission to the European Parliament and the Council — **The Water Framework Directive and the Floods Directive: actions towards the ‘good status’ of EU water and to reduce flood risks** [COM(2015) 120 final, 9.3.2015] [http://ec.europa.eu/environment/water/water-framework/pdf/4th\\_report/COM\\_2015\\_120\\_en.pdf](http://ec.europa.eu/environment/water/water-framework/pdf/4th_report/COM_2015_120_en.pdf)

## Croatia

### The legal framework in Croatia is as follows:

- **Law on Waters**; planning, prevention, organisation of flood defence / Zakon o Vodama [Urednički pročišćeni tekst, „Narodne novine“, broj 153/09, 130/11 i 56/13]
- **Law on Civil Protection System** [82/2015]
- **Disaster Risk Assessment** for the Republic of Croatia
- **Plan of Protection and Rescue** for the Territory of the Republic of Croatia

### Bodies responsible for flood defence:

- Ministry of Agriculture
- Hrvatske vode [Croatian Waters]
- Companies certified for works in implementation of preventive, regular and emergency flood defence
- National Meteorological and Hydrological Service [DHMZ]
- National Protection and Rescue Directorate



- Units of local and regional self-government
- Other competent state administration bodies
- Pursuant to the Water Act, flood defence is managed by Hrvatske vode. Flood defence activities are deemed emergency service

**Operational flood risk management and immediate implementation of flood defence measures are regulated by:**

- National Flood Defence Plan [NN 84/10, 2010]
- Master Flood Defence Implementation Plan
- Flood Defence Implementation Plans for defended areas

***Hrvatske vode* also drafts planning documents for flood protection foreseen by the Water Act:**

- Flood Risk Management Plan
- River Basin Management Plan
- Long-Term Programme for Construction of Water Regulation and Protection Structures and Amelioration Structures [adopted by the Croatian Government]

**The National Flood Defence Plan is adopted by the Government. It regulates:**

- Territorial units for flood defence
- Flood defence stages
- Flood defence measures

- Bodies responsible for flood defence
- Management of flood defence, incl. obligations and rights of the flood defence managers
- Contents of flood defence implementation plans
- An early warning system and a communications system
- The deployment of flood defence managers and their deputies from *Hrvatske vode*, and of legal entities and their managers and deputies registered for the activities of flood defence and defence from ice on watercourses, as well as the deployment of flood defence managers from legal entities managing dams and reservoirs
- Obligations of the Croatian Meteorological and Hydrological Service [DHMZ] to collect and submit data, forecasts and warnings about hydrometeorological phenomena significant for flood defence
- Instructions for the preparation of reports on the implemented flood defence measures
- A map delineating the borders of defended areas.

### **Flood defence in the Republic of Croatia is implemented in territorial units for flood defence:**

- 2 river basin districts
- 6 sectors
- 34 defended areas
- Several sections in each defended area.

# Hungary

The flood management legislation [as part of the disaster management legislation] is a significant part of the Hungarian official legal system. It has been established on constitutional-, government decree-, ministry decree and institutional directive levels system.

## Flood-management related main rules in the Hungarian legislation:

1. Basic law of Hungary [Constitution] – **Magyarország Alaptörvénye [2011. április 25.]**
2. Act on Disaster management – **2011. évi CXXVIII. Törvény** 2011. évi CXXVIII. törvény a katasztrófavédelemről és a hozzá kapcsolódó egyes törvények módosításáról
3. Government decree on Disaster management – **234/2011. [XI. 10.] Korm. Rendelet** 234/2011. [XI. 10.] Korm. rendelet a katasztrófavédelemről és a hozzá kapcsolódó egyes törvények módosításáról szóló 2011. évi CXXVIII. törvény végrehajtásáról
4. Interior ministerial decree on certain rules of protections against disasters and certain rules of protections against disasters – **62/2011. [XII. 29.] BM rendelet** 62/2011. [XII. 29.] BM rendelet a katasztrófák elleni védekezés egyes szabályairól
5. Interior ministerial decree on disaster management classification of settlements and certain rules of protections against disasters – **61/2012. [XII. 11.] BM rendelet** 61/2012. [XII. 11.] BM rendelet a települések katasztrófavédelmi besorolásáról, valamint a katasztrófák elleni védekezés egyes szabályairól szóló 62/2011. [XII. 29.] BM rendelet módosításáról

6. National Director General for Disaster Management directive about the disaster management preparation of civil protection organizations and classified voluntary rescue organizations – **1/2017. (II.21.) BM OKF utasítás** a polgári védelmi szervezetek, a minősített önkéntes mentőszervezetek, valamint a közbiztonsági referensek 2017. évi katasztrófavédelmi felkészítésének rendjéről.
7. Act on general rules of environment protection – **1995. évi LIII. törvény** A környezet védelmének általános szabályairól
8. Act on environment protection – **1996. évi LIII. törvény** A természet védelméről
9. Act on water supply – **2011. évi CCIX. törvény** A víziközmű szolgáltatásról
10. Government decree on rules of protection against water damages – **232/1996. (XII.26.) Korm. rendelet** A vizek kártételei elleni védekezés szabályairól
11. Government decree, about general rules on the protection of water basis, drinking water supply and facilities – **123/1997. (VII. 18.) Korm. rendelet** A vízbázisok, a távlati vízbázisok, valamint az ivóvízellátást szolgáló vízellátási létesítmények védelméről
12. Government decree on the water management, water protection and water damage protection activities and facilities – **147/2010. (IV.29.) Korm. rendelet** A vizek hasznosítását, védelmét és kártételeinek elhárítását szolgáló tevékenységekre és létesítményekre vonatkozó általános szabályokról
13. Ministerial decree on flood and inland water [puddle water] protection – **10/1997. (VII.17.) KHVM rendelet** Az árvíz- és belvízvédekezésről

14. Ministerial decree on settlement classification based on the threats of flood and inland water – **18/2003. [XII.9.] KvVM-BM együttes rendelet** A települések ár- és belvíz veszélyeztetettségi alapon történő besorolásáról
15. Ministerial decree on the activities of water usage, protection of water damages and on the technical arrangement for the facilities – **30/2008. [XII.31.] KvVM rendelet** a vizek hasznosítását, védelmét és kártételeinek elhárítását szolgáló tevékenységekre és a létesítményekre vonatkozó műszaki szabályokról
16. Interior ministerial directive on national management of the organization and operational rules of flood damage – **7/2012. [II.10.] BM utasítás** A vízkárelhárítás országos irányításának szervezeti és működési szabályzatáról

## Slovakia

1. **Act. No. 7** Coll. of Laws from December 2<sup>nd</sup> 2009 on Flood protection

Zbierka zákonov ZÁKON č. 7/2010 z 2. decembra 2009 o ochrane pred povodňami

This Act establishes:

- (A) flood protection measures and obligations to assess and manage flood risks in order to reduce the adverse effects of floods on human health, the environment, cultural heritage and economic activity,
- (B) planning, organization and management of flood protection,

C) the obligations and rights of state administration authorities, flood protection authorities, higher territorial units and municipalities,

[D] the obligations and rights of legal entities, persons - entrepreneurs and persons in flood protection,

[E] responsibility for breaching the obligations established by this Act.

2. **Act. No. 129** Coll. of Laws from February 15<sup>th</sup> 2002 on Integrated Rescue System

Zákon 129/2002 Z. z. o integrovanom záchrannom systéme

This law regulates the organization of the integrated rescue system, the scope and role of the state administration and rescue units within the integrated rescue system, the rights and obligations of municipalities and other legal entities, natural persons authorized to do business and other natural persons in the coordination of the activities related to the provision of assistance, life, health, property or the environment is imminent.

3. Collection of Instructions of the Presidium of Fire and Rescue Service

**Instruction** of the President of Fire and Rescue Service **No. 4** from January 27<sup>th</sup>, 2009 on the performance of flood rescue service in the Fire and Rescue Service [Regulations for the flood rescue service]

Pokyn prezidenta Hasičského a záchranného zboru č. 4/2009 o výkone povodňovej záchrannej služby v Hasičskom a záchrannom zbore [poriadok povodňovej záchrannej služby]

#### 4. Directives

**Directive 2007/60/EC** of the European Parliament And of the Council of 23 October 2007 on the assessment and management of flood risks

Smernice

Smernica Európskeho parlamentu a Rady 2007/60/ES z 23. októbra 2007 o hodnotení a manažmente povodňových rizík

#### 5. **Regulation** of Ministry of Environment of the Slovak Republic **No. 261** from May 28<sup>th</sup> 2010 which constitutes details of flood plans content and their approval procedure

Vyhláška Ministerstva životného prostredia Slovenskej Republiky č. 261 z 28. mája 2010, ktorou sa ustanovujú podrobnosti o obsahu povodňových plánov a postup ich schvaľovania

Decree of the Ministry of the Environment no. 261/2010.

Contains:

- the content of the flood protection plan
- the scope of the flood protection plan
- procedure for approving flood plans
- flood plan changes

6. **Regulation of Ministry of Environment of the Slovak Republic No. 220/2012** Col. of Law which adapts circumstances on water supplies for the period of crisis situation

Vyhláška č. 220/2012 Z. z. Vyhláška Ministerstva životného prostredia Slovenskej republiky, ktorou sa ustanovujú podrobnosti o zásobovaní vodou na obdobie krízovej situácie

Regulation of Ministry of environment of Slovak Republic, which establishes specifics about water supply for period of crisis situation

Ministry of Environment of SR according to §40 section 4 of act nr. 179/2011 col. of law about the economical mobilisation and about change and completion of act nr. 387/2002 col. of law about managing the state during crisis situations out of time of war and war state in a word of later laws is establishing:

Par. 1

[1] The drinking water supply and service water for the period of crises situation is understood providing organisational, material and technical measures and actions for securing

[a] deliveries of drinking water for population, armed forces of Slovak Republic , armed security forces and rescue services in case of water shortage from public water pipeline,

[b] deliveries of drinking water and deliveries of service water for subjects of economical mobilisation according to paragr. 4 section 1 letter a) and d) of act for securing their minimal service needs or needs needed for attenuation or stopping the service.



7. **Act No. 364/2004** on water and amendment of **Act No. 372/1990** Col. of Law on violations as amended by laws

364/2004 Zákon o vodách a o zmene zákona Slovenskej národnej rady č. 372/1990 Zb. a o priestupkoch v znení neskorších predpisov [vodný zákon]

This law creates conditions for

- [A] comprehensive protection of water, including aquatic ecosystems, and from waters of directly dependent ecosystems [1b] in the country,
- [B] preservation or improvement of the status of waters,
- [C] the efficient, economical and sustainable use of water,
- [D] River basin management and improvement of the quality of the environment and its components,
- [E] reducing the adverse effects of floods and drought,
- [F] ensuring the functions of watercourses,
- [G] the safety of waterworks,

This Act regulates the rights and obligations of natural persons and legal entities to water and immovable property related to their protection, purposeful and economical exploitation, authorizations and obligations of state water administration bodies and liability for breach of obligations under this Act.

This Act regulates the conditions for the transport of water taken from the water bodies located on the territory of the Slovak Republic across the Slovak Republic for personal consumption and for the provision of humanitarian and emergency assistance

8. **Act No.442/2002** col. of law about the public water pipelines and public sewage pipelines

Par. 1

Zákon 442/2002 o verejných vodovodoch a verejných kanalizáciách a o zmene a doplnení zákona č. 276/2001 Z. z. o regulácii v sieťových odvetviach

This act regulates:

- a) establishment, development and servicing of public water pipelines and sewage pipelines
- b) rights and obligations of physician persons, law persons in case of establishing and running of public water pipelines and sewage pipelines connections included,
- c) scope of organs of public service in the field of public water pipelines and sewage pipelines.

9. **Act No. 42/1994** Col. of Law on civil protection of population

Zákon NR SR č. 42/1994 Z. z. o civilnej ochrane obyvateľstva v znení neskorších predpisov

The purpose of this Act is to regulate the conditions for the effective protection of life, health and property from the consequences of extraordinary events, as well as to define the roles and responsibilities of state administration bodies, municipalities and the rights and obligations of natural persons and legal entities in providing civil protection to the population.

10. **Act No. 355/2007** on protection, support and development of public health and amendment of law

Zákon 355/2007 o ochrane, podpore a rozvoji verejného zdravia a o zmene a doplnení niektorých zákonov

- (A) performance of public health,
- (B) the prevention of diseases and other health disorders,
- (C) the establishment and operation of the Commission's proficiency check,
- (D) the requirements of professional competence and the issue of certificates of professional competence,
- (E) requirements for healthy living conditions and healthy working conditions;
- (F) requirements for radiation protection,
- (G) measures of public administration bodies in the public health sector [hereinafter "public health authorities"] in the case of threats to public health,
- (H) the obligations of natural persons and legal persons in the protection, promotion and development of public health,
- (I) performance of State health surveillance,
- (J) offenses and other administrative offenses in the public health sector.

11. **Regulation** of the Government of the Slovak Republic **No. 354/2006** Coll., establishing requirements for water intended for human consumption and quality control of water intended for human consumption.

Nariadenie vlády Slovenskej republiky č. 354/2006 Z.z., ktorým sa ustanovujú požiadavky na vodu určenú na ľudskú spotrebu a kontrolu kvality vody určenej na ľudskú spotrebu.

12. **Regulation** of the Ministry of the Environment of the Slovak Republic **No. 636/2004** Coll., establishing requirements for raw water quality and monitoring of water quality in public water supply systems.

Vyhláška Ministerstva životného prostredia Slovenskej republiky č. 636/2004 Z.z., ktorou sa ustanovujú požiadavky na kvalitu surovej vody a na sledovanie kvality vody vo verejných vodovodoch v platnom znení

## Serbia

*Note: The present assessment of current legislation on floods and water supply in Serbia is based on: Transposition and Implementation of Environmental and Climate Change Acquis – Chapter 27: Status and Plans. [Belgrade, September 2015]*

As noted earlier, we have found that EU member state participant countries [Croatia, Hungary, Slovakia] have already harmonized their laws and regulations with EU legislation

**and requirements. Serbia, which is an EU accession country, has much to do** and a long road ahead in harmonization with EU regulations. Below we summarize the situation and make recommendations for harmonization.

Serbia stated that the Water Framework Directive 2000/60/EC (WFD) has been partially transposed by the Law on Water (OGRS, No 30/2010 and 93/12) and several implementing acts. Serbia plans to achieve full transposition by the end of 2018, by amending the existing legislation. Serbia indicated that implementation of the directive has started but it is at an initial stage. The monitoring of water statuses has started but it complies only partially with the requirements of the WFD while preparation of the river basin management plans is in the initial stage, according to Serbia. Serbia stated that the Directorate for Water within the MAEP is the competent authority but its administrative and financial capacity is not yet sufficient. Serbia plans to achieve full implementation by the end of 2041, subject to revision after the preparation of a Directive Specific Implementation Plan envisaged for 2017.

Serbia stated that the transposition of the Environmental Quality Standards Directive 2008/105/EC has been partly done. Full legislative alignment is envisaged by 2018, through the adoption of amendments to the Law on Water and related bylaws. Serbia stated that implementation of the Directive is at an early stage, with 35 substances already being monitored but not over the whole territory of the country and 24 substances still waiting to be included in the monitoring system. Insufficient financing of the sector is visible in the reduced level of monitoring activities. Serbia plans to achieve full implementation by the end of 2033, subject to revision after the preparation of a Directive Specific Implementation Plan for the Water Framework Directive envisaged for 2017.

As regards the Directive 98/83/EC on drinking water (as amended by Regulations (EC) No 1882/2003 and (EC) No

596/2009] Serbia indicated that it has been partially transposed by the Law on food safety [OGRS, No. 41/09], the Law on Water [OGRS, No. 30/10 and 93/12] and other legislation. Alignment will continue with the adoption of a Rulebook on drinking water health safety and further amendments to the existing legislation. Serbia plans to achieve full transposition by the end of 2016. Implementation of the Drinking Water Directive is on-going.

Serbia stated that the Floods Directive 2007/60/EC was partly transposed into the Law on Water [OGRS, No. 30/10 and 93/12]. Further alignment will be done through amendments to the Law on Water [planned for 2017] and through the adoption of the Rulebook on the establishment of the methodology for the preparation of flood hazard and flood risk maps. Serbia plans to achieve full transposition by the end of 2018. Serbia stated that implementation of the Floods Directive is at an early stage. The preliminary flood risk assessment was completed in 2012, but included only fluvial floods. The finalization of flood hazard and flood risk maps will be done by 2021. The competent authorities are MAEP/ Directorate for Water and the Public Management Companies. Serbia plans to achieve full implementation by 2021.

In December 2011, government of the Republic of Serbia, pursuant to Article 54 Item 2 of Water Law ["Official Gazette of RS", No. 30/10] and Article 42 Item 1 of Law on Government ["Official Gazette of RS", No. 55/05, 71/05 – corrected 101/07, 65/08 and 16/11] adopted DECREE ON ADOPTION OF GENERAL PLAN FOR FLOOD PROTECTION FOR THE PERIOD FROM 2012 TO 2018.

During the catastrophic floods in May 2014, an international aid team came to Serbia from 14 countries among them Hungary and Denmark. After this occurrence, in April 2015, Serbia signed with EU Directorate General for Humanitarian Aid and Civil Protection [DG ECHO] an agreement and became

**32<sup>nd</sup> participating state in EU Civil Protection Mechanism [EUCPM];** within Mechanism countries Serbia could request and provide international assistance in case of disaster.

Serbia stated that it has completed important steps towards building and upgrading its emergency management system, in particular by the adoption of the Law on Emergency Situations [OGRS 111/09, 92/11, 93/12] and the National Strategy for Protection and Rescue in Emergency Situations [OGRS 86/11]. Serbia also stated that it has started developing National Risk Assessment and National Protection and Rescue [Emergency] Plans.

The competent authority is the Ministry of the Interior, which has established a Sector for Emergency Management responsible for the preparation and implementation of emergency management actions. Serbia indicated that the organization needs financial resources and strengthening of administrative capacity.

This law on emergency situations defines activities, the declaration and management of emergency situations. Accordingly, in Article 93 and Article 94 the way of cooperation during the emergency situations is defined.

**Article 93** of the Law on Emergency Situations [OGRS 111/09, 92/11, 93/12]

*In the event of disruption of regular water supply during natural and other disasters, the utility companies and other companies, producers and suppliers of water shall ensure the necessary quantities of water, control safety of water and maintain the water supply systems. Local self-governments shall register, regulate and take care of alternative options for water supply. Emergency management headquarters shall coordinate distribution of water and engage all available capacities for transport and distribution of water.*

**Article 94** of the Law on Emergency Situations [OGRS 111/09, 92/11, 93/12]

*Protection and rescue of animals shall be conducted preventively through timely preparation of companies and other organizations engaged in cattle breeding and production of foodstuffs of animal origin, as well as through building capacities of farmers to take preventive measures and procedures in protection of animals. Veterinarian organizations and services, companies pertaining to slaughter industry and other companies and organizations involved in cattle breeding, protection and warehousing of foodstuffs of animal origin, as well as farmers shall be engaged in execution of the necessary measures and activities related to protection and rescue of animals. Evacuation and care for cattle stock in the event of threat to the cattle stock on the territory affected by a natural and other disaster shall be organized by emergency management headquarters.*

## **Opportunities and recommendations for harmonization and standardization in Serbia**

Serbia's level of alignment with the *acquis* in the water sector is limited.

- **Monitoring networks for all water sources are at an early stage of development. A national strategy and action plan on water protection have yet to be adopted.** Priority should be given to aligning the legislation with the *acquis* and implementing the code of good agricultural practice.
- Significant investment is needed to modernize drinking water treatment capacity in all types of agglomerations. Strategic investment planning for water pollution abatement continues to be hampered by the lack of a national water protection strategy.



- Serbia needs to establish a registry of protected areas, to harmonize and complete the monitoring requirements, to work on definition of ecological status and objectives for surface waters and for groundwater, to define the programs of measures required and to prepare river basin management plans in order to **advance the implementation of the Water Framework Directive 2000/60/EC.**
- **The deadline proposed for the full implementation of the Water Framework Directive [2041] is not consistent with the foreseen delay for the achievement of its objectives [15 years].**

**Transposition of water related directives is in different stages.** Full transposition of water directives is expected through further amendments of the Law on Water [draft Law on Water with first set of amendments is developed, was adopted in 2015, **second set of amendments of the Law on Water is planned for 2017**] and adoption of the relevant bylaws [until the end of 2018].

## **Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks – EU FD**

The directive has been **partially transposed** through the Law on Water [Official Gazette RS No. 30/10 and 93/12], Regulation on establishment of the methodology for Flood risk assessment [Official Gazette RS no. 1/12]. The following parts of the Directive have not been transposed into national law: definition on flash floods, Preliminary Flood Risk Assessment deadline and deadline, specific objectives, maps. Full transposition of Flood Directive is expected through further amendments of the Law on Water [LoW] and bylaws.

## **Directive 98/83/EC on the Quality of Water Intended for Human Consumption – EU Drinking Water Directive**

The applicable national regulations are partially or fully aligned with the Directive's requirements. The following parts of the Directive have been transposed into national law: objectives, definitions, quality standards, point of compliance, monitoring, remedial action and restrictions in use, quality assurance of treatment, equipment and materials, exceptional circumstances and information and reporting.

The laws and by-laws that governing this area are following: Law on Food Safety [OG RS 41/09], Law on Water [OG RS 30/10 and 93/12], Law on Public Health [OG RS 107/05...], Law on Communal Activities [OG RS 88/11], Law on Health Safety of Items of General Use [OG RS 92/11], Rulebook on the hygienic safety of drinking water [OJ FRY 42/98 and 44/99], Rulebook on the Method of Sampling and Laboratory Methods for the Analysis of Drinking Water [OJ SFRY 33/87] etc.

Serbia is satisfactorily aligned with the EU civil protection acquis. However, the country will need to improve its administrative capacity further in order to align the system with standards and good practices of the Member States. Technical and material resources need to be enhanced, in particular by further equipping and training civil protection and other concerned staff to reach a sound basis for adequate support for risk prevention and preparedness as well as necessary response in case of emergencies. Human resources dealing with preparedness and response at municipal level need to be strengthened. Given the frequency and impact of disasters in the country, disaster risk reduction and disaster management should be treated as a matter of priority at national and local level.

Currently, the Belgrade Waterworks is obliged to help in all flood situation in all of Serbia, free of charge. That could

create major problems of underfunding and understaffing. This issue should be addressed.

Serbia will need to work further on disaster prevention, with an increased focus on risk assessment and risk management planning, including in particular at municipal level. **Serbia, as a participating state to the European Union Civil Protection Mechanism, needs to build up the necessary capacity to carry out national risk assessment, conduct risk management planning and assessment of its risk management capabilities and inform the Commission accordingly.**

Serbia will have to establish connection with the Common Emergency Communication and Information System of the Commission's Emergency Response Coordination Centre and set up a system ensuring 24/7 emergency communication and sharing of disaster related information and early warnings. In order to communicate with Emergency Response Coordination Centre Serbia will have to establish TESTA connection.

## Current institutional responsibilities (summary information regarding institutional setup for the sector in Serbia)

### EU Water Framework Directive (2000/60/EC)

	NATIONAL LEVEL	REGIONAL LEVEL
Policy and implementation	<i>Responsible body</i> Ministry of Agriculture and Environmental Protection [MAEP] – Republic Directorate for Water	
	<i>Other responsible ministries</i> MAEP, Sector for Environmental Protection Ministry of Health, Ministry of Construction, Transport and Infrastructure; Ministry of Mining and Energy; Ministry of Finance	Provincial Secretariat for Agriculture, Water Management and Forestry, Provincial Secretariat for Urban Planning, Construction and Environmental Protection
River Basin Management	Ministry of Agriculture and Environmental Protection [MAEP] – Republic Directorate for Water	Public Water Mgmt Companies [PWMC)s  Srbijavode, Vode Vojvodine (pending amendment to the LOW in 2015)
Monitoring	Republic Hydromet Service of Serbia – RHMSS[water quantity] and SEPA [water quality]	
Enforcement	Water Inspectorate Environmental Inspectorate Sanitary Inspectorate	Water Inspectorate Environmental Inspectorate  Sanitary Inspectorate-transferred competences

## EU Floods Directive (2007/60/EC)

	NATIONAL LEVEL	REGIONAL LEVEL	LOCAL
Policy and implementation (PFRA and FRMP for Serbia)	<i>Responsible body</i> Ministry of Agriculture and Environmental Protection [MAEP] – Republic Directorate for Water		
	<i>Other responsible ministries</i> MAEP, Sector for Environmental Protection Ministry of Health, Ministry of Construction, Transport and Infrastructure; Ministry of Mining and Energy; Ministry of Finance	Provincial Secretariat for Agriculture, Water Management and Forestry, Provincial Secretariat for Urban Planning, Construction and Environmental Protection	
PFRA	Ministry of Agriculture and Environmental Protection [MAEP] – Republic Directorate for Water		
Flood maps and flood risk management plans for WD		PWMCs Srbija vode, Vode Vojvodine	For 2nd order rivers

Flood Risk Maps [FRMP's]	Ministry of Agriculture and Environmental Protection [MAEP] -- Republic Directorate for Water	Public Water Management Companies [PWMCs]  Srbija vode, Vode Vojvodine	Local authorities
Monitoring	RHMSS		
Enforcement	Water Inspectorate	Water Inspectorate	

## EU Drinking Water & Bathing Water Directive [98/83/EC]

	NATIONAL LEVEL	REGIONAL	LOCAL
Policy and implementation	Ministry of Health		Utility companies, Local authorities
Monitoring		3 regional public health institutes	20 local public health institutes
Enforcement	Sanitary inspectorate	Sanitary inspectorate – transferred competences	

## Implementation deadlines for all directives in the sector

DIRECTIVE	PRESENT STATUS OF IMPLEMENTATION	IMPLEMENTATION OF DIRECTIVE		COMMENT
		START	FULL	
Water Framework Directive	Partially implemented  Characterization report for Danube River Basin prepared in 2013. <i>River Basin Management Plan</i> (RBMP) was adopted in 2015.	Partially 2015. RBMPs in accordance with <i>Water Framework Directive</i> (WFD) will be published after full transposition is achieved. Planned for 2021.	Environmental objectives for surface, Groundwater and protected areas reached. Planned for 2041 (related to <i>Urban Wastewater Treatment Directive</i> / UWWTD/ implementation).	<i>Directive Specific Implementation Plan</i> (DSIP) for WFD will give schedule for full implementation.
Floods Directive	Partially implemented	<i>Flood Risk Maps</i> (FRM) Plans in accordance with FD will be published after full transposition is achieved. Planned for 2021.	2021	

Drinking Water Directive	Not implemented	2015	2034	DSIP for EU Drinking Water Directive will define implementation costs, timetable and steps towards full implementation
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# OPPORTUNITIES AND RECOMMENDATIONS FOR HARMONIZATION AND STANDARDIZATION

Basically, the units should be registered as a module, in the EU Civil Protection Mechanism. There can be situations when a team is still not registered but according to the capacities and capabilities is able to fulfill the tasks. In such a situation according to bilateral agreement can be deployed in the affected country. In this case the requirements of deployment must be cleared (HNS, self-sufficiency, any special needs). The advantage of using registered modules is also the knowledge of EU CP mechanism and the way of coordination and communication. The EU civil protection training program is a basic tool for harmonization of coordination and communication in case of international assistance. All key personnel from modules are usually EU CP trained. Also members of EU CP coordination or assessment teams are trained through this programme.

According to the experiences of the Full Scale Exercise (FSX) the EU member states had their equipment which fulfilled the requirements of EU certifications and its standards, and also Serbia had these types of equipment which were compatible to each other. It made the common work more efficient.

When we use units from EU than the common work can go easier, but when using units from other regions or EU teams are deployed to other regions than it can happen that they use different standards.

Our suggestion – according to the experiences of the FSX – is that the intervention teams should have the same standards to be more effective in common work. The standardization and harmonization should appear on the equipment, devices, paper templates [reports].

Our experience is that there is no common methodology for rescue, so in joint application the different teams have their own process for that. Until there is no common rule for that, before the joint work, the on-site commander has to decide about the process of the rescue. It means he/she has to decide how to execute the common task on the field.

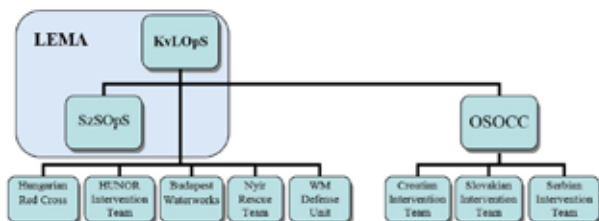
Our recommendation is to establish a Water Search and Rescue [WSAR] guideline. This document package should contain the responsibilities, the way of search and rescue, and all the details of the execution etc.

# PRACTICAL OVERVIEW, THE BEST PRACTICE(S)

## Command and Control

The Kisvarda Local Operating Staff [KvLOpS] was in charge during the exercise to handle the situation. It was also acting as Local Emergency Management Authority [LEMA]. The Hungarian intervention teams [Hungarian Water Aid Unit, Nyir Rescue Team, Upper-Tisza Regional Water Management Directorate Defense Squad, Hungarian Red Cross, HUNOR Rescue Team] directly belonged to the KvLOpS. The Hungarian intervention teams sent liaison officers to the KvLOpS, who got the tasks and forwarded it to their teams. When a request or information came from the intervention teams, it also came through the liaison officers.

The international intervention teams [Croatian Intervention Team, Slovakian Intervention Team, Serbian Intervention Team] were coordinated by the On Site Operations Coordination Center [OSOCC]. The international intervention teams sent liaison officer to the OSOCC, and the information flow was through these liaisons.



Information flow of the exercise

At the beginning of the exercise it was made clear who is in charge, and during the exercise the KvLOpS was responsible to lead the operations.

The KvLOpS was located in the village of Szabolcsveresmart in a public Community House, approximately 2 km far from the Base of Operation (BoO) and the place of interventions. The team had all the necessary equipment for working, communicating and leading the exercises.

The OSOCC was located close to the place of interventions [approximately 500 m]. The working place was placed in a tent, and all the necessary equipment were provided.



Allocation of the working sites



tional teams were responsible for team itself. During FSE all teams prepared safety and security plans based on the information knew prior to departure from homeland country and combined with important actual information provided from KvLOpS. Hungarian security organs provided security during whole exercise. Whole area of BoO was secured against the presence of non-invited people. This was an advantage for all teams accommodated in BoO, they did not need to establish security measures for guarding the BoO [the tent camp, area for vehicles, area for boats]. The basic safety measure was the right choice of location for work. Location for BoO was suggested by LEMA. The teams accepted the location and did not ask for the other possibilities. The location of BoO was in distance for effective operation. The designated area for BoO had enough space, good accessibility for all type of vehicles used by all teams. In case of long term rain the grass surface on mud ground could make difficulties mainly for heavy vehicles.

Safety measures which were taken during FSE consists from action provided from LEMA as a part of HNS and measures provided by teams itself. LEMA provided a continuous presence of an ambulance with crew. All participant team had informed about the presence of the ambulance. Safety measures were part of safety and security plans of all international teams. All teams were prepared for solving elementary medical problems. Teams had also at least one member who had at least first aid course, teams also had sufficient equipment.

During the FSE all teams fulfilled tasks. Sometimes teams had more simultaneous task. In one moment all teams were informed about the possibility of affecting the BoO by flood wave. Some teams still provided rescue work in the field. Representatives of LEMA requested OSOCC for immediate action of all teams to secure better flood protection of BoO by building a protection barrier from sandbags. Not all people provided that protection. Recommendation is for cases when

are no other possibilities for proper and fast evacuation to have a plan and personal for partial fast evacuation of the equipment which is possible to save.

The participating teams have to keep in their mind that if there is a need than they have to do tasks which are not according to their module registration [building temporary dam from sandbags].

## Operations

### Coordination and collaboration on the field

In the disasters, incoming teams plan and implement their activities in coordination with the relevant authorities, humanitarian agencies and civil society organizations engaged in impartial rescue action, working together for maximum efficiency.

In order to achieve this, it is necessary to take care of:

- participation in general and any applicable sectorial coordination mechanisms
- to be informed of the responsibilities, objectives and coordination role of the state and other coordination groups
- provide coordination groups with information about your mandate and objectives
- share assessment information with the relevant coordination groups in a timely manner and in a format, that can be useful for other teams
- Regularly update coordination groups on progress, reporting any major delays, team shortages or spare capacity

## Procedures

In disaster situation when affected country ask for an international assistance some standard procedures can be expected. There are procedures which local authorities has to do and also incoming rescue teams has to do. If the both sides know what to expect, it can help to be more prepared for intervention.

Each country has standard procedures for civil protection in disaster situation like earthquakes, floods, forest fires, water supply, etc. In these procedures, you can probably find also a procedure how to request for international assistance. On other hand the incoming international teams has to follow some procedures before and after coming to affected country.

It can be very useful if authorities of affected country can help with after coming procedures [border crossing, customs, transit arrangement...] or even the information, how to make these procedures faster, can help to both partners during the emergency situation.

**Faster procedures mean efficient intervention.**

## Tasks

The rescue modules perform special tasks according to their type and destination during dispatch to help the affected country [WP – purification of raw water, drinkable water production; HCP – pumping of high amount of water, delivering water for long distance; FRB – searching and rescuing affected people from flooded areas; etc.]. However, the host country may also be required to carry out other necessary operations which are not directly related to their designation [boat transportation of personnel, equipment, animals, food, etc., dam protection with building sandbag barriers, etc.].



It is necessary for the rescue workers to be ready to perform other tasks as long as they are asked to do so. The disaster-stricken country can suffer from a lack of technical equipment and people who might be deployed to carry out sometimes simple, non-specialized activities and therefore ask for such help and rescue by international teams. The management of rescue teams must, in the event of such a requirement, consider whether the performance of such tasks is within their capabilities and that they do not endanger the safety of the team members.

**Do everything to save people and help the affected country, but do not forget about your own safety and safety of your team members.**

## Requirements

For the success of rescue operations, it is important to establish close co-operation between local authorities [LEMA] and international teams to ensure effective disaster relief for the affected country in saving populations, property and the natural environment, etc.

In order for operations managers to be able to make the best use of international rescue teams, they must first know their capabilities and equipment for each module, what tasks the modules are professionally prepared for and what are the needs of the teams.

On the other hand, it is important for team leaders to know the general information about the disaster situation, what their tasks will be and where they will perform, where they can build a base and who is in charge.

It is essential to communicate about all activities and possible deployment of the team, its personnel and technical

equipment, work systems as well as the necessary requirements that may affect the functioning of the modules.

Exchanged information and properly conducted assessment can shorten the deployment time and thus significantly affect the success and effectiveness of rescue work.

QUESTIONS TO ASK	
LEMA	International Teams
Who are you?	How is the actual disaster situation?
How can you help us in disaster?	Who is in charge / decision maker?
What kind of equipment do you have?	Where we can establish our base?
Where/in which conditions can you work?	Where we can work?
How much or how long can you work for us?	Who can we contact for more information?
HOW CAN WE HELP EACH OTHER?	

Answers to these questions can quickly and easily help with the co-operation and coordination of rescue work in an emergency situation.

## Red Cross

For joint international deployments in flood situation, **Hungarian Red Cross** expresses the following recommendations:

- all water and sanitation related intervention should be based on the *Minimum standards in Water Supply, Sanitation and Hygiene Promotion of the SPHERE Handbook [Humanitarian Charter and Minimum Standards in Humanitarian Response* – accessible here: <http://www.sphereproject.org/resources/download-publications/?search=1&keywords=&language=English&category=22>) and stresses the importance of the *Water supply, sanitation and hygiene promotion initial needs assessment checklist* [appendix 1] as a first step of assessment;
- water and sanitation interventions should be accompanied by Hygiene Promotion activities reaching target population and response teams as well. Hygiene promotion is a fundamental part of the Red Cross Red Crescent water and sanitation activities. It increases public health awareness and prevents diseases related to poor hygiene practices by disseminating information and improving awareness on personal and community hygiene practices. Hygiene promotion activities are ensuring that people make the best use of the water and sanitation solutions and assist them to operate and maintain their facilities effectively;
- Hungarian Red Cross draws attention to the application of the *Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGOs) in Disaster Relief* that have been recommended also by The European Consensus on Humanitarian Aid 3.3/40 by DG ECHO. HRC advises

that all internationally deployed team members should know and follow the content of the Code of conduct [available here: <https://www.icrc.org/eng/assets/files/publications/icrc-002-1067.pdf>]

## Support and Logistics

- To prepare for missions and to facilitate the border crossing procedures, the modules should prepare in advance list of equipment, approval of equipment and for vehicles, licenses.
- The modules should be prepared to work in a foreign country, therefore the designated drivers should have international driving licenses.
- The modules should be prepared in advance, and have insurance of all of their equipment and team members before the deployment.
- The modules should have English speaking team members, to be able to work in an international environment, but preferably they should also try to send at least one team member, who speaks the local language.
- In a disaster area, it is advised that the modules bring enough cash with them, for all the necessary purchases for the whole duration of the mission, and if it is necessary they should have the permission to have this large amount of cash with them, and be prepared to declare this at the customs service.
- The modules should be prepared and train for border crossing procedures and be prepared to show all the necessary documents for faster border crossing (eg. list of team members, their ID card numbers, the date

until their ID is valid, the vaccination cards at hand, the list of the equipment they want to bring in to the affected country, with a separate list of medications and dangerous goods, they should have a list of the IDs, vaccinations and chip numbers of the rescue dogs, also they should have a chip reader at hand.

- The modules should be able to drive in a convoy, and if the host nation organize an escort for the convoy, they should be trained in driving under these circumstances.
- The modules should inform in advance LEMA, and the embassy of their country about their time of arrival, and preferably ask for a designated liaison officer from the LEMA, to facilitate their work in the affected country.
- The modules shall ask for exemption for road tolls, etc. from the local authorities, so they should gather relevant information before deployment, also local authorities should be prepared for this kind of requests from the incoming modules, and prepare and train the relevant procedures.

## SWOT analysis

<b>STRENGTHS</b> <ul style="list-style-type: none"><li>• Cost efficiency in deployment and operation</li><li>• Effective on-site logistics</li><li>• Better camp management through trained logistic officers</li><li>• Reduced dependency on HNS</li><li>• More diverse “face” of response</li><li>• Demonstration of European unity</li></ul>	<b>WEAKNESSES</b> <ul style="list-style-type: none"><li>• Increased time of deployment</li><li>• Base of Operation must be suitable for all participating modules</li><li>• Teams remain responsible for their own food</li></ul>
<b>OPPORTUNITIES</b> <ul style="list-style-type: none"><li>• Increasing experience of people and teams</li><li>• Better relations and communication between response teams</li><li>• Learning from each other</li><li>• Improved relations between Participating States</li><li>• Relocation of spared outstanding resources to increase operational capacity</li><li>• Development of cultural awareness</li></ul>	<b>THREATS</b> <ul style="list-style-type: none"><li>• Difference in modules’ SOPs</li><li>• Language gap</li><li>• Equipment incompatibility &amp; different technical standards</li><li>• Cultural differences</li><li>• Insufficient information on other modules before deployment</li></ul>

# SOLUTIONS FROM OPERATIONAL AND LOGISTICAL ASPECTS

## Operational

- After deployment to affected country the modules have to focus on establishing contact with local responsible authorities and EUCPT if presented. Establishing regular meetings with them and exchange of information will give actual overview which are important for successful mission.
- Modules should be prepared to work and cooperate with other different kind of modules on site.
- Be aware that host nation country is responsible for managing a coordination of rescue work during emergency and modules have to be prepared to fulfill the tasks required of them from local authorities through EUCPT.
- Modules should be prepared to change their tasks depending on current conditions that may change as a result of secondary events after a disaster.
- On the end of the mission the modules should prepare a handover to local authorities with report of their work and the modules may be required to keep part of their equipment in place for the needs of the affected country to handle disaster relief.

## Support & Logistics

- Once deployed on the scene, the modules should be prepared to designate a camp manager for the joint camp [this procedure, and the responsibilities of the camp manager should be agreed by all modules], preferably the modules should decide to provide the camp manager in a shift, so there will be someone available 24/7 to deal with all the different logistical issues that might arise during the mission.
- Modules should share information regarding in country logistics procedures, the coordinates and accessibility of Points of Interest (eg. fuel stations), and Safety & Security issues with each other, to facilitate the planning procedures.
- HCP units should be prepared to support the WP units with moving water to the desired location, extending the usability of WP units (eg. they can set up at locations normally not suitable for them) so they can provide water closer to where it is needed (eg. BoO, affected area).
- Modules should be prepared to share their resources with other teams, focusing on their specialties (eg. WP modules should be able to provide the other teams with drinking water [reducing the need of initial water stock for other teams], also social water; USAR modules should share assessment information, medical and hygiene capacities with different, generally smaller modules).
- Modules should consider and be prepared for the sharing of electric sources [joint network] with other modules. They should deploy with trained and skilled electric technicians.



- USAR modules should be prepared to share their hygiene facilities with other non-USAR modules, who don't have enough resources, and they should consider this prior deployment and when planning how to set-up the BoO.
- USAR modules have medical units, which other modules not necessary have, so they should be prepared to take care of members of other modules.
- The logistic units of the modules should coordinate among themselves, and execute joint planning for their daily purchases [eg. fuel, other materials], by this a lot of transport capacities and human resources can be saved and redirected to other tasks.
- The sharing and/or pooling of transportation capacities between different teams should be encouraged, to save time and money, and by doing this the international resources can be redirected for the filling of other logistic gaps.
- All modules should be prepared to do the joint guard duties of the BoO, this means, that the responsibility is shared among all teams, and capacities can be better utilized during the operations.

# RECOMMENDATION FOR PROCEDURES – IMPROVEMENT IDENTIFIED BY THE EVALUATORS

## Command & Control

The exercise pointed out that there is a need for such exercises. Each participating countries have their own strategy for training and the intervention teams can fulfill the requirements and do their tasks. Besides to work in a large site in an international environment, the teams meet new challenges which are necessary to be trained at the preparing time not just at real cases. These practices can be really effective in connection with those countries which live close together [neighboring countries] and at any time can happen such a situation, when their common work is needed.

To prepare such a situation is better to do in “peaceful times”, than in real events, when human life can depend on the common work.

It would be “as a best practice” to establish a training exercise field [flooded area with building, and other challenging parts] where teams of each country and also international teams could practice, the joint deployment.

During the exercise all international participating teams had members who speak Hungarian language. It was useful, because they could speak to the victims who were evacuated from the flooded are.

We suggest – as a best practice – to have team member(s) who speak the language of the affected country. It is a help for the local authorities and also for those who execute the interventions.

## Operational

### Selection of EU experts

It is important that the CV's of the members offered to be part of the EUCPT should be checked and certified by the National Focal Point of the sending country. references should also be attached to the CV's, with special attention to the team-leader and the deputy team-leader. Following the exercise, the main evaluator is suggested to prepare an individual evaluation about the EU experts taking part in the exercise. This evaluation should be part of the EU database. We suggest that an EUCPT Expert Database should be established to keep record of all the persons who are possible team-leaders and experts in would-be EUCPT's.

Team-leader's tasks – such as high level coordination, clarification and interpretation of tasks, decision making, time management, team-leading and cooperation – should be dealt with in details in HLC and HOT courses. Team-leaders' database should contain the ones who have successfully completed HLC and HOT courses and have good practical references at the same time.

## Operations management

In order to carry out effective operations, it is vital that the incoming international forces – adjusting themselves to the system of the host nation – should fully carry out operations tasks under the control of the LEMA. It is also important that the formal language deriving from the hierarchy of the LEMA is used in an integrated and uniform way. The order of commanding should always follow the hierarchy of LEMA, that is, it should take into consideration the appropriate hierarchical levels. It is important for the participants of the international assistance to know and use the formal language of commanding and reporting in the same way. This goal could be highly promoted if an EU guide-book was worked out on command and control and the experience was used at TTX's.

## Communication

For the sake of effective communication, the host nation develops a multi-channel communication system, which is detailed in the info-communication plan (ICT). It is important to pay continuous attention to these channels and follow the information flow without delay. In case of both exercise and real-life situations, it is part of the HNS that the international teams and the EUCPT should carry out their communication in accordance with the ICT plan, which is suggested to be included in the scenario and plan of the exercise. Radio frequencies to be used, the rules of radio communication and a kind of communication scheme should all be included in the ICT plan.

## Logistic support

It is inevitable to delegate a TAST to support the EUCPT. This TAST preferably assesses the exercise site prior to the events. During the exercise, the EUCPT – similarly to any intervention teams – is expected to be self-sufficient. TAST is a good tool to support their self-sufficiency.

## Responsibility of the participants

The international participants should be aware that they represent their sending countries and as such, they take part in a diplomatic mission when they act on behalf of the EU CPM in an exercise. It is important to raise awareness – primarily – of the team-leaders that an exercise is of the same responsibility as a real mission, so all the tasks given out by the EUCPT should be fully carried out without consideration. National and international teams need to cooperate to strengthen the basic idea of European solidarity. To promote this, an Ethic Code is suggested to be produced in accordance with the EU guidelines.

# Support & Logistics

- Modules should have a procedure in place to be able to create a checklist of what to take with them for a deployment and how to prepare all the necessary documents that are required for border crossing in a timely manner.
- Modules should be able to provide a list of their needs and a list of things, services the module can offer to LEMA or to other teams.

- There should be a procedure in place to have all the deployed team members and equipment insured when the decision to deploy has been made.
- The modules should be prepared to estimate and keep track of their consumption, and the overall consumption of the BoO, to facilitate logistic planning.
- There should be a procedure in place, how the module create the list of team members, ID numbers, medicaments, equipment, hazardous materials, data of rescue dogs to facilitate border crossing.
- Modules should have a procedure in place for the maintenance of their equipment to be able to deploy 24/7, and they also have to be prepared to make small repairs of their equipment during deployment, therefore they have to have members who can make these small repairs.
- designated team member who makes reports [ops?]
- Modules should have procedures in place to ensure they are prepared to be self-sufficient in the affected country [eg. they know their daily consumption of food, water, fuel, etc.].
- WP modules should have at least two high capacity bladder tanks for social water [eg. one is on a truck, that can be filled and transported to the BoO, where it fills up the other one], so afterwards the truck can be used for other purposes].
- Modules should be prepared to communicate with other modules on site, be prepared to set-up a joint radio network, if possible [sharing of equipment, have a dedicated channel that they use for outside communication].

- All EU CPM member states should be prepared to support the incoming international assistance with special logistical needs (eg. giving permissions to close down roads because pipes have to cross it, so the different local authorities should have procedure in place, and be prepared to work together).
- All EU CPM member states should be able to and have procedures in place to give exemption from road tolls for the vehicles of the incoming or transiting international assistance.

# PROJECT DICTIONARY

<b>BoO</b>	Base of Operation
<b>CPM</b>	Civil Protection Mechanism
<b>DGECHO</b>	EU Directorate General for Humanitarian Aid and Civil Protection
<b>EUCPM</b>	EU Civil Protection Mechanism
<b>EUCPT</b>	European Union Civil Protection Team
<b>EUWA</b>	EUrban Water Aid Project 2016-17
<b>FRB</b>	Flood Rescue Boat
<b>FSX</b>	Full Scale Exercise [same as FSE]
<b>GIS</b>	Geographic Information System
<b>HCP</b>	High Capacity Pumping
<b>HNS</b>	Host Nation Support
<b>ICT</b>	info communication plan
<b>KvLOpS</b>	Kisvarda Local Operating Staff
<b>LEMA</b>	Local Emergency Management Authority
<b>OSOCC</b>	On-Site Operations Coordination Center
<b>PWMC</b>	Public Water Management Company [Serbia]
<b>RDC</b>	Reception and Departure Centre
<b>TAST</b>	Technical Assistance and Support Team
<b>TTX</b>	Table Top Exercise
<b>USAR</b>	Urban Search and Rescue
<b>WASH</b>	Water, Sanitation and Hygiene
<b>WP</b>	Water Purification
<b>WSAR</b>	Water Search and Rescue



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