

## **Regional training on NMHS's Quality Management System (QMS) in providing services to support DRR**

**8-10 July 2013  
EkoPark Kraš, Zagreb, Croatia**



### **WORKSHOP REPORT**

#### **1. Introduction**

In the framework of the IPA/2012/290552 multi-beneficiary project “Building Resilience to Disasters in Western Balkans and Turkey”, a regional training on NMHS's Quality Management System (QMS) in providing services to support DRR was organized on 8-10 July 2013 in Zagreb, Croatia. The overall objective of the project is to reduce vulnerability of IPA beneficiary countries to disasters caused by natural hazards in line with the Hyogo Framework for Action and increase their resilience to climate change. The direct beneficiaries are the national authorities in charge for the disaster risk reduction and disaster risk management and the National Meteorological and

Hydrological Services (NMHSs) of Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia, Kosovo<sup>1</sup>, the former Yugoslav Republic of Macedonia and Turkey.

The IPA/2012/290552 Multi-beneficiary Project: “Building resilience to disasters in Western Balkans and Turkey” has been approved by the European Commission Directorate General for Enlargement for joint implementation by the UNISDR and the WMO, for a period of 24 months (April 2012 – April 2014). The project is part of the EC DG Enlargement Instrument for Pre-accession Assistance (IPA) Programme for the Western Balkans and Turkey.

The overall objective of the project is to reduce vulnerability of IPA beneficiary countries to disasters caused by natural hazards in line with the Hyogo Framework for Action and increase their resilience to climate change.

## **2. Meeting objectives and format**

The project activities are grouped in eight tasks, of which four are implemented under WMO management. The regional training on QMS is part of Task 4 which is aimed at enhancing beneficiaries’ capacities to forecast hazardous meteorological and hydrological phenomena and deliver timely warnings to support DRR. The training introduced the quality management concept and principles in relation to the NMHS’s activities in support of DRR. It provided practical guidance on the implementation of QMS as a practice and organizational culture that is necessary for the sustainable provision of high quality service to the DRM agencies and other DRR stakeholders.

The workshop was hosted by the National Hydrometeorological Service of Croatia (DHMZ) and was participated by 22 experts from the project beneficiaries (participant list is attached as the Annex 2).

## **3. Activities**

The workshop provided general introduction to the QMS related to the services provided by the NMHSs to support DRR. The training was delivered by Dr. Herbert Puempel from WMO and Mr. Gerold Fletzer from Austrocontrol GmbH (agenda is attached as Annex 1).

Development of QMS for NMHSs is important for proving the capability of the service to provide products and services that meet the customer requirements and comply with the regulatory requirements. The ISO standards by the International Organization for Standardization provide a framework for QMS development and implementation. The ISO standards relevant for NMHSs include two types of quality management standards (requirements and guidelines). The standards ISO 9000:2005, Quality management systems – Fundamentals and vocabulary, ISO 9001:2008, Quality management systems – Requirements and ISO 9004:2009, Managing for the sustained success of an organization – A quality management approach are the ones providing the foundation for the QMSs of the NMHSs.

---

<sup>1</sup> \*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence

The concept of PDCA cycle (plan–do–check–act) was introduced as one of the principal management methods for the QMSs for the control and continuously improve the processes and services. In addition overview was given on the eight principles of quality management (deriving from the ISO standards) providing the foundation for the development of a functional and effective QMSs for NMHSs. These eight principles (customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement and factual approach to decision making and supplier relationships) were discussed in detail with the participants.

The training provided the participants with the information related to the steps to be taken for development and implementation of QMS. This included topics related to the management, personnel, training needs, identification of processes, internal and external audits and development of corrective measures. As one of the steps for development of QMS, the participants jointly prepared Gap analysis to define the current status and need related to QMS in certain beneficiaries services. The Gap analysis is a part of the Guide to the Implementation of a Quality Management System for NMHSs (can be accessed through WMO Quality Management Framework website: [http://www.bom.gov.au/wmo/quality\\_management.shtml](http://www.bom.gov.au/wmo/quality_management.shtml)). The analysis was done for the quality management systems, management responsibility and resource management, product realization, measurement analysis and improvement of the beneficiaries services. The gap analysis exercise was aiming to give the beneficiaries an example of tools that can help in identifying the needs related to the QMS development and implementation.

The beneficiaries gave overview of the status of the quality management in their services. Turkey, Serbia and Croatia have implemented QMS systems in their services and shared their experiences of the development of the QMSs.

#### **4. Conclusions, recommendations and the way forward**

- The Gap analysis presented during the training is a useful tool for those beneficiaries who have not implemented the QMS to start the process.
- Participants are encouraged to sign up and utilize the quality management forum for quality managers in the NMHSs around the world) ([http://www.bom.gov.au/wmo/quality\\_management.shtml](http://www.bom.gov.au/wmo/quality_management.shtml)).
- Participants are encouraged to identify their needs for training and support related to the QMS. Possibilities to support further training can be considered (e.g. Austrocontrol GmbH can organize audit related training and do audits (i.e. preparatory audits for ISO certification)).

## PROGRAMME

*Monday, 8 July 2013*

	DAY 1		
THEME 1: GENERAL INTRODUCTION			
Times:	Topics:	Presenters:	Minutes:
0900-1200	<ul style="list-style-type: none"><li>• Opening</li><li>• Fundamental Principles</li><li>• Documentation &amp; Archiving Events</li><li>• Process Orientation</li><li>• Leadership</li></ul>	<ul style="list-style-type: none"><li>• Host, WMO</li><li>• Mag. Gerold Fletzer, Abt. SQ (Safety and Quality) of Austrocontrol GmbH</li></ul>	180 minutes
1200-1400	LUNCH BREAK		120 minutes
THEME 2: CUSTOMER FOCUS			
1400-1700	<ul style="list-style-type: none"><li>• Institutional Requirements (Resources)</li><li>• Infrastructure &amp; Maintenance</li><li>• Competence of Personnel</li><li>• Audits</li></ul>	<ul style="list-style-type: none"><li>• Dr Herbert Puempel Chief, Aeronautical Meteorology Division OiC WMO QMF</li></ul>	180 minutes

*Tuesday, 9 July 2013*

DAY 2			
THEME 3: IMPLEMENTATION			
Times:	Topics:	Presenters:	Minutes:
0900-1200	<ul style="list-style-type: none"> <li>• Presentation of QMS Implementation Guidance</li> <li>• The WMO TT-QMS &amp; Its Resources</li> <li>• Linkages to Other Management Tools (Safety, OH&amp;S)</li> <li>• Learning from Mistakes</li> </ul>	<ul style="list-style-type: none"> <li>• H. Puempel</li> <li>• G.Fletzer</li> </ul>	180 minutes
1200-1400	LUNCH BREAK		120 minutes

<b>THEME 4: GAP ANALYSIS</b>			
1400-1700	<ul style="list-style-type: none"> <li>• Presentation of Hands-on Tool</li> <li>• Individual Application to Individual Countries (Using Facilitators)</li> <li>• Documenting the Status Quo</li> </ul>	<ul style="list-style-type: none"> <li>• H. Puempel</li> <li>• G.Fletzer</li> <li>• D. Ivanov</li> </ul>	180 minutes

***Wednesday, 10 July 2013***

<b>DAY 3</b>			
<b>THEME 5: DEVELOPING A ROAD MAP FOR IMPLEMENTATION (INDIVIDUAL COUNTRIES)</b>			
<b>Times:</b>	<b>Topics:</b>	<b>Presenters:</b>	<b>Minutes:</b>
0900-1200	<ul style="list-style-type: none"> <li>• Country presentations</li> <li>• Selection of a QMS Team</li> <li>• Creating the Necessary Structure</li> <li>• Resource Allocation</li> <li>• GAN TT Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Participants</li> <li>• H. Puempel</li> <li>• G.Fletzer</li> <li>• D. Ivanov</li> </ul>	180 minutes
<b>1200</b>	<b>CLOSURE OF THE MEETING</b>		

## LIST OF PARTICIPANTS

No	IPA Project beneficiary	Title, Name & Position	Contact address
1	Albania	Nasilda Shyti (Ms.)	Institute of Geosciences, Energy, Water and Environment Polytechnic University of Tirana Street: "Don Bosko", No. 60 Tirana, Albania Phone: +355 422 59 601 Email: <a href="mailto:nasildashyti@yahoo.com">nasildashyti@yahoo.com</a>
2	Albania	Irma Berdufi (Ms.) Researcher	Institute of Geosciences, Energy, Water and Environment Polytechnic University Street: "Don Bosko", No. 60 Tirana, Albania Phone: +355 6927 374 45 Email: <a href="mailto:irmaberdufi@gmail.com">irmaberdufi@gmail.com</a>
3	Bosnia and Herzegovina	Almir Bijedic (Mr.) Director	Federal Hydrometeorological Institute Bardaksije 12 71000 Sarajevo Phone: +387 33 276 700 Fax: +387 33 276 701 Email: <a href="mailto:meteobih@bih.net.ba">meteobih@bih.net.ba</a>
4	Bosnia and Herzegovina	Muhamed Muminovic (Mr.) Advisor for International Relations	Federal Hydrometeorological Institute Bardakcije 12 71000 Sarajevo Phone: +387 33 276 700 Fax: +387 33 276 701 Email: <a href="mailto:meteobih@bih.net.ba">meteobih@bih.net.ba</a>
5	Bosnia and Herzegovina	Ivana Veselcic (Ms.) Expert Associate for Civil-Military Cooperation Department for International Cooperation Protection and Rescue Sector	Ministry of Security of B&H Phone: +38733792725 Email: <a href="mailto:ivana.veselcic@msb.gov.ba">ivana.veselcic@msb.gov.ba</a>
6	Bosnia and Herzegovina	Zoran Božović (Mr.) Director	Republic Hydrometeorological Institute, Republic of Srpska Banja Luka Put Banjaluckov Odreda Phone: 378 51 433 521 Email: <a href="mailto:rhmz@teol.net">rhmz@teol.net</a>
7	Bosnia and Herzegovina	Darko Borojević (Mr.) Head of Sector for Hydrology	Republic Hydrometeorological Institute, Republic of Srpska Put Banjaluckov Odreda Email: <a href="mailto:d.borojevic@rhmzrs.com">d.borojevic@rhmzrs.com</a>

8	Croatia	<b>Ivan Cacic (M.Sc.)</b> Director, PR of Croatia with the WMO and President RA VI	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone: +385 1 45 65 693 Fax: +385 1 48 51 901 Email: <a href="mailto:cacic@cirus.dhz.hr">cacic@cirus.dhz.hr</a>
9	Croatia	<b>Kreso Pandzic (Dr.)</b> Head of Division	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone:+ 385 1 45 65 684 Fax: +385 1 48 51 901 Email: <a href="mailto:pandzic@cirus.dhz.hr">pandzic@cirus.dhz.hr</a>
10	Croatia	<b>Borivoj Terek (Mr.)</b> Head of Division	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone:+ 385 1 48 82 663 Fax: +385 1 48 51 520 Email: <a href="mailto:terek@cirus.dhz.hr">terek@cirus.dhz.hr</a>
11	Croatia	<b>Zvonko Zibrat (Mr.)</b> Head of Department	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone:+ 385 1 45 65 723 Fax: +385 1 48 51 901 Email: <a href="mailto:zibrat@cirus.dhz.hr">zibrat@cirus.dhz.hr</a>
12	Croatia	<b>Krunoslav Premec (Mr.)</b> Head of Department	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone:+ 385 1 45 65 607 Fax: +385 1 48 51 901 Email: <a href="mailto:premec@cirus.dhz.hr">premec@cirus.dhz.hr</a>
13	Croatia	<b>Luksa Kraljevic (Mr.)</b> Head of Department	Meteorological and Hydrological Service Gric 3, HR-10000 Zagreb Phone:+ 385 1 45 65 685 Fax: +385 1 48 51 901 Email: <a href="mailto:kraljevic@cirus.dhz.hr">kraljevic@cirus.dhz.hr</a>
14	Montenegro	<b>Luka Mitrovic (Mr.)</b> Director	Institute of Hydrometeorology and Seismology IV Proleterske 19 81000 Podgorica Phone: +382 20 655 183 Fax: +382 20 655 197 Email: <a href="mailto:luka.mitrovic@meteo.co.me">luka.mitrovic@meteo.co.me</a>
15	Montenegro	<b>Vera Andrijasevic (Ms.)</b>	Institute of Hydrometeorology and Seismology IV Proleterske 19 81000 Podgorica Phone: +38220655419 Email: <a href="mailto:vera.andrijasevic@meteo.co.me">vera.andrijasevic@meteo.co.me</a>
16	Serbia	<b>Milovan Radmanovac (Mr.)</b> Head of regional centre for nowcasting and early warnings	Republic Hydrometeorological Service of Serbia Regional centre for forecasting and early warnings

			Tel: +381 21 6432-970 Fax: +381 11 13050847 Email: <a href="mailto:milovan.radmanovac@hidmet.gov.rs">milovan.radmanovac@hidmet.gov.rs</a>
17		<b>Mr. Milan Dacic (Mr.)</b>	Republic Hydrometeorological Service of Serbia Tel: +381 1112066936 Email: <a href="mailto:milan.dacic@hidmet.gov.rs">milan.dacic@hidmet.gov.rs</a>
18	<b>Turkey</b>	<b>Aslı İde Barsbay (Ms.)</b> Assistant Expert	Disaster and Emergency Management Presidency Planning and Mitigation - Department Natural Disaster Mitigation WG Phone: +90 312 2582323/1741 Email: <a href="mailto:asli.ide@afad.gov.tr">asli.ide@afad.gov.tr</a>
19	<b>Turkey</b>	<b>Recep Sarıtaş (Mr.)</b> Assistant Expert	Turkish State Meteorological Service P.O:B 401 06120 Kalaba – Ankara Turkey Phone: +90 312 302 21 90 Mob: +90 505 624 05 05 Email: <a href="mailto:rsaritas@mgm.gov.tr">rsaritas@mgm.gov.tr</a>
20	<b>Turkey</b>	<b>Altun Muhammet Ali (Mr.)</b> Regional Director	Turkish State Meteorological Service Meteorological 13, Regional Directory Elaziğ, Turkey Tel: +90 424 224 35 34 Email: <a href="mailto:malialtun@mgm.gov.tr">malialtun@mgm.gov.tr</a>
21	<b>the former Yugoslav Republic of Macedonia</b>	<b>Vlado Spiridonov (Dr.)</b> International and State Advisor	Hydrometeorological Service ul. Skupi 28, P.O.Box 218, Skopje 1000 Phone: +389 2 309 7 105 Fax: + 389 2 309 7 118 Mob: +389 75 367 680 Email: <a href="mailto:vspiridonov@meteo.gov.mk">vspiridonov@meteo.gov.mk</a>
22	<b>the former Yugoslav Republic of Macedonia</b>	<b>Zoran Dimitrovski (Mr.)</b> State Counselor	Hydrometeorological Service ul. Skupi 28, P.O.Box 218, Skopje 1000 Phone: +389 2 309 7 105/ 103 Fax: + 389 2 309 7 118 Email: <a href="mailto:zdimitrovski@meteo.gov.mk">zdimitrovski@meteo.gov.mk</a>



	<b>Organization</b>	<b>Name &amp; Position</b>	<b>Contact address</b>
<b>23</b>	<b>WMO Secretariat</b>	<b>Dimitar Ivanov (Mr.)</b> Chief	Regional Office for Europe Avenue de la Paix, 7 bis Geneva 2, Switzerland Phone: +41 22 730 8143 Fax: +41 22 730 8047 Email: <a href="mailto:divanov@wmo.int">divanov@wmo.int</a>
<b>24</b>	<b>WMO Secretariat</b>	<b>Sari Lappi (Ms.)</b> Project Coordinator in the sub-region	WMO/FMI Project Office in Skopje bul. Goce Delcev b.b. 1000 Skopje Phone: +389 78 605 224, +358 50 919 5463 Email: <a href="mailto:sari.Lappi@fmi.fi">sari.Lappi@fmi.fi</a>
<b>25</b>	<b>WMO Secretariat</b>	<b>Herbert Puempel (Dr.)</b> Chief	Aeronautical Meteorology Division Avenue de la Paix, 7 bis Geneva 2, Switzerland Tel: +41-22-7308283 Fax: +41-22-7308128 Email: <a href="mailto:hpuempel@wmo.int">hpuempel@wmo.int</a>
<b>26</b>	<b>Austro Control GmbH</b>	<b>Gerold Fletzer (Mr.)</b>	Air Navigation Services Safety- and Quality management / Audit management Meteorological Department / Vienna Airport Austro Control GmbH Österreichische Gesellschaft für Zivilluftfahrt Schnirchgasse 11 A-1030 Wien Phone: +43 5 1703 1045 Mob: +43 664 8321134 Email: <a href="mailto:Gerold.Fletzer@austrocontrol.at">Gerold.Fletzer@austrocontrol.at</a>