Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

Report on the Workshop on Water Framework Directive Program of Measures in Drina River Basin

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ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 2.3

REPORT ON THE WORKSHOP ON WATER FRAMEWORK DIRECTIVE PROGRAM OF MEASURES IN DRINA RIVER BASIN

Tirana, 15-17 September 2015

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I. Contents

LIST OF ABREVIATIONS	
Acquis	Acquis communautaire - Community legislation
B&A	Bosnia and Herzegovina
BAP	Best Agricultural Practice
BAT	Best Available Techniques
BEP	Best Environmental Practices
BLS	Baseline Scenario
BSC	Black Sea Commission
BWD	Bathing Water Directive
CAP	Common Agricultural Policy
CIS	Common Implementation Strategy
DPSIR	Driver, Pressure, State, Impact and Response framework for environmental analysis
DRB	Danube River Basin
DRBD	Danube River Basin District
DRBMP	Danube River Basin Management Plan
Drina RB	Drina River Basin
DRPC	Danube River Protection Convention
EC	European Commission
ECRAN	Environment and Climate Regional Accession Network Project
EEC	European Economic Community
EPER	European Pollutant Emission Register
EPRTR	European Pollutant Release and Transfer Register
EQS	Environmental Quality Standard
EQSD	Directive on Environmental Quality Standards
ERC	Environmental and Resource Cost
FASRB	Framework Agreement on the Sava River Basin
FBiH	Federation of Bosnia and Herzegovina
GES	Good Ecological Status
HMWB	Heavily Modified Water Body
HRC	Danube RBD in Croatia
HRJ	Adriatic RBD in Croatia
ICPBS	International Commission for the Protection of the Black Sea
ICPDR	International Commission for the Protection of the Danube River
IED	Industrial Emissions Directive
IMPRESS	Impact pressures assessment guidance
IPPC	Integrated Pollution Prevention and Control
KTM	Key Type of Measures
MS	Member State
MSDF	Marine Strategy Framework Directive

LIST OF ABREVIATIONS	
ND	Nitrates Directive
NVZ	Nutrient Vulnerable Zones
PoM	Programme of Measures
PRTR	Pollutant Release and Transfer Register
PS	Priority Substances
RB	River Basin
RBD	River Basin District
RBMP	River Basin Management Plan
RBSP	River Basin Specific Pollutants
RefCond	Reference Conditions
RR	Roof Report
RS	Republic of Srpska
SAA	Stabilisation and Association Agreement
SAP	Stabilization and Association process
SWMI	Significant Water Management Issue
TAIEX	Technical Assistance and Information Exchange Office
UWWT	Urban Waste Water Treatment

Glossary of terms and definitions

***Best available techniques*:** The latest stage of development (state of the art) of processes, facilities or methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste

***Best environmental practice*:** The application of the most appropriate combination of environmental control measures and strategies

***Common Agricultural Policy (CAP)*:** providing direct subsidies to farmers and land managers. A small part of these funds support rural development actions that mainly relate to agricultural activities, as well as forestry and environmental improvements on farmland.

***Common Implementation Strategy* (CIS)**: This strategy was agreed by the European Commission, Member States and Norway in 2001. The aim of the strategy is to provide support in the implementation of the Water Framework Directive and its daughter directives, by developing a common understanding and guidance on key elements of the Directives.

***Competent Authority*:** An authority or authorities identified under Article 3(2) or 3(3) of the Water Framework Directive. The Competent Authority will be responsible for the application of the rules of the Directive within each river basin district lying within its territory.

***Cost effective*:** In the context of the Water Framework Directive, it describes the least cost option for meeting an objective. For example, where there are a number of potential actions that could be implemented to achieve Good Ecological Status for a water body, Cost Effectiveness Analysis is used to compare each of the options and identify which option delivers the objective for the least overall cost.

***Characterisation* (of water bodies)**: A two-stage assessment of water bodies under the Water Framework Directive. Stage 1 identifies water bodies and describes their natural characteristics. Stage 2 assesses the pressures and impacts from human activities on the water environment. The assessment identifies those water bodies that are at risk of not achieving the environmental objectives set out in the Water Framework Directive. The results are used to prioritize both environmental monitoring and further investigations to identify those water bodies where improvement action is required

***Catchment*:** The area from which precipitation contributes to the flow from a borehole spring, river or lake. For rivers and lakes this includes tributaries and the areas they drain.

***Chemical Status* (surface waters)**: The classification status for the surface water body. This is assessed by compliance with the environmental standards for chemicals that are listed in the Environmental Quality Standards Directive 2008/105/EC, which include priority substances, priority hazardous substances and eight other pollutants carried over from the Dangerous Substance Daughter Directives. Chemical status is recorded as good or fails. The chemical status classification for the water body, and the confidence in this (high or low), is determined by the worst test result.

***Classification*:** Method for distinguishing the environmental condition or "status" of water bodies and putting them into one category or another.

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***Coastal water*:** surface water on the landward side of a line every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters.

***Current Chemical Quality*:** A measure of the present chemical condition of a water body (also called Chemical Status). There are two classes of chemical status of a water body (good or fail).

Current Ecological Quality: A measure of the present ecological condition of a surface water body (also called Ecological Status). There are five classes of ecological status of surface waters (high, good, moderate, poor or bad)

***Driver, Pressure, State, Impact and Response framework for environmental analysis* (DPSIR):** Driver: an anthropogenic activity that may have an environmental effect (e.g. agriculture, industry); Pressure: the direct effect of the driver (for example, an effect that causes a change in flow or a change in the water chemistry; State: the condition of the water body resulting from both natural and anthropogenic factors (i.e. physical, chemical and biological characteristics); Impact: the environmental effect of the pressure (e.g. fish killed, ecosystem modified); Response: the measures taken to improve the state of the water body (e.g. restricting abstraction, limiting point source discharges, developing best practice guidance for agriculture)

***Diffuse sources*:** Sources of pollution that are not discrete and extend over a wide geographical area

Discharge: Intentional transfer of substances into water

Disproportionate cost: The determination of disproportionate cost requires a decision making procedure that assesses whether the benefits of meeting good status in a water body are outweighed by the costs.

***Ecological potential*:** The status of a heavily modified or artificial water body measured against the maximum ecological quality it could achieve given the constraints imposed upon it by those heavily modified or artificial characteristics necessary for its use. There are five ecological potential classes for Heavily Modified Water Bodies/Artificial Water Bodies (maximum, good, moderate, poor and bad).

***Ecological status*:** Ecological status applies to surface water bodies and is based on the following quality elements: biological quality, general chemical and physico-chemical quality, water quality with respect to specific pollutants (synthetic and non synthetic), and hydromorphological quality. There are five classes of ecological status (high, good, moderate, poor or bad). Ecological status and chemical status together define the overall surface water status of a water body.

Ecosystem: A complex set of relationships among the living resources, habitats, and residents of an area. It includes trees, plants, animals, fish, birds, microorganisms, water, soil and people. The community of organisms and their physical environment interact as an ecological unit.

***Environmental impact assessment* (EIA):** Procedure to identify the potential impacts of a project or activity on the environment and to develop mitigation measures to reduce these to acceptable levels.

Ecosystem approach: The comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of the marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity

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Eutrophication: It means the enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned

***Exemptions*:** The environmental objectives of the Water Framework Directive are set out in Article 4. These include the general objective of aiming to achieve good status in all water bodies by 2015 and the principle of preventing any further deterioration in status. There are also a number of exemptions to the general objectives that allow for less stringent objectives, extension of deadline beyond 2015 or the implementation of new projects. Common to all these exemptions are strict conditions that must be met and a justification must be included in the river basin management plan. The conditions and process in which the exemptions can be applied are set out in Article 4.4, 4.5, 4.6 and 4.7.

Groundwater: all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

***Good chemical status* (surface waters):** Means those concentrations of chemicals in the water body do not exceed the environmental standards specified in the Environmental Quality Standards Directive 2008/105/EC. These chemicals include Priority Substances, Priority Hazardous Substances and eight other pollutants carried over from the Dangerous Substance Daughter Directives.

***Good chemical status* (groundwater)**: See chemical status (groundwater). Means the concentrations of pollutants in the groundwater body do not exceed the criteria set out in Article 3 of the Groundwater Daughter Directive (2006/118/EC).

***Good ecological potential*:** Those surface waters which are identified as Heavily Modified Water Bodies and Artificial Water Bodies must achieve 'good ecological potential' (good potential is a recognition that changes to morphology may make good ecological status very difficult to meet). In the first cycle of river basin planning good potential may be defined in relation to the mitigation measures required to achieve it.

***Good chemical status*: (surface waters)**: Means that concentration of chemicals in the water body do not exceed the environmental standards specified in the Environmental Quality Standards Directive 2008/105/EC. These chemicals include Priority Substances, Priority Hazardous Substances and eight other pollutants carried over from the Dangerous Substance Daughter Directives.

***Good ecological status*:** The objective for a surface water body to have biological, structural and chemical characteristics similar to those expected under nearly undisturbed conditions.

***Good status*:** Is a term meaning the status achieved by a surface water body when both the ecological status and its chemical status are at least good or, for groundwater, when both its quantitative status and chemical status are at good status.

***Groundwater*:** All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

***Hazardous substances*:** Substances or groups of substances which are toxic, persistent and liable to bioaccumulate, and other substances or groups of substances which give rise to an equivalent level of concern.

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Heavily Modified Water Body: A surface water body that does not achieve good ecological status because of substantial changes to its physical character resulting from physical alterations caused by human use, and which has been designated, in accordance with criteria specified in the Water Framework Directive, as 'heavily modified'.

Inland waters**:** all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.

Measure: This term is used in the Water Framework Directive and domestic legislation. It means an action which will be taken on the ground to help achieve Water Framework Directive objectives.

Mechanisms: The policy, legal and financial tools which are used to bring about actions (measures). Mechanisms include for example: legislation, economic instruments; codes of good practice; negotiated agreements; promotion of water efficiency; educational projects; research; development and demonstration projects.

Monitoring points: A location within a water body where different environmental parameters are measured, including biology, hydromorphology, physico-chemical, priority and priority-hazardous substances for surface waters.

Objective **(surface waters)**: Three different status objectives for each water body. These are:

- Overall status objective;
- Ecological status or potential objective; and
- Chemical status objective.

These are always accompanied by a date by when the objective will be achieved.

Ecological status (or potential) objectives will be derived from the predicted outcomes for the biological elements and physico-chemical elements, plus any reasons for not achieving good ecological status (or potential) by 2015.

Chemical status objectives will be derived from the predicted outcomes for the chemical elements plus any reasons for not achieving good chemical status by 2015.

Overall status objectives will be derived from the ecological status and chemical status objectives.

Point source: Identifiable and localized point of emissions to air and discharges to water

Pressures**:** Human activities such as abstraction, effluent discharges or engineering works that have the potential to have adverse effects on the water environment.

Priority substances**:** A pollutant or group of pollutants, presenting a significant risk to or via the aquatic (surface water) environment that has been identified at Community level under Article 16 of the Water Framework Directive. They include 'priority hazardous substances'.

Pollution**:** The introduction by man, directly or indirectly, of substances or energy into the maritime area which results, or is likely to result, in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea

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Population equivalent is a measure of pollution representing the average organic biodegradable load per person per day: it is defined in Directive 91/271/EEC as the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day.

Programme of Measures: A Programme of Measures, as used in the Water Framework Directive, is a group of actions designed to improve the environment in a river basin district and meet the objectives of the Directive.

Reference conditions**:** The benchmark against which the effects on surface water ecosystems of human activities can be measured and reported in the relevant classification scheme. For waters not designated as heavily modified or artificial, the reference conditions are synonymous with the high ecological status class. For waters designated as heavily modified or artificial, they are synonymous with the maximum ecological potential class.

Risk: The likelihood of an outcome (usually negative) to a water body or the environment, or the potential impact of a pressure on a water body.

Risk assessment: The analysis that predicts the likelihood that a water body is at significant risk of failing to achieve one or more of the Water Framework Directive objectives.

Risk category**:** The numerical or descriptive category assigned to water bodies that have been risk assessed, in order to make the risk-based prioritization of water bodies for action under the Water Framework Directive more manageable.

River basin: A river basin is the area of land from which all surface run-off and spring water flows through a sequence of streams, lakes and rivers into the sea at a single river mouth, estuary or delta. It comprises one or more individual catchments.

River basin district**:** the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.

River Basin Management**:** The management and associated planning process that underpins implementation and operation of the Water Framework Directive. It is both an overarching process in terms of existing processes and also defines new sub-processes such as those for hydromorphology. The river basin management plans are plans for river basin management.

River Basin Management Plan**:** For each River Basin District, the Water Framework Directive requires a River Basin Management Plan to be published. These are plans that set out the environmental objectives for all the water bodies within the River Basin District and how they will be achieved. The plans will be based upon a detailed analysis of the pressures on the water bodies and an assessment of their impacts. The plans must be reviewed and updated every six years.

Surface water**:** inland waters, except groundwater, transitional waters and coastal waters, except in respect of chemical status, for which territorial waters are also included.

Significant Water Management Issues**:** This is a report on each River Basin District that highlights significant water management issues in that River Basin District which will need to be addressed to achieve environmental objectives under the Water Framework Directive.

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***Transitional waters*:** bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.

Urban waste water means waste water from residential settlements and services which originates predominantly from the human metabolism and from household activities (domestic waste water) or a mixture of domestic waste water with waste water which is discharged from premises used for carrying on any trade or industry (industrial waste water) and/or run-off rain water;

***Water body*:** A manageable unit of surface water, being the whole (or part) of a stream, river or canal, lake or reservoir, transitional water (estuary) or stretch of coastal water. A 'body of groundwater' is a distinct volume of groundwater within an aquifer or aquifers

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I. Background Information

General Information about the Training

Through the first two screening workshops organised in 2014, the participants were introduced into the specific EU water terminology, different policies and regulatory frameworks as well as various techniques and tools for screening and evaluation, for implementing the EU water directives, specifically the preparation of the Program of Measures (PoM).

Particular attention was given to the estimation of the expected effects of PoM implementation in order to encourage the beneficiary countries to explore the cumulative effects of properly designed PoM as a step towards rationalisation of the costs. The cost-effectiveness of measures prices and costs associated with water services has been also elaborated.

Within the third screening workshop (11-12 March 2015) the methodology for drafting the Drina RBM Plan and its Program of Measures has been presented and discussed, with the view to support the countries efforts towards the preparation of the PoM.

The methodology for preparing the Program of Measures (PoM) together with the packages of actions and activities needed for their implementation includes 4 phases. Phases 1 and most of the 2nd have been already implemented through the assistance and contributions of all beneficiary countries. The remaining part from phase 2 and the 3rd phase is implemented at the 4th Screening Workshop, which is the subject of this present report, and it will continue with the 5th Screening Workshop planned 7 - 9 October 2015. The remaining tasks of the project (phase 4) will be implemented in 2016. The final outcome of the first task of the Water Management Working Group, respectively the task 2.3.3 "Assistance in the development of transboundary river basin management plans" would be the draft Program of Measures or Drina River Basin, concluded through the contributions from the Drina countries but discussed and agreed by all ECRAN beneficiary countries.

During the 3rd Screening workshop, the participants had investigated the needs of specific components in terms of background documents, screening templates assessments, training or workshops.

All screening workshops organised so far contributed greatly to facilitate transfer of knowledge, experiences and lessons learned through capacity building activities.

Specifically, at the 4th Screening Workshop, the participants made use of the results obtained during the 3rd screening workshop regarding the selection of the SWMIs and linked the SWMIs with the vision and management objectives and the Program of Measures. Further, the approach for performing the pressures assessment for pollution sources – point and diffuse sources has been also discussed. The participants have been made familiar with the use of templates for concluding emission inventories in line with EU requirements, for urban and industrial point sources.

In addition, economic analysis component of the PoM has been detailed. It has been agreed with the beneficiary countries at the 3rd Screening workshop that at the 4th Screening workshop planned under Task 2.3.3, the economic analysis shall be discussed and conducted on the practical example of pilot Drina River Basin. Therefore, in relation Task 2.3.3, the focus was mainly on issues linked with the

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Economic analysis, preparation of the Cost effectiveness analysis and the interlinkages pressures assessment, economic analysis and the program of measures.

In addition, two case studies have been completed, presented and discussed at the 4th screening workshop with contributions from all beneficiary countries, consisting in formulation and presentation of examples on (i) cost recovery, and (ii) use of economic non market valuation methods in WFD implementation, based on templates prepared and distributed before the workshop.

The economic elements of MSFD (Task 2.3.4) will be assessed in synergy with the economics of the WFD, and will be the focus of the MSFD workshop, planned for 27-29 October 2015.

Summary of the main topics covered

The main topics presented and discussed at the 4th Screening Workshop included:

1. Methodology for preparing the PoM (remaining part of 2nd phase and the 3rd phase) as part of the RBM Plan, including the presentation of the concept, steps and related templates and docs.
2. Issue papers for Danube River Basin and proposal for discussion and agreement for Drina River Basin, for each of the five selected SWMIs.
3. Identification of visions and of the management objectives for each of the SWMIs.
4. Assessment of the economic importance of water uses in the Danube River Basin
5. Interlinkages pressures assessment, economic analysis and the program of measures – Horizontal economic issues matrix
6. Methodology for preparing the cost – effectiveness analysis, as part of the program of Measures development process – experience of Romania
7. Development of a baseline scenario and the assessment of forecasts in key economic drivers
8. Economic tools – national cost recovery case studies
9. Economic issues for justification of derogations
10. Key Measures Types and Quantitative Indicators
11. Case studies on the use of economic payment for environmental services
12. Economics aspects in the frame of the supplementary measures - part of Cost Benefit analysis according to the WFD

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II. Objectives of the Training

General Objective

To encourage and mobilize efforts towards WFD implementation as a key to reaching the good water status in the Drina River basin through capacity building activities, and based on countries needs and priorities

Specific Objectives

- To present and discuss the next steps of the methodology of preparing the Program of Measure, as the key component of the producing the Drina RBM Plan, following the logical flow of steps in line with the WFD;
- Presentation of the concept or pressures assessment;
- Introduction of national contributions and related compilation of the inputs in relation to emission inventories ;
- Continuation of the preparatory process of setting up the Drina PoM through further detailing of the methodology with economic components;
- To share information, exchange views on experience implementing the economic aspects of WFD Article 9 and to get an improved understanding of the common difficulties encountered;
- To present the cost effectiveness analysis concept and identify relevant developments and needs for future work relating to WFD economics;
- Presentation of national case studies on cost recovery and use of economic non market valuation methods in WFD implementation, and discussion of lessons learned;
- Approaching issues linked to disproportionate costs and payments for environmental services;
- To present the reference and concept documents required for implementation process;
- To discuss the needs of the countries and possible options of support through the activities of ECRAN project, including training needs;
- Facilitate dialogue among the countries on specific concepts and actions that are needed to ensure WFD implementation;
- To explore any national obstacles (involvement and commitment, data and methodologies, coordination and cooperation, capacity building needs) towards implementing the WG Water tasks and identify possible solutions ;
- To brainstorm and discuss the activities (guidance, capacity building, and practical case studies) needed for performing the economic analysis in line with WFD requirements in the Drina RB and involvement of participant countries.

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Expected Results

- Improved understanding of the topics, challenges and tasks, and related responsibilities along the development of the Program of Measures, in line with WFD;
- Exchange of experiences and knowledge significantly improved;
- Key obstacles impeding the tasks implementation and related solutions identified;
- Active involvement of the participants through the preparation of case studies for three topics (emission inventories, cost recovery, payment for environmental services);
- Guidance documents related to the WG tasks discussed and clarified.

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III. EU policy and legislation covered by the training

The Water Framework Directive (WFD) 2000/60/EC

The Water Framework Directive (WFD) 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy represents the European Union directive which commits European Union member states to achieve good qualitative and quantitative status of all water bodies by 2015. The Directive aims for 'good status' for all ground and surface waters that include rivers, lakes, transitional waters, and coastal waters, in the EU.

The Directive also requires Member States to establish river basin districts and for each of these a river basin management plan. The Directive envisages a cyclical process where river basin management plans are prepared, implemented and reviewed every six years. There are four distinct elements to the river basin planning cycle: characterisation and assessment of impacts on river basin districts; environmental monitoring; the setting of environmental objectives; and the design and implementation of the programme of measures needed to achieve them.

This Framework-Directive has a number of objectives, such as preventing and reducing pollution, promoting sustainable water usage, environmental protection, improving aquatic ecosystems and mitigating the effects of floods and droughts, aiming to achieve "**good ecological and chemical status" for all Community waters by 2015**.

Several successive amendments and corrections (2001, 2008 and 2009), have been incorporated to the WFD.

The river basin management established under the WFD (entered into force December 2009) begins with an analysis of the characteristics of the river basin district, a review of the impact of human activity on water status, and an economic analysis of water use. Programmes to monitor water status must be established, along with programmes of measures for each river basin district in order to achieve the specified environmental objectives. Then, for each river basin district, a river basin management plan must be produced with the active involvement of all interested parties.

Finally, the specific programmes of measures must be implemented so as to achieve the objective of good status for all waters within each river basin. The first RBM plans cover the period 2009-2015. They shall be revised in 2015 and then every six years thereafter.

The River Basin Management Plan (RBMP) and the Program of Measures (PoM)

The principal component of the Water Framework Directive for each river basin district is the development of river basin management plans which will be reviewed on a six yearly basis and which set out the actions required within each river basin to achieve set environmental quality objectives.

The best model for a single system of water management is management by river basin - the natural geographical and hydrological unit - instead of according to administrative or political boundaries. While several Member States already take a river basin approach, this is at present not the case everywhere. For each river basin district - some of which will traverse national frontiers - a "river basin

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management plan" will need to be established and updated every six years, and this will provide the context for the co-ordination requirements identified above.

The river basin management plan (RBMP) is essentially a snapshot in time and is the subject of continual review. Essentially, the first river basin management plans finalized ended on December 2009 and represents the transition between the initial analysis carried out in 2004 and implementation of the Directive. Their 6-years updating is a refining process based on improved data and understanding and allowing for revision of the circumstances in the river basins.

The first river basin management plans have been published by the end of 2009 and summarized the quality and quantity objectives to be achieved by 2015.

The river basin management plan (RBMP) represents the main achievement tool of the WFD objectives, which is realized in 6-year cycles and consists of preparation, implementation and revision phases.

Essentially, the RBMP provides:

(i) evidence and documentation mechanism for the information gathered including: **pressures and impact assessment**, **environmental objectives** for surface and ground waters, quality and quantity of waters, and **the impact of human activity on water bodies**,

(ii) facilitates coordination of the **programmes of measures** and other relevant programmes within the river basin district, and

(iii) guarantees the main progress **reporting mechanism to the EC** as required by the WFD Art. 15.

Within the Water Framework Directive (WFD), the environmental objectives will be set for all water bodies. One of its main aims is that all water bodies (including rivers, lakes, coasts, estuaries and groundwater) achieve “good status” by 2015. Water bodies must also be protected to prevent any deterioration in status.

Through the gap analysis, for each water body, any possible discrepancy between its existing status and that required by the Directive is identified.

If a water body is considered unlikely to achieve its environmental objectives by 2015 (including those for protected areas and groundwater), the WFD requires that management measures to be put in place to meet the WFD goals. Individual measures and/or packages of measures for water bodies must be integrated in a co-ordinated and cost-effective programme of measures

Guidance documents

In order to address the WFD implementation challenges in a coordinated way, the Commission agreed on a number of 33 guidance documents and 10 technical reports which have been produced to assist EU Member States with an overall methodological approach, which could be adjusted to specific circumstances by each EU Member State. The Guidance documents cover many aspects of implementation, such as establishing monitoring programmes, undertaking economic analyses,

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engaging the public, developing classification systems, how to identify and designate heavily modified and artificial water bodies.

Guidance documents finalized are made available on CIRCA.

N° 1 – Economics and the Environment

N° 2 – Identification of Water Bodies

N° 3 - Analysis of Pressures and Impacts

N° 4 – Identification and Designation of Heavily Modified and Artificial Water Bodies

N° 5 - Transitional and Coastal Waters

N° 6 - Intercalibration Network and Intercalibration Exercise

N° 7 - Monitoring under the Water Framework Directive

N° 8 - Public Participation

N° 9 - Implementing the Geographical Information System Elements (GIS)

N° 10 - Rivers and Lakes - Typology, Reference Conditions

N° 11 - Planning Processes

N° 12 - The Role of Wetlands in the Water Framework Directive

N° 13 - Overall Approach to the Classification of Ecological Status and Potential

N° 14 - Guidance on the Intercalibration Process

N° 15 - Groundwater Monitoring

N° 16 - Groundwater in Drinking Water Protected Areas

N° 17 - 2006/118/EC Directive on protection of groundwater

N° 18 - Groundwater Status and Trend Assessment

N° 19 - Surface water chemical monitoring

N° 20 - Exemptions to the environmental objectives

N° 21 - Guidance for reporting under the WFD

N° 22 - Updated WISE GIS guidance

N° 23 - Eutrophication Assessment

N° 24 - River Basin Management in a changing climate

N° 25 - Chemical Monitoring of Sediment and Biota

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N° 26 - Risk Assessment and the Conceptual Models for Groundwater

N° 27 - Deriving Environmental Quality Standards

N° 28 - Preparation of Priority Substances Emissions Inventory

N° 29 - Floods Directive

N° 30 - Updated classification methods for intercalibration exercise

N° 31 - Ecological Flows

N° 32 - Biota Monitoring

N° 33 - Analytical Methods for Biota Monitoring

The most relevant EU documents in support of the WFD implementation include:

- "Common Strategy on the Implementation of the Water Framework Directive" (CIS);
- "Carrying forward the Common Implementation Strategy for the Water Framework Directive - Progress and Work Programme 2003/2004";
- "Moving to the next stage in the Common Implementation Strategy for the Water Framework Directive - Progress and Work Programme 2005/2006";
- "Improving the comparability and the quality of Water Framework Directive implementation – Progress and Work Programme 2007-2009" ;
- "Supporting the implementation of the first river basin management plans - Workprogramme 2010-2012";
- "Strengthening the implementation of EU water policy through the second river basin management plans - Work Programme 2013-2015".

The CIS is a key document, prepared in recognition that an integrated approach to river basin management throughout Europe is crucial for the successful implementation of the WFD Directive. The purpose is to (i) develop a common understanding and approach to implementation throughout the EU, (ii) elaborate informal technical guidance and share experiences between MS to avoid duplication of effort, and (iii) to support efficient application of the WFD requirements.

In addition, the Commission produced Thematic CIS information sheets which provided more information and resource material publicly available on a variety of subjects, such as: River Basin Management, Reporting and WISE, Ecological Status, Groundwater, Chemical Aspects, Flood Risk Management, Climate Change and Water, Water Scarcity and drought, Agriculture and Water, Biodiversity and water, Hydromorphology and the Economic Issues.

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Other relevant EU legislation for approaching River Basin Management Plan and the Program of Measures

- Decision 2455/2001/EC of the European Parliament and of the Council of 20 November 2001 establishing the list of priority substances in the field of water policy and amending Directive 2000/60/EC of water policy (WFD).
- 2005/646/EC: Commission Decision of 17 August 2005 on the establishment of a register of sites to form the intercalibration network in accordance with Directive 2000/60/EC of the European Parliament and of the Council.

Groundwater

- Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances;
- 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.

Flood protection

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

Municipal urban wastewater treatment

- Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment
- 93/481/EEC: Commission Decision of 28 July 1993 concerning formats for the presentation of national programmes as foreseen by Article 17 of Council Directive 91/271/EEC.
- The Sewage Sludge Directive (86/278/EEC).

Drinking water

- Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.
- Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking.

Dangerous substances

- Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.
- Council Directive 86/280/EEC of 12 June 1986 on limit values and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC.
- Directive 2006/11/EC of the European Parliament and of the Council of 15 February 2006 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.

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- Council Directive 82/176/EEC of 22 March 1982 on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry.
- Council Directive 83/513/EEC of 26 September 1983 on limit values and quality objectives for cadmium discharges.
- Council Directive 84/491/EEC of 9 October 1984 on limit values and quality objectives for discharges of hexachlorocyclohexane.
- Council Directive 84/156/EEC of 8 March 1984 on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry.

Industrial discharges

- Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control.
- Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control (Codified version).
- Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).
- The Major Accidents (Seveso) Directive (96/82/EC).

Agriculture

- Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.
- Common Agricultural Policy

Bathing water

- Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water.
- Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC

Bathing water

- Bathing Water Directive (EC, 2006).

Environmental Impact assessment

- The Environmental Impact Assessment Directive (85/337/EEC).
- Strategic Environmental Impact Assessment Directive (2001/42).

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Useful references on practical guides or links to various WFD web sites

At the EC, https://circabc.europa.eu/ provides comprehensive sources of reference documents related to WFD, Flood Directive, and other relevant policies and directives.

EU LEGISLATION, GUIDELINES AND REPORTS

WATER

http://ec.europa.eu/environment/water/water-framework/objectives/implementation_en.htm

http://ec.europa.eu/environment/water/flood_risk/

ECRAN & RENA NETWORK

http://www.ecranetwork.org/

http://www.renanetwork.org/

TAIEX

http://ec.europa.eu/enlargement/taiex/

RELEVANT PROJECTS IN MEDITERRANEAN SEA AND BLACK SEA

http://ec.europa.eu/research/bioeconomy/fish/research/ocean/index_en.htm

http://cordis.europa.eu/fp7/coordination/

http://ec.europa.eu/maritimeaffairs/policy/marine_knowledge_2020/index_en.htm

http://www.kg.eurocean.org/

http://www.devotes-project.eu/

http://www.perseus-net.eu/site/content.php

http://medsea-project.eu/

http://www.misisproject.eu/

http://www.pegasoproject.eu/

http://www.coconet-fp7.eu/index.php/about-coconet

http://www.envirogrids.net/

http://www.seas-era.eu/np4/homepage.html

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IV. Highlights from the Workshop

Highlights Day 1

Reference is made to Annex I for the agenda. Below only the main elements are highlighted. The presentations are presented in Annex III.

1. WFD implementation in Drina RB – the preparation of the Program of Measures

The methodology has been prepared to guide the countries efforts in developing the RBMP and related PoM, outlining the required technical issues through a set of screening templates, following the logical flow of the WFD steps.

The methodology consists of 4 phases, offering clear evidence on the topics of training the experts in Bosnia and Herzegovina, Montenegro and Republic of Serbia, to ensure the preparatory process of the Program of Measures in the selected pilot basin: Drina River Basin.

The guidance document has been updated along the ECRAN project implementation, with a new phase, based on the results of specific assessments, such as (i) the identification of transboundary issues, (ii) the Significant Management Issues, (iii) the definition of the Drina River Basin long vision for each of the identified SWMI, and (iv) the description of the respective management steps required to reach the WFD objectives.

An important component has been attached in the 3 phase related to the economic analysis and financing of the Program of Measures, in line with the WFD requirements. The river basin management plan has an important role in reaching the precise balance between the benefits delivered by environmental improvements and the associated costs imposed on those who use the water environment.

The practical steps of preparing the PoM include:

- Pressures and impact assessment at the Drina RB level;
- Selection of Significant Water Management Issues;
- Assessment of interlinkages between specific topics and their integration;
- Definition of visions for each SWMI;
- Description of management objectives for each SWMI/vision;
- Compilation of measures in the PoM;
- Economic analysis;
- Financing of the program of measures;
- Exemptions, derogations, affordability;
- Assessment of anticipated effects to achieve the WFD objectives based on the compiled PoM, making use of scenarios of future developments.

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2. Issue papers in Drina River Basin

In Drina River Basin the following SWMIs have been selected and prioritised:

1. Pollution by organic substances;
2. Flooding;
3. Hydromorphological alterations;
4. Pollution by nutrients;
5. Pollution by hazardous substances.

Additional two SWMIS have been identified, specifically:

6. Sand and gravel extraction;
7. Damp site used as municipal landfill.

The Drina RBM Plan and JPM clearly need to focus on these selected SWMIs. For each specific SWMIs pressures and impact assessment is performed, while the Drina JPM will address individually each SWMI. The SWMIs take a pillar role within the Plan/JPM and are therefore those management issues for which measures will be defined as part of the JPM.

Drina RBM Plan and the JPM will also address the interlinkages between flood management, flood protection measures and measures to achieve the objectives of the EU Water Framework Directive to ensure best possible solutions.

The scope of the issue papers document is to focus on the Drina identified Significant Water Management Issues on the basin-wide scale to ensure a target-oriented Drina River Basin Management Plan and an appropriate Programme of Measures.

The significant water management issues have to be reviewed on a regular basis, e.g. the importance of new EU challenges such as water scarcity and droughts, or the need for water saving measures.

The issue papers describe the overall scope as well as the approach how to achieve it, including the general cross-cutting issues between the SWMI in the Drina River Basin. It includes visions and operational management objectives for each SWMI, through which the Drina countries commonly agree on the aims of the WFD in the Drina RBM Plan to deliver the Plan and measures by 2021/2027 with the aim of achieving the objectives by 2027.

The outline of each of the 5 Issue papers have been prepared, presented and agreed at the meeting. Below, the structure of the Issue paper for organic pollution coming from urban, industrial and agricultural sources is presented.

Outline for Issue paper – organic pollution

1. Introduction
2. Problem Description

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3. Visions and management objectives for each SWMI

The SWMIs visions are based on shared values and describe the principle objectives for the Drina RB with a long-term perspective. The respective operational management objectives for each SWMI describe the first steps towards the environmental objectives 2021/2027 in the Drina RB in an explicit way.

Overall, the visions and management objectives reflect the joint approach among Drina Basin States and support the achievement of the EU WFD objectives, addressing each of the selected SWMIs, as follows:

"The Drina basin wide vision for organic pollution coming from urban, industrial and agro industrial sources is to reduce as much as possible emissions of untreated wastewater into the waters of the Sava and Danube River Basins, to avoid any potential adverse impact".

"The Drina basin wide vision for flooding is to minimize risk as much as possible to the population and economy due to flooding in the Drina River Basin".

"The Drina basin wide vision for hydromorphological alterations is the balanced management of past, ongoing and future structural changes of the riverine environment, so that the aquatic ecosystem in the Drina and the entire Danube RB functions in a holistic way and is represented with all native species".

"The Drina basin wide vision for nutrients pollution is the balanced management of nutrient emissions via point and diffuse sources in the entire Drina RB that neither the waters of the Danube RB nor the Black Sea are threatened or impacted by eutrophication".

"The Drina basin wide vision for hazardous substances pollution is no risk or threat to human health and the aquatic ecosystem of the waters in the Drina, Sava, Danube and Black Sea Basins".

The visions will be achieved through the implementation of the following management objectives:

SWMI: Organic pollution

- Specification of number of wastewater collecting systems (connected to respective WWTPs), which are planned to be constructed by 2021.

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- Specification of number of municipal and industrial wastewater treatment plants, which are planned to be constructed by 2021 including
- Specification of treatment level (secondary or tertiary treatment)
- Specification of emission reduction targets

SWMI: Flooding

- Performing the Preliminary Flood Risk Assessment for the Drina RB in order to identify areas of existing or foreseeable future potentially significant flood risk.
- Preparation of the flood hazard maps and flood risk maps to identify areas prone to flooding during events with a high, medium and low probability of occurrence, including those where occurrences of floods would be considered an extreme event.
- Development of the Drina catchment-based Flood Risk Management Plans (FRMPs) focusing on prevention, protection and preparedness, as well as setting objectives for managing the flood risk and setting out a prioritised set of measures for achieving those objectives
- Coordinate with the WFD implementation

SWMI: Hydromorphological alterations

- Construction of fish migration aids and other measures to achieve/improve river continuity in the Drina River .
- Specification of number and location of fish migration aids and other measures to achieve /improve river continuity .
- Protection, conservation and restoration of wetlands/floodplains to ensure biodiversity, flood protection and pollution reduction.
- To determine the implementation steps for restoration and reconnection of lost floodplains and wetlands along the Drina River .
- Implementation of the no net-loss principle = conservation of floodplains and wetlands whenever possible – if surface areas of wetlands are converted to other uses, the total wetland resource base has to be offset through restoration and creation of other wetlands).

SWMI: Nutrient pollution

- Reduction of the total amount of nutrients entering the Drina.
- Reduction of discharged nutrient loads in the Black Sea Basin to such levels, which permit the Black Sea ecosystems to recover to conditions similar to those observed in the 1960s.
- Reduction of phosphates in detergents preferably by eliminating phosphates in detergent products.
- Implementation of the management objectives described for organic pollution with additional focus on the reduction of nutrient point source emissions.

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- Implementations of BEP regarding agricultural practices.
- Create baseline scenarios of nutrient input.
- Definition of basin wide, sub-basin and/or national quantitative reduction targets (i.e. for point and diffuse sources).

SWMI: Hazardous substances pollution

- Elimination/reduction of the total amount of hazardous substances entering the Drina to levels consistent with the achievement of the good chemical status by 2021.
- Implementation of Best Available Techniques and Best Environmental Practices including the further improvement of treatment efficiency, treatment level and/or substitution.
- Explore the possibility to set up quantitative reduction objectives for pesticide emission in the Drina River Basin.

4. Drina Joint Programme of Measures

The defined basin-wide visions and management objectives for each SWMI are the basis of Drina Joint Programme of Measures that summarizes – as a consequence - commonly agreed measures of basin-wide importance.

The Drina JPM measures of basin-wide importance are firmly based on and are coordinated with the national programmes of measures.

The JPM will include identification and implementation of priority measures, the economic analysis and financing issues.

The program of measures is the key component of the river basin management planning process (WFD, Article 11) as it is the main mechanism for achievement of the Directive requirements, through actions to be taken during the plan period to secure the WFD's broader aims of:

- reducing organic and nutrients pollution;
- mitigating the effects of floods and droughts;
- helping to ensure the progressive reduction of discharges, emissions and losses of hazardous substances.

For each SWMI identified at the Drina RB level, a list of the main measures currently available to mitigate or control the activity or pressure will be prepared. These measures may include legislation and range from regulations through to guidance, voluntary action and support.

5. Structure of Drina River Basin Management Plan and of the Joint Program of Measures

The structure of the Drina River Basin Management Plan will follow Annex VII WFD, called the "*Elements of the river basin management plan"*. This approach allows countries sharing several international river basins to follow the same outline in all their river basins. Within the Water Framework Directive, the environmental objectives will be set for all water bodies. One of its main

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aims is that all water bodies (including rivers, lakes, coasts, estuaries and groundwater) achieve 'good status' by 2015, respectively 2012 or 2027.

The river basin management plan for each river basin district includes the following chapters:

- General description of the characteristics of the river basin district, including a map showing the location and boundaries of the surface and ground water bodies and a further map showing the types of surface water bodies within the basin;
- Summary of the significant pressures and the impact of anthropogenic activity on the status of surface and ground waters, including point source pollution, diffuse pollution and related land use, the quantitative status of water including abstractions and an analysis of other impacts of human activity on water status;
- List of the environmental objectives set for all water bodies, including those where the use has been made of derogations;
- Summary of the economic analysis of water use;
- Summary of the programme or programmes of measures;
- Register of any more detailed programmes and management plans and a summary of their contents;
- Summary of the public information and the consultation measures taken, their results and the changes to the plan as a consequence;
- List of competent authorities;
- Contact points and procedures for obtaining background documentation and information, including actual monitoring data.

Drina RBMP will also include several maps, such as: map of the results of the pressures assessment (point and diffuse pollution), of the monitoring network and programme showing the status of all water bodies and protected areas, or of the protected areas.

Highlights Day 2

6. Development of a baseline scenario (BLS) and the assessment of forecasts in key economic drivers

The baseline scenario represents a projection of the status quo or "business as usual" (BAU), including:

- the existing framework in terms of environmental policies, technological and market conditions, and

- the projection of technological trends (e.g. yields) and of decided policy changes to be implemented until the target year 2021.

The baseline includes a range of factors, which are difficult to anticipate in terms of their impacts on WFD targets.

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The positive contribution to water protection due to changing framework conditions might take place, but is not secure enough to build the basis of further planning as factors/assumptions need to be checked.

7. Economic control tools - Cost recovery as incentive for efficiently use of water resources and as a financing instrument

The WFD Directive 2000/60/EC) represents one of the major pieces of EU environmental regulation, which provides a regulatory framework for all water policies in Europe, and introduced several innovations into European water management, including:

- an integrated approach to water policy and management (integrating surface- and groundwater, inland as well as coastal waters etc.), the organisation of water policies in river basins rather than along administrative boundaries, or a central role for stakeholder participation in the implementation process.
- several economic elements into water management, such as economic instruments (e.g. water pricing), methods (e.g. cost-effectiveness analysis) and principles (e.g. the polluter-pays-principle).

Economic approaches were integrated in the WFD in order to ensure that the water quality objectives of the Directive would be achieved at a minimum cost to society. Water management, and in particular waste water treatment requires the largest investment effort, and therefore it is essential to control the costs of water management infrastructure.

In addition, the economic elements of the WFD also bring more transparency into the political debate. Some water users will be adversely affected by the WFD implementation, be it through higher water prices / charges, or through use restrictions and through new regulations and the associated compliance cost. To address this concern, the polluter-pays-principle (included in Article 9 WFD and in the preamble) provides a general orientation on how to address such conflicts. The principle itself is no more than a general principle, which needs to be substantiated in the practical implementation, and weighed against other considerations. In this process, economic analysis can help to base the discussions on the polluter-pays-principle and claims about disproportionate costs on a more solid economic basis.

Implementing the economic elements of the WFD presents a considerable administrative challenge, considering that the decisions on the WFD implementation should be based on economic answers.

The economic considerations are mainly embodied in three articles of the WFD:

• **Article 11 WFD** (**cost-effectiveness analysis**): Article 11 of the Directive mandates the establishment of "programmes of measures" to achieve the WFD objective of good ecological status (potential). Annex III of the Directive further specifies that the "most cost-effective combination of measures" should be included in these programmes of measures. This is generally interpreted as a requirement to conduct a cost-effectiveness analysis (or some comparable analysis) prior to establishing the programme of measures.

• **Article 4** (**disproportionate cost analysis**): allowing for an extension of the 2015 deadline, or a lowering of the objective to less strict levels, if the costs of achieving the objective in time should be

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disproportionate.

• **Article 9** (**cost recovery**): calls for the recovery of costs of water services, including environmental and resource costs. Also specifies that water services should make an adequate contribution to the cost recovery of water services.

The interdependence between incentive pricing, cost recovery and the polluter-pays-principle is illustrated in the diagram below.

Figure 1: Economic elements of the WFD

- Cost recovery is about the amount of money that is being paid for water services, i.e. it answers the question how much is paid for water;
- The polluter-pays-principle addresses the adequacy of contributions from different water uses to the total cost, based on their role in causing these costs, i.e. it answers the question who pays for water;
- Incentive pricing deals with the way water users pay for their use, and whether the right price signals are transmitted, i.e. it answers the question how is water being paid for, and which effects the water price has on the behaviour of water users.

Article 11 of the Water Framework Directive clearly states the need to build a programme of measures: "Each member state shall ensure the establishment for each river basin district, or for a part of an international river basin district within its territory, of a programme of measures, taking into account the results of the analysis required under article 5, in order to achieve the objectives established under article 4." The main purpose of a PoM is to fulfil the environmental objectives described in article 4 of the WFD, namely: avoiding any deterioration in the current status; achieving the good status or good potential of bodies of water; preventing pollution by hazardous substances (article 16); and fulfilling all standards and objectives in protected areas

In order to elaborate an efficient programme of measures for both the environment and the concerned parties of a river basin, it was clearly necessary to consider the costs of the different measures which need to be taken to achieve good status.

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A second important new element of the WFD, is the explicit consideration of the cost recovery principle. The principle extends not only to the financial costs for the provision of a water service (in order to ensure that water service are financed sustainably now and in the future, including the creation, operation, maintenance and replacement of water infrastructure), but it also covers the costs of negative environmental effects associated with the water service (environmental costs) and forgone opportunities of alternative water uses (resource costs) which must all be taken into account.

Cost recovery for water services is an integrated part of programme of measures and represents a crucial tool for reaching environmental objectives.
According to WFD, Member States had the obligation by 2010: "to take account of the principle of recovery of the costs of water services including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle" (Article 9 WFD).

In addition, Member States had also to ensure by 2010: "an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III of the WFD and taking account of the polluter pays principle."

In the implementation of the EU Water Framework Directive, the concept of environmental and resource costs applies above all to the cost recovery of water services. Article 9 of the Directive stipulates that „Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs. "

Highlights Day 3

8. Cost-effectiveness and the Programme of Measures

The programme of measures is the central element through which the WFD objective of good status should be reached. Article 11 WFD requires that programmes of measures have to be established for each river basin district by 2009 at the latest, and that the measures contained therein have become operational by 2012. Article 11 further distinguishes betweeý55

n "basic measures" and "supplementary measures", where the former include the minimum requirements to be complied with, such as the implementation of measures that were already required by previous European water legislation. "Supplementary measures", by contrast, are those measures required in addition to the minimum requirements, in order to achieve the objectives of the WFD.

While there is no mentioning of costs or benefits in Article 11 itself, Annex III of the WFD introduces the additional specification that the programme of measures should include the "most cost-effective combination of measures in respect of water uses". Thus, while the WFD does not require the use of a cost-effectiveness analysis as such, it does require that the programme of measures should be cost-effective. However, it is generally understood that a cost-effectiveness analysis, or a comparable procedure, should precede the establishment of programmes of measures, in order to ensure that the WFD objectives are reached at least cost.

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Article 11 does not require that the selection of measures should be guided by cost-benefit comparisons, nor that programmes of measures should pass a cost-benefit test. In general, monetary valuation studies will therefore not play any significant role in this process.

As the programmes of measures under Article 11 are the central vehicle for achieving the WFD objectives, they also include measures to comply with requirements established by other Articles of the Directive. Thus, for example, they will also include measures that contribute to cost recovery and incentive pricing, as required by Article 9 WFD.

9. Payments for ecosystem services (PES)

Payments for ecosystem services (PES), also known as payments for environmental services (or benefits), are incentives offered to those who use environment, such as land, water, forests, in exchange for managing the environment to provide some sort of ecological service. As the payments provide incentives to land owners and managers for example, PES is a market-based mechanism, similar to subsidies and taxes, to encourage the conservation of natural resources. This approach recognizes the important role that the environment plays in contributing to our wellbeing and economic prosperity, and the potential of market-based approaches to promote conservation and address environment-related market failures.

According to OECD, Payment for Environmental Services (PES) is defined as a voluntary transaction in which a well-defined environmental service (ES), or a land-use likely to secure that service, is being purchased by at least one ES buyer from at least one ES provider if, and only if, the ES provider secures ES provision, i.e. conditionality. Food Agricultural Organisation (FAO) defines PES as an approach to environmental management which uses cash payments or other compensation to encourage ecosystem conservation and restoration. It includes direct payments from ecosystem service beneficiaries to land stewards, as well as indirect payments earned through eco - certified production.

From an economic perspective, the term PES refers to the approach that internalizes external benefits and follows the principle that people who benefit from the consumption of environmental services should compensate those who make it possible to generate environmental services.

Similarly, payments must be less than the value of benefits to downstream populations otherwise they would not be willing to pay for it. This aspect is referred to as willingness-to pay in economics.

Environmental Services can be biodiversity protection, carbon sequestration, watershed protection, landscape beauty, sedimentation prevention, water use, water purification and waste water treatment, recreational activities.

Improved water availability due to upstream watershed conservation will benefit downstream irrigators. As a result they will be willing to pay for environmental services. However, WTP will depend on income, level of formal education, land size, mode of land ownership, age, gender, and distance from the water source/intake.

Key points of the discussions

At the workshop, several items have been raised and discussed, as such:

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1. Why it is not possible to concentrate attention and financial efforts on the most relevant pressures such as the agricultural pollution in Serbia instead to invest in very expansive wastewater treatment plants?
2. How much has been invested by Romania from an estimated amount of 40 billion Euro?
3. Why only the impact of N and P has been considered in the presentations related to the Program of measures in the Danube River Basin? Why the impact of dangerous substances was not reflected?
4. Which is the legal basis, at the national and EU level, to impose stricter conditions than those which are mentioned in the specific directives from which the basic measures are derived?
5. Why for the agricultural pollution is not given the same attention as for urban wastewater treatment and the amount of information provided is limited? It is more difficult to monitorize or enforce?
6. How much will be the contribution of EU in financing the 40 billions estimated for implementation of Program of measures in Romania
7. How will be possible to phase out all untreated wastewater discharges having in mind the reduced ability to pay of the population?
8. How important is the role of the water services regulatory body in ensuring water pricing according to Art 9 of the WFD.

Outcomes of the workshop

1) On the preparation of the PoM

1. The outline of Issue papers for each of SWMIs is available;
2. The visions identified for each of the selected SWMIs considering the specificity of the Drina RB. The exact definition of the visions will be further discussed and agreed at the 5th Screening Workshop 7 - 9 October 2015;
3. The management objectives to reach the visions defined ;
4. The approach for pressures and impact assessment clarified. The pressures assessment will be finalized a the 5th Screening Workshop, 7 - 9 October 2015;
5. The completion of emissions inventories according to the European reporting schemes discussed;
6. Coordination requirements at the Danube and EU level related to the development of the PoM understood;
7. Improved knowledge on the approaches used at Sava and Danube RB level for preparing the PoM;
8. Methodology for defining Baseline scenario and identification of assumptions explained;

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9. Awareness improved on the necessity to ensure a reliable and complete database;
10. Information on the reporting requirements for achieving the measures to reach the WFD objectives.

2) On the requirements of the economic analysis

1. The approach for assessing the economic importance of water use clarified;
2. Lessons learned from case studies on cost recovery and payments for environmental services;
3. Experiences in carrying out the CEA shared;
4. Improved understanding on economic issues for justification of derogations.

At the 6th Screening workshop, the remaining tasks within the phase 4 will be discussed, including financing of measures, affordability, and the scenario for showing the real anticipated effects towards WDF.

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V. Evaluation

Statistical information

1.1	Workshop Session	4th Screening Workshop on WFD Program of Measures in Drina River Basin 15-17 September 2015, Tirana, Albania
1.2	Facilitators name	As per agenda
1.3	Name and Surname of Participants (evaluators) optional	As per participants' list

Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	**Partially**	**Not at all**
1. I have improved understanding of the topics, challenges and tasks, and related responsibilities along the development of the Program of Measures, in line with WFD	IIIII IIIIIIIIIIIIII (87%)	III (13%)	
2. Significantly improved exchange of experiences and knowledge	IIIII IIIIIIIIIIIIII (87%)	III (13%)	
3. Identified key obstacles impeding the tasks implementation and related solutions	IIIII IIIII II (52%)	IIIII IIIII I (48%)	
4. There has been active involvement of the participants through the preparation of case studies for three topics (emission inventories, cost recovery, payment for environmental services)	IIIII IIIII IIII (61%)	IIIII IIII (39%)	
5. Clarified guidance documents related to the WG tasks discussed	IIIII IIIIIIIIII II (74%)	IIIII I (26%)	

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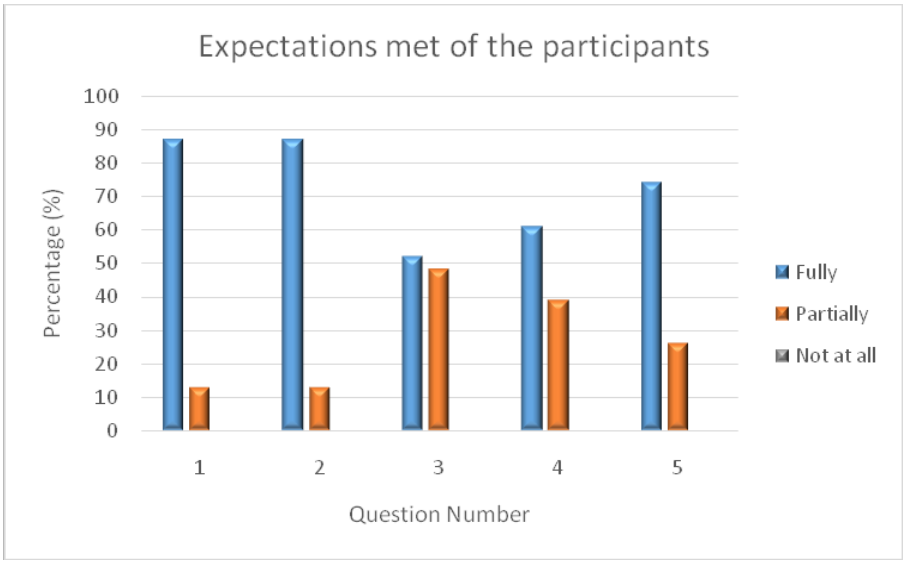

Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1 The workshop achieved the objectives set	IIIII IIIII II (52%)	IIIII IIIII I (48%)				
2 The quality of the workshop was of a high standard	IIIII IIIIIIIII (65%)	IIIII I (26%)	II (9%)			
3 The content of the workshop was well suited to my level of understanding and experience	IIIII IIIIIIIII I (70%)	IIII (17%)	III (13%)			
4 The practical work was relevant and informative	IIIII IIIII III (56%)	IIIII III (35%)	II (9%)			
5 The workshop was interactive	IIIII IIIII III (57%)	IIIII IIII (39%)	I (4%)			
6 Facilitators were well prepared and knowledgeable on the subject matter	IIIII IIIIIIIIIIIII (87%)	II (13%)				
7 The duration of this workshop was neither too long nor too short	IIIII IIIII III (57%)	IIIII IIII (39%)	I (4%)			
8 The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIIII IIIII II (52%)	IIIII I (26%)	II (13%)		II (9%)	
9 Attending this workshop was time well spent	IIIII IIIIIIIII I (70%)	IIIII II (30%)				

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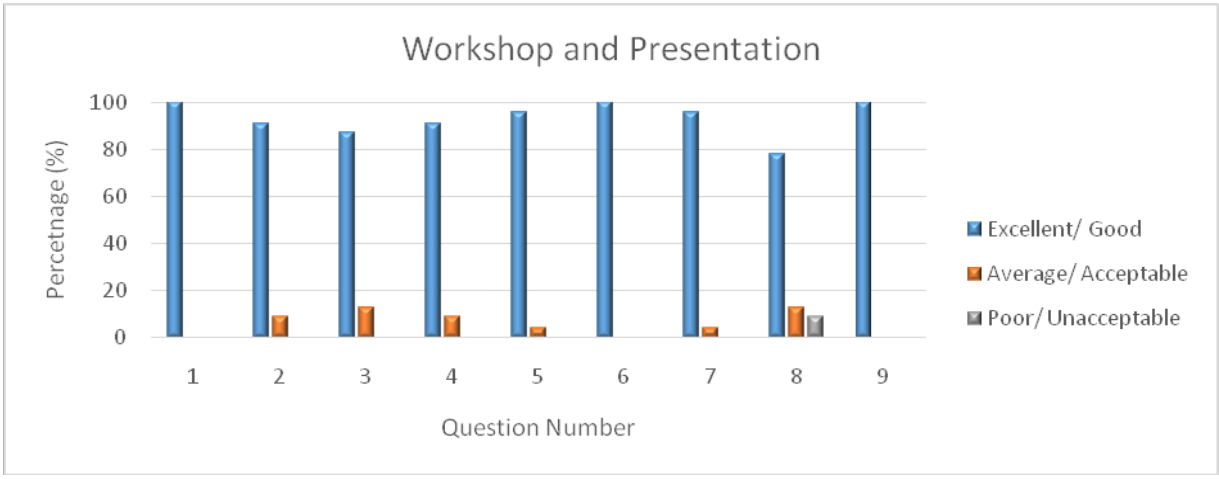

Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

Workshop Sessions:

- We need more examples;
- Excellent;
- Next session it will be interesting to have a real example of a management plan with all topics included. That is our conditions. SO we will have a clear idea on program of measures;
- Proposal: a fully case study, maybe from a recent EU member that understands the challenges of the candidate countries;
- It would be better if we discussed details RBMP of a candidate country;
- The workshop was interactive with practical examples and relevant information;
- Excellent;
- Please, more exercises, various topics and experiences;
- Workshop session was of a high standards. We exchanged the experience;
- Workshop sessions was of a high standard, we exchange the experience, knowledgeable;
- Workshop was organized in excellent manner. We have enhanced understanding of the knowledge for improving and facilitate the dialogue for CBA, CRA, methods of systems.

Facilitators:

- Excellent;
- Superb;
- Well organized, time schedule, topics. P. presentations concise;
- Complementary to each other. Interactive and practical information;
- Excellent;
- Facilitators were very well prepared. Present a lot case studies and experience on the subject matter;

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- Excellent;
- Great;
- Facilitators were well excellent, very interactive;
- The presenter (speaker)were very good, and I wish Ms. Mihaela a lot of workshops and long life of living;

Workshop level and content:

- Great!
- Considerably professional;
- Professional workshop;
- The workshop was organized very well with good logical arrangements and proper time frame;
- Presentations may be more organized and more clear;
- Excellent!;
- Very very good!
- Workshop was in high level, and fulfil my knowledge about significant water management issues, methods of values ecosystems, cost recovery analyses, cost benefit analyses.

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ANNEX I - Agenda

Day 1 : Tuesday, 15 September 2015

Topic: WMWG - 4th Screening Workshop on Program of Measures in Drina River Basin Pilot

Chair and Co-Chairs: Marta Moren Abat and Mihail Dimovski

Venue: Tirana, Albania

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	**09:00**	**Registration**		
09.00	09.15	Welcome and opening	Welcome and opening Ms. Marta Moren Abat, European Commission, DG Environment Mr. Mihail Dimovski (ECRAN Team Leader)	Address by EC Address by ECRAN
09.15	09.30	Introduction of the Agenda of the workshop	Ms. Mihaela Popovici, ECRAN Expert	Presentation and adoption of the agenda Introduction to the purpose of the annual WG meeting and workshop and its expected outcome
09.30	10.30	Presentation and discussion of the results achieved during the previous training workshops	Ms. Mihaela Popovici	Presentation of the approach, methodologies and the results achieved Method : PPP and Q&A
10:30	***11:00***	***Coffee Break***		
11.00	12.30	Methodology (phase 2) for preparing the PoM as part of the RBM Plan	Ms. Mihaela Popovici, All participants	Presentation of the concept for pressures assessment, steps and related templates (for preparing emission inventories and performing economic analysis)

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				and docs for the new components of the Program of Measures Method : PPP and Q&A Materials provided: methodology (phase 2) and screening templates
12:30	***14:00***	***Lunch Break***		
14:00	14:30	Issue papers for SWMIs in Danube River Basin	Mr. Gheorghe Constantin Head of Water Department, Ministry of Environment Romania TAIEX expert	Methodology for each of the selected SWMIs Issue papers – key topics, updates Method : PPP and Q&A
14:30	15:00	Development of the PoM at the national level and the coordination at the Danube River Basin and EU level	Mr. Gheorghe Constantin TAIEX expert All participants	Presentation will be focus on the national, regional and EU approach related to the development of the PoM given a particular attention on the coordination between these three levels Method : PPP and Q&A
15:00	***15:30***	***Coffee Break***		
15:30	16:00	Issue papers for SWMIs in Drina RB Pilot	Ms Mihaela Popovici All participants	Proposal for methodology, outline of the Issue papers for each of the selected SWMIs Materials provided: issue papers outlines Method : PPP and Q&A
16:00	17:00	Danube and Sava River Basins - visions and management objectives for each SWMIs	Mr. Gheorghe Constantin TAIEX expert All participants	Concepts and legal frames; agreed visions and management objectives for DRB and Sava RB Method : PPP and Q&A

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Day 2 : Wednesday 16 September, 2015

Topic: WMWG - 4th Screening Workshop on Program of Measures in Drina River Basin Pilot

Chair: Mihaela Popovici and Mihai Dimovski

Venue: Tirana, Albania

Start	Finish	Topic	Speaker	Sub topic/Content
09.00	09.30	Drina RB Pilot selected visions and management objectives for each SWMIs	Ms. Mihaela Popovici All participants	Proposals for visions and management objectives Agreement on vision and management objectives for Drina RB Method : PPP and Q&A
9:30	10:00	The assessment of the economic importance of water uses in the Danube River Basin	Mr. Cristian Rusu Head of Unit National Administration "Apele Romane" TAIEX Expert All participants	Key outcomes, results and lessons learned for all targeted beneficiaries Method : PPP
10:00	11:00	Interlinkages pressures assessment, economic analysis and the program of measures – Horizontal economic issues matrix	Ms. Mihaela Popovici, All participants	Presentation of the concept of the matrix covering: (i) Baseline scenario (ii) Cost-recovery analysis (iii) Cost-effectiveness analysis (iv) Cost benefit analysis Method : PPP and Q&A
11:00	***11:30***	***Coffee Break***		
11:30	12:00	Methodology for preparing the Cost-effectiveness analysis, as part of the PoM development process.	Mr. Cristian Rusu TAIEX Expert All participants	Presentation of the methodology, components, data collection, examples Materials provided: methodology Method : PPP and Q&A

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		Romanian approach		
12:00	12:30	Development of a baseline scenario (BLS) and the assessment of forecasts in key economic drivers	Ms. Mihaela Popovici All participants	Presentation of the concept for calculating projecting trends in key economic indicators and drivers likely to influence pressures and thus water status. Future trend projections considering developments to e.g. meet the EU Directives, for relevant sectors and SWMIs are considered in the scenario calculation for measures in the Drina RB. Method : PPP and Q&A
12:30	***14:00***	***Lunch Break***		
14:00	15:00	Economic control tools - Cost recovery as incentive for efficiently use of water resources and as a financing instrument	1 expert nominated per country to provide case studies of cost recovery approach for urban, industry, agriculture	Countries short information on the current status of the use of cost recovery, case studies, data availability, principles, assessment, knowledge gaps and uncertainties and solutions, lessons learned Method : PPP and Q&A
15:00	15:30	Economic issues for the justification of derogations	Mr. Gheorghe Constantin, TAIEX Expert All participants	Case studies for justification of derogations in the Danube River Basin based on disproportionate costs Method : PPP and Q&A
15:30	***16:00***	***Coffee Break***		
16:00	17:00	Key Measure Types and Quantitative Indicators	Ms. Mihaela Popovici, ECRAN Expert All participants	Introduction of the EU reporting schemes; links between the measures, investments, economics and related indicators. Method : PPP and Q&A

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Day 3 : Thursday 17 September, 2015

Topic: WMWG - 4th Screening Workshop on Program of Measures in Drina River Basin Pilot

Chair and Co-Chairs: Mihaela Popovici and Gheorghe Constantin

Venue: Tirana, Albania

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	**09:00**	**Registration**		
09:00	09:15	Wrap up of the key points of discussion from the first two days meeting	Ms. Mihaela Popovici, ECRAN Expert	
09:15	10:30	Public information and participation in the development of the PoM	Gheorghe Constantin TAIEX Expert All participants	Presentation of EU and Romanian approach related to the public/stakeholders information, consultation and involvement in the process of the development of the PoM Method : PPP and Q&A
10:30	***11:00***	***Coffee Break***		
11:00	12:30	Use of economic non market valuation methods in WFD implementation	1 expert nominated per country to provide case studies of using ecosystem services approach	ECRAN expert will make an introduction on the effectiveness of the economic non market economic methods. Countries will present short information on the current status of the use of payments for water ecosystem services, data availability, knowledge gaps and uncertainties and solutions Method : PPP and Q&A
12:30	***14:00***	***Lunch Break***		

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14:00	15:00	Lessons learned on using payments for ecosystem services	Mr. Cristian Rusu TAIEX Expert All participants	The use of PES in the WFD and MSFD economics, baseline information, calculation of economic benefits, uncertainties and advantages. Case Studies from different countries Method : PPP and Q&A
15:00	15:30	Economics aspects in the frame of the supplementary measures - Part of Cost Benefit analysis according to the WFD	Ms. Mihaela Popovici, ECRAN Expert	Approach for economic analysis for assessing cost and benefits of supplementary measures. Method : PPP and Q&A
15:30	***16:30***	***Coffee Break***		
16:30	17:00	Next steps and conclusions	Ms. Mihaela Popovici, ECRAN Expert	

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ANNEX III – Workshop materials (under separate cover)

Workshop materials including presentations and exercises, can be downloaded from:

http://www.ecranetwork.org/Files/Workshop_Materials,_4th_Screening_DRB,_September_2015,_Tirana.rar

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