



2nd River Basin Management Planning Workshop

Batumi, Georgia

16-17 June, 2014

Venue: Conference Hall
Hotel Batumi Sheraton
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Meeting Report

The 2nd River Basin Management Planning (RBMP) workshop was held on June 16-17 in Batumi, Georgia. The main purpose of the meeting was to discuss with the beneficiaries and project stakeholders the progress of the RBMP Phase-1 activities and further steps for elaboration of the draft basin management plans.

Participants:

Beneficiary institutions

ARMENIA

- Mr Ashot Abgaryan, Water Resources Management Agency, Ministry of Nature Protection of Armenia, Head of Akhuryan Water Basin Management Authority
- Mr Artur Avagyan, Water Resources Management Agency, Ministry of Nature Protection of Armenia Head of Hrazdan Water Basin Management Authority

AZERBAIJAN

- Ms Matanat Avazova, Deputy Director of National Monitoring Department, Ministry of Ecology and Natural Resources
- Mr Mutalim Abdulhasanov, Head of Environmental Policy Division, Ministry of Ecology and Natural Resources of Azerbaijan, RSC member

BELARUS

- Ms Larisa Sinila, Department of Regulation of Pressure on Atmospheric Air and Water Resources, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus
- Ms Victoria Voronova, Department of Regulation of Pressure on Atmospheric Air and Water Resources, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, Secretary of NCC in Belarus

GEORGIA

- Ms Mariam Makarova, Head of Water Resources Management Service, Ministry of Environment and Natural Resources Protection, RSC member
- Ms Marine Arabidze, Head of Environmental Pollution Monitoring Department, National Environmental Agency, Ministry of Environment and Natural Resources Protection

- Mr Vakhtang Tsuladze, Head of Directorate of Environment and Natural Resources of Adjara Autonomous Republic (AR)
- Mr Nodar Koncelidze, Directorate for Environment and Natural Resources of Adjara AR, Advisor to the Head of Directorate
- Mr Archil Guchmanidze, Deputy Head of Fisheries and Black Sea Monitoring Service, the Black Sea Monitoring Division of the National Environmental Agency
- Ms Marine Mgeladze, Biologist, the Black Sea Monitoring Division of the National Environmental Agency
- Ms Irine Baramidze, Head of Environmental Laboratory, the Black Sea Monitoring Division of the National Environmental Agency

MOLDOVA

- Mr Andrei Ursache, Head of Water, Soil and Subsoil Department, Ministry of Environment of Moldova
- Ms Natalia Zgircu, Head of Laboratory, State Hydrometeorological Service

UKRAINE

- Ms Tatiana Kuznietsova, Head of Hydrobiological Laboratory, Central Geophysical Observatory of the State Meteorological Service
- Mr Kyryl Sereda, Coordinator of the Prut and Dnieper River Basin Management Planning pilot projects
- Mr Arkadii Sakevych, Head of the Dnieper BUVR, State Agency of Water Resources of Ukraine

Representatives of the RBMP Contractor Organizations

- Ms Anna Tsvietkova, UNENGO "MAMA-86", Water Programs Coordinator, Ukraine
- Ms Ana Jeleapov, Institute of Ecology and Geography, Hydrology Engineer, Moldova
- Mr Aliakandr Pakhomau, Central Research Institute of the Complex use Water Resources, Head of Water Monitoring and Cadastre Sector, Belarus
- Ms Eliso Barnovi, Consortium of REC Caucasus and Greentech LTD, Water Management Expert, Georgia
- Ms Lilith Harutyunyan, Resource Management LLC, Senior Water Management Expert, Armenia
- Mr Danny Haezebrouck, Resource Management LLC, Director, Armenia
- Mr Vafadar Ismaylov, SADIG Consulting, GIS Specialist, Azerbaijan
- Mr Hamid Suleymanov, SADIG Consulting, Water Reservoir Engineer, Azerbaijan

Human Dynamics Consortium

- Ms Ivelina Dilovska, Project Director, Hulla & Co Human Dynamics KG
- Mr Timothy Turner, KE1 - Project Team Leader
- Mr Zurab Jincharadze, KE2 - Deputy Team Leader/River Basin Management Expert
- Mr Bernardas Paukstys, KE5 - Groundwater Expert
- Ms Birgit Vogel, Senior STE - RBMP Expert
- Mr Paul Buijs, Senior STE - Chemistry Expert
- Mr Peter Rončák, Senior STE - Monitoring Expert
- Mr Vahagn Tonoyan, CWME - Armenia
- Mr Rafiq Verdyiev, CWME - Azerbaijan
- Mr Aliaksandr Stankevich, CWME - Belarus
- Mr Victor Bujac, CWME - Moldova
- Ms Nataliia Zakorchevna, RBME - Ukraine
- Ms Ketii Metreveli, EPIRB Office Manager - Georgia

Summary of Discussions

DAY 1: 16 June 2014

The meeting was opened by **Mr Vakhtang Tsuladze**, Head of Directorate of Environment and Natural Resources of Adjara Autonomous Republic. Mr Tsuladze, who welcomed the representatives of beneficiary institutions, project team and other workshop participants. He highlighted the importance of the workshop



and high expectations of the host institution on the workshop and project outcomes, in general. Opening remarks on behalf of the EPIRB Project were made by **Mr Timothy Turner**, the Project Team Leader and **Ms Ivelina Dilovska**, the Project Director from Human Dynamics Consortium. After accepting the draft Agenda and roundtable introduction of the workshop participants, the meeting moved to the specific presentations.

Workshop Objectives and Procedures, Mr Zurab Jincharadze, Deputy Team Leader

The workshop objectives, procedures and expected outcomes for the further RBMP development were outlined in details as follows:

- present the Pressure-Impact Analysis in the pilot basins as a basis for the upcoming Risk Assessment exercise to be implemented by the EPIRB Project national teams: focusing on the outline of (i) applied overall approach including criteria and (ii) presentation of results
- building on the above item, provide guidance to the RBMP contractors and the beneficiaries on the Risk Assessment approach and its criteria, which should be coherent and implemented in all EPIRB Project river basins
- discuss the implementation of risk assessment criteria during the Joint Field Survey II
- discuss the design of surveillance monitoring programmes and networks in the pilot basins;
- discuss the design of operational monitoring programmes and networks also establishing a link to the risk assessment results
- discuss the steps for the development of river basin monitoring (design of programmes/networks and plans) during 2014 and regarding the future biological and ecological status classification schemes

Contents and sequence of break out group sessions, based on the pilot basins, and expected outcomes of these discussions were also outlined during this presentation.

Guidance Document on the Pressure-Impact Analysis/Risk Assessment for the EPIRB Pilot Basins, Ms Birgit Vogel, Senior RBMP Expert

Ms Vogel overviewed the basic principles of EU/WFD Pressure-Impact Analysis and Risk Assessment (PI&RA). She paid specific attention to the customised PI&RA Guidance Document for the EPIRB pilot basins and outlined role of hydromorphology and physico-chemical elements for Pressure-Impact and Risk Assessment. The subject of her presentation also included WFD RBMP planning process, comprising of basic scheme of the proposed approach; detailed steps of the PI&RA process and allocation of physico-chemical; and hydromorphological quality elements according to three Risk Categories: i) water bodies **at risk** to fail the EU WFD environmental objectives; ii) water bodies **possibly at risk**; and iii) water bodies **not at risk**. She also highlighted role of the PI&RA as a pre-requisite to design monitoring programmes and networks.

Testing of the Pressure-Impact Analysis /Risk Assessment Approach in the Khrami Pilot Sub-basin of Georgia, Mr Peter Rončák, Senior Monitoring Expert

Mr Rončák presented results of the first testing of the proposed PI&RA methodology that was conducted in the Mashavera catchment of the Khrami pilot sub-basin of Georgia. The Mashavera River (66 km in length and with basin area of 1390 km²) is a principal tributary of the Khrami, and is sub-divided on three elevation zones with different vegetation and flow types. The team assessed the three PI&RA risk categories for each elevation/flow type zones based on the existing and collected field data. As a conclusion the team found the PI&RA guidance document very useful and recommended using the proposed methodology to make first risk assessment, particularly when the relevant data is not available.

Pressure and Impact Analysis in the Pilot Basins: concise overview presentations by national teams

This session was dedicated to the country/pilot basin presentations on the Pressure and Impact Analysis in the Pilot Basins. The focus was made on:

- basic features of pilot basins
- approach used for analysis of Pressures and Impacts, including description of DPSIR (Driver-Pressure-State-Impact-Responses) steps for each case
- criteria applied for Pressure-Impact Analysis: biological, chemical and hydromorphological status assessments
- results of PI Analysis
- existing challenges to conduct a proper Pressure-Impact and following Risk Assessment.

Break-out Session on Testing the Risk Assessment Criteria

Ms Birgit Vogel presented the **Criteria for Pressure-Impact Analysis and Risk Assessment**. She introduced basic principles of the approach to analyse water bodies at risk that fail to fulfil environmental objectives through a i) desk study and ii) supplementary field surveys. She then overviewed possible types of pressures and 'one-out/all-out' principle through assessing the 'at risk', 'possibly at risk' and 'not at risk' categories of status. Ms Vogel gave examples of using such criteria in different countries and defined the following risks for Hydromorphological and Physical-Chemical Quality Elements:

Hydromorphology

- River and Habitat Continuity Interruption
- Water Abstraction – Insufficient Ecological Flow
- Impoundment / Reservoir Effect / Backwater
- Hydropeaking
- River Morphology

General Physico-Chemistry

- Risk of an identified pressure of Untreated Wastewater
- Likelihood of Diffuse Pollution from Agriculture
- Likelihood of Diffuse Pollution from Animal Live Stock
- Total Share of Wastewater in River

Finally, the following questions were raised for discussion in the break-out groups to test the Risk Assessment Approach:

1. Where are you standing at the moment with your P-I Analysis/Risk Assessment?
2. What are the key challenges you can identify to implement the Risk Assessment?
3. What improvements would you like to see in the Risk Assessment Guidance Document?
4. How will you move on technically with your risk assessment? List the KEY steps.
5. How to relate significant pressures/risks to entire water body lengths?

The break-out group discussion results on testing risk assessment criteria were reported to the plenary session by each country team, particularly paying attention to the i) shortcomings and ways to improve existing Pressure-Impact Analysis and ii) identifying key challenges of the upcoming risk assessment. At the end of the session Team Leader and Senior RBMP Expert summarised the Session and the Day-1 results.

DAY 2: 17 June 2014

The Day-2 of the workshop was dedicated to the Design of Monitoring Programmes and Guidance for the Data Gap Filling in the pilot basins. Break up groups by national teams discussed design and implementation of surface water Operational and Surveillance Monitoring Programmes in the Pilot Basins.



Monitoring Programme Design and Gap Filling: Overview, Mr Tim Turner, Team Leader

Mr Turner outlined the project plans for developing monitoring programmes in the pilot basins. These programs shall combine both surveillance and operational monitoring for Ecological and Chemical Status of surface waters and Chemical and Water Quantity status for groundwater aquifers. Draft design should be included in the RBMPs and will fully comply with the EU WFD principles. However, the plans will be caveated based on the results of Monitoring Strategies/Road-Maps to be developed by the project at the national level. The National Strategies will be available in September/October 2014 and will reflect progress envisaged during the RBMP planning periods. The Gap Filling JFSs are scheduled for October 2014.

Guidelines for GW Monitoring Programmes in the Caucasus Countries, Mr Bernardas Paukstys, KE5 - Groundwater Expert

In his presentation Mr Paukstys outlined WFD Common Implementation Strategy (CIS) Guidance Documents and WFD requirements for establishing groundwater monitoring networks for i) Quantitative monitoring; ii) Surveillance monitoring; iii) Operational monitoring; iv) Monitoring of drinking water in protected areas (DWPA); and v) Prevent and limit monitoring. He overviewed recommendations for the three Caucasus countries to develop threshold values for:

Natural and human induced components: arsenic, cadmium, lead, mercury, ammonium, chloride, sulphate;

Man-made synthetic substances: trichlorethylene, tetrachlorethylene;

Parameters indicative of saline or other intrusions: specific conductivity

For the Countries sharing bodies of groundwater aquifers it was recommended to: i) coordinate their activities in respect of monitoring programmes, ii) set the threshold values and iii) identify relevant hazardous substances. Other general recommendations included the following:

- Install (re-establish) proper monitoring wells. If wells are not available – select natural springs and exploitation wells for sampling;
- Sample surveillance monitoring stations at least 2 times/year;
- Rotate sampling stations every year to include more stations;
- Purchase GW level measurement equipment and move it from site to site or hire observers for water level measurements;
- Operational groundwater monitoring can be done by water supply companies and polluting industries. Changes in legislation are needed

WFD-compliant Principles of Surveillance, Operational and Investigative Monitoring, Mr Paul Buijs, Senior Chemistry Expert

Mr Buijs outlined main features, objectives, Quality Elements and required frequencies (timeline) of three types of monitoring for Surface Waters recommended by the WFD principles: i) Surveillance monitoring, ii) Operational monitoring; and iii) Investigative monitoring. Further, Mr Buijs overviewed the Chemical Status monitoring and gave examples principles to achieve 'good chemical status.' He described Environmental Quality Standards (EQS) and required 'Priority Substances' to be monitored in terms of categorizing them for achieving, or failing for 'good chemical status.'

Design of Surface Water Operational and Surveillance Monitoring Programmes in the Pilot Basins – Ecological Status, Mr Peter Rončák, Senior Monitoring Expert

Mr Peter Rončák overviewed the steps for establishing Operational and Surveillance monitoring networks for Ecological Status monitoring (biological, hydromorphological and physical-chemical parameters). He described different required subnets of the Surveillance and Operations Monitoring, their aim, possible locations and quality elements (QEs) to be monitored. For Surveillance Monitoring (SM) the following subnets are considered:

- SM Subnet 1 - 'Representative' Subnet for Status
- SM Subnet 2 - Long-Term Trend Monitoring
- SM Subnet 3 - Supplementing and Validating the Risk Assessments

The following Quality Elements are required for the Surveillance Monitoring Programme:

- *Biological Elements:*
 - Macroinvertebrates
 - Macrophytes and Phytobenthos
 - Fish
 - Phytoplankton (where the residence time is judged to be sufficiently long)
- *General Physico-chemical Elements:*
 - Thermal conditions - water temperature
 - oxygenation conditions - dissolved oxygen, oxygen saturation, BOD5, COD, total suspended solids
 - nutrient conditions - NO₃, NH₄, PO₄ (orthophosphates)
 - Salinity, Conductivity, Cl, SO₄, total dissolved solids (total mineralization),
 - acidification status – pH,
- *Priority Substances and Other Pollutants listed in Annex VII*
- *Hydromorphological Elements:*
 - Hydrometric Programme
 - Hydromorphology and Continuity

The following subnets are required for the Operational Monitoring (OM) Programme:

- OM Subnet 1 - Monitoring of the Effectiveness of Point Source Measures
- OM Subnet 2 - Monitoring of Effectiveness of Diffuse Pollution Measures
- OM Subnet 3 - Monitoring of Effectiveness of Measures to reduce Hydromorphological pressures

The Quality Elements and Determinants include:

- *Biological Elements:*
 - Those parameters of the biological quality element, or elements (Macroinvertebrates, Phytobenthos, Macrophytes and Fish) that are most sensitive to the pressures to which the water bodies are subject
- *Core Physico-chemical Elements*
 - Those parameters that are indicative of the pressures to which the body or bodies are subject of monitoring
- *Priority Substances and Other Pollutants listed in Annex VII*
- *Hydromorphological Elements:*
 - Hydrometric Programme
 - Hydromorphology

The following group discussion by national teams focussed on the design and implementation of the monitoring programmes in the Pilot Basins. After the session the teams reported back to the plenary with concrete proposals. However, these proposals will need further elaboration after the results of upcoming Joint Field Surveys, and Gap Filling exercises (July- October) are available.



The last session and group presentation on the **Guidance for the Data Gap Filling towards a complete risk assessment and monitoring programme design** focused to three aspects of the monitoring:

- i) **Ecological status: biological and physical-chemical parameters**, by Mr Peter Rončák,
- ii) **Chemical status**, by Mr Paul Buijs
- iii) **Role of Hydromorphology and Physico-Chemical Elements**, by Ms Birgit Vogel

Presenters focused on the Data Gap Filling methodology and techniques when monitoring information and other relevant data is limited, or missing. It was advised that specific criteria for pressure types shall be used for risk assessments for all three Quality Elements. Finally, it was highlighted that filling the gaps will support:

- finalisation of risk assessments
- final delineation of water bodies
- design of monitoring networks and programmes
- propose potential sites based on risk assessment
- focus on water bodies at risk and possible at risk

Meeting summary and closure

Results of the workshop and conclusions were summarised by the project Team Leader TL and DTL. It was mentioned that the upcoming JFSs and Gap Filling exercises will considerably increase overall quality and confidence of the Risk Assessments studies, first drafts of which the national teams will deliver in July-August.

It was agreed that the 3rd RBMP workshop on Setting Environmental Objectives and Identification of National and Basin Wide Programme of Measures will be conducted back to back to the Regional Steering Committee meeting in early October in Minsk, Belarus.

Mr Turner closed the meeting, thanking the beneficiaries, RBMP contractors and the Project Experts and staff for their efforts and wishing them success in their future work.