Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

Report on the Workshop: "Program of Measure under the Water Framework Directive"

20 - 22 June 2016, Tirana

ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 2.3

"Workshop on Program of Measure under the Water Framework Directive"

20– 22 June 2016, Tirana, Albania

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
ND	Nitrates Directive
NVZ	Nutrient Vulnerable Zones
NWRM	National Water Retention Measures

LIST OF ABREVIATIONS	
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 Serbia
RS	Republic of Srpska
SAA	Stabilization 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.

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

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 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.

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, and 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;
- 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

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.

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

I. Background/Rationale

General information about the training

The "Regional Workshop on the Program of Measures" has been organized as planned by ECRAN project team in 2015, in Tirana, 19-22 June 2016.

The tasks of the Water Management Working Group (WMWG) under Activity 2.3 within the frame of ECRAN project are mainly focused on the strengthening of the technical capacities of the competent authorities in ECRAN beneficiaries' on the implementation of the Water Framework Directive (WFD), specifically in providing assistance in the development of trans-boundary River Basin Management Plans (RBMPs) and performing economic and financial analysis of the Program of Measures (PoM). In addition, the WMWG provides the frame for capacity building on inter-linkages between the WFD and the Marine Strategy Framework Directive (MSFD).

In relation with the task 2.3.2 which refers to the development of the trans-boundary RBMPs, the WMWG followed through the training workshops organised all steps required by the WFD towards the preparation of the RBMP, the elaboration of the PoM, but also the inter-linkages with other EU Directives which contribute to the WFD objectives, specifically the Urban Waste Water Treatment Directive (UWWTD), the Nitrates Directive (ND), the Industrial Emission Directive (IED), the Flood Directive (FD), the Environmental Quality Standards, and several others.

The group selected the Drina River Basin (RB) as a pilot river basin, which served as a platform to exercise different steps of the agreed methodology for drafting RBMP's and the PoM, but also to exchange experiences and knowledge, and to cooperate within the frame of a trans-boundary river basin.

To facilitate the involvement of all beneficiaries, the WMWG suggested participating with case studies following the same topics as for Drina beneficiaries, for the preparation of the RBMP and the PoM.

The final outcome of working together for the preparation of the RBMP and the PoM for the Drina RB and related case studies of all participating beneficiaries will be a report reflecting the Drina RBMP and Joint PoM.

This multi-beneficiary workshop discussed all chapters of the draft RBMP and the PoM, prepared until now, reviewed all background guidance documents used for responding to the WFD requirements, and discussed issues related to compliance and enforcement and implementation challenges of the WFD.

All Case studies prepared by the ECRAN beneficiaries and the lessons learned from the presentations and joint contribution have been summarized as well at this regional workshop.

At the remaining training workshop to be organized in Sarajevo, 11-13 July the final RBMP and PoM will be discussed, and implementation needs and challenges addressed.

The benefits of strengthening the technical capacity of the workshop participants were maximized through the training and exchange of experience offered by TAIEX assistance to the ECRAN project beneficiaries.

The Regional Workshop took place in Tirana (Albania), 19-22 June 2016.

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The first 2 days of the workshop were dedicated to the "Drina River Basin Management Plan and Program of Measures".

The most relevant methodologies, concepts, guidance and references in the RBMP development at the EU level, national level and used as well in the preparation of the Drina RBMP have been introduced and discussed.

The content of the Drina RBMP report, chapter by chapter has been summarised and comments requested.

For topics of high relevance such the SWMIs, the pressures assessment and the economic analysis, the concepts, methodologies and data needs and barriers for data collection have been examined during the 2nd day of the workshop.

The focus of the last day was on the presentations of a set of case studies from different countries describing approaches of assessing economic analysis, environmental objectives, preparation of the PoM, water quality and risk assessment. In addition, the participants discussed the methodology for ranking the investments based on categories of indicators, such as environmental impact, technology efficiency or national commitments.

Experiences from Romania have been shared on the development of the RBMP, identification of SWMIs, risk assessment and coordination mechanism, to support the fulfilment of the WFD objectives.

Summary of the main topics covered

1) **Drina RBMP and PoM development**

- Overview of the relevant EU policies and directives in the RBMP development
- Examination of the Drina RBMP draft 2 report and the case studies prepared by all beneficiary countries
- Discussion of the relevant methodologies, concepts, guidance and references in the RBMP development
- Analyse the coordination mechanism at the basin, regional, national and international levels for RBMP development and implementation
- Revise the Drina RB problems and Significant Water Management Issues (SWMIs)
- Introduce the impact and pressures assessment in Drina RB - WFD Article 5
- Discuss the risk assessment concept in Drina RB
- Discuss the assessment methodologies and criteria used for water quality status classification which can be applied by beneficiary countries
- Introduce the results of pressures and impacts of trans-boundary waters in Drina RB
- Discuss relevant Economic analysis – methodology, water price and tariffs, cost recovery
- Discuss Economic analysis – Environmental and resource cost, Affordability
- Examine options Financing and funding sources in the Drina Basin

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2) **Case studies and lessons learned**

- Introduce the experience in the development of RBMP at the regional, national and international level-Case study Romania
- Presentation of case studies on pressures assessment, cost recovery, cost benefit analysis, cost effectiveness analysis, environmental objectives
- Discussing the prioritization methodology for investments.

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II. Objectives of the Training

General Objective

The overall objectives of the workshop are to discuss the draft RBMP and its PoM for the Drina RB, together with all relevant legal and technical topics associated with the enforcement activities and steps to full compliance with the WFD in the beneficiaries.

Specific Objectives

- To enhance the understanding of the contribution of all EU policies and directives to the WFD objectives;
- To summarise and review all legal and technical guidance documents, and all valuable references used for the development of the RBMPs and the PoM's in line with the WFD;
- To discuss chapters of the current draft RBM Plan for Drina RB;
- To discuss chapters of the current draft PoM for Drina RB;
- To discuss case studies prepared by all beneficiaries for the RBMP and PoM, including the Economic Analysis, in line with the WFD;
- To share all lessons learned useful for the development of the RBMP and the PoM;
- To highlight the synergies between the WFD and all other EU Directives contributing to the WFD objectives;
- To examine options to support decision makers from the local to the trans-boundary and international level on the enforcement challenges;
- To review relevant needed coordination for the RBMP implementation at the national and regional level;
- Facilitate dialogue among the beneficiaries on specific topics that are needed to ensure WFD implementation;
- To brainstorm and discuss the activities needed for performing the remaining project tasks in line with WFD and to ensure the continuation of active involvement of all beneficiaries.

Expected Results

- Improved understanding of the topics, challenges and tasks, and related responsibilities; along the development of the RBMP in line with the WFD;
- Exchange of experience 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;
- 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

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basin 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:

1) 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;
2) facilitates coordination of the programmes of measures and other relevant programmes within the river basin district;
3) guarantees the main progress reporting mechanism to the EC - 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

The Urban Wastewater Treatment Directive (UWWTD)

The Council Directive 91/271/EEC concerning urban waste-water treatment was adopted on 21 May 1991. Its objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors (Annex III of the Directive) and concerns the collection, treatment and discharge of:

- Domestic waste water
- Mixture of waste water
- Waste water from certain industrial sectors (see Annex III of the Directive)

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The UWWTD addresses the major point sources, in particular the municipal waste water discharges and requests the identification of sensitive areas and compliance with treatment requirements.

The UWWTD has been amended by Commission Directive 98/15/EC, Regulation 1882/2003 and Regulation 1137/2008,Commission Implementing Decision concerning formats for reporting on the national programmes for the implementation of Council Directive 91/271/EEC (notified under document C(2014) 4208, (2014/431/EU)).

Four main principles are laid down in the Directive:

- Planning
- Regulation
- Monitoring
- Information and reporting

Specifically the Directive requires:

- The collection and treatment of waste water in all agglomerations of >2000 population equivalents (p.e.);
- Secondary treatment of all discharges from agglomerations of > 2000 p.e., and more advanced treatment for agglomerations >10 000 population equivalents in designated sensitive areas and their catchments;
- A requirement for pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems;
- Monitoring of the performance of treatment plants and receiving waters; and
- Controls of sewage sludge disposal and re-use, and treated waste water re-use whenever it is appropriate.

Nitrates Directive (ND)

The implementation of the Nitrates Directive (91/676/EEC) forms an integral part of the Water Framework Directive and is one of the key instruments in the protection of waters against agricultural pressures. The Nitrates Directive has the general purpose of “reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution” (Art.1). A threshold nitrate concentration of 50 mg/l is set as the maximum permissible level in water resources, and the Directive limits the application of livestock manure to land in excess of 170 kg N/ha/yr.

Waters referred to by the Nitrates Directive include all waters: surface, ground, transitional and coastal and marine waters.

The Nitrates Directive defines waters which are polluted or are liable to pollution as:

- Surface freshwaters, in particular those used for the abstraction of drinking water, which contain or could contain (if preventative action is not taken) nitrate concentrations greater than 50 mg/l;
- groundwaters which contain or could contain (if preventative action is not taken) nitrate concentrations greater than 50 mg/l;

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- natural freshwater lakes, or other freshwater bodies, estuaries, coastal waters and marine waters which are found to be eutrophic[1] or in the near future may become eutrophic if preventative action is not taken.

The first steps along the ND implementation included the designation of Nitrate Vulnerable Zones (NVZs) and the introduction of a strengthened range of measures in the NAP that farms within NVZs must comply with, such as:

- Identification of water polluted, or at risk of pollution
- Designation as "Nitrate Vulnerable Zones"(NVZs)
- Establishment of Codes of Good Agricultural Practice to be implemented by farmers on a voluntary basis
- Establishment of action programmes to be implemented by farmers within NVZs on a compulsory basis
- National monitoring and reporting.

The Nitrates Directive provides two options for designation of Nitrates Vulnerable Zones pursuant to its Article 3: to designate separate zones or announce the whole national territory as vulnerable to nitrate pollution. The aim of designating Nitrate Vulnerable Zones is to identify land sites and consequentially coastal areas where the discharge of an excess of nitrates could cause environmental degradation. Existing EU Member States have adopted different strategies for designation of the vulnerable zones.

Common Agricultural Policy

Agriculture affects both the quantity and quality of water available for other uses. In some parts of Europe, pollution from pesticides and fertilizers used exclusively in agriculture remains one of the main causes of poor water quality. Agriculture, especially the intensified agriculture can lead to nutrient pollution affecting water and soil, changing natural habitats and disturbing landscapes, plants and animals, through the excessive application of fertilizers and pesticides and the use of an irrigation water of poor quality and quantity.

These considerations have imposed development and promotion by the EU of the Common Agricultural Policy (CAP), with the objective of achieving sustainable and environmentally friendly agriculture. The EU's objective is to limit the negative effects and encourage the positive effects of agriculture on ecosystems biodiversity, climate, and landscape and nature conservation.

Based on FAO estimates for 2025, water saving and efficiency of its use measures are greatly needed as the estimates indicate that the amount of water needed for agriculture will increase by 14% compared to the current level, while for 2050 will not be enough fresh water necessary for food production worldwide.

There is a great potential to achieve positive environmental effects through merging the efforts of the two policies Common Agricultural Policy (CAP) and the Water Framework Directive (WFD). Several tools of the CAP, e.g. the Cross-Compliance and the Rural Development Programmes, could

[1] Eutrophication is the enrichment of waters by excessive input of nutrients such as nitrogen or phosphorus compounds. This results in the accelerated growth of algae and higher forms of plant life, resulting in an undesirable disturbance to the balance of organisms present and to the quality of the water concerned.

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contribute to implementation of the WFD. The Common Agricultural Policy backs up the Nitrates Directive through direct support and rural development measures.

The fact that WFD includes numerous provisions related to agricultural activity shows the importance of considering the synergies and their related effects between the WFD and CAP.

WFD provisions justifying the need for integration with CAP

The relevant WFD provisions highlighting the need of integration with CAP include:

- The amount of water used and how to use

- Waste water discharge conditions

- Economic activities which could give rise to diffuse pollution

- Physical changes produced in water bodies such as heavily modified water bodies.

WFD provisions related to different actions or inappropriate application of best agricultural practices

- Sampling of water for irrigation without a permit (WFD Article 11.3.e)

- Discharge of wastewater directly or indirectly into water courses without authorization (WFD Article 11.3.g & j)

- Inappropriate application of pesticides (period of application, type of pesticides, their application in the vicinity of water courses, etc.) (WFD Article 11.3.h)

- Modification of riparian areas of a water body without a permit (WFD Article 11.3.i).

Failing to comply with these provisions restrict the support or compensation for the farmers, which are not anymore eligible to get support.

WFD basic measures as cross compliance requirements under CAP

The most important WFD measures which are relevant for cross compliance are the basic measures (WFD Article 11). For this reason, the Water Directors of the Member States have agreed, at their meeting on 28-29 November 2012, on the feasibility of including basic measures in the cross-compliance requirements, recognizing that if these measures will be implemented by the farmers, this will contribute to the overall goals of water policy, as required by the WFD.

The basic measures address the pressure from agriculture on water resources as organic and nutrients point and diffuse pollution (WFD Article 11 (3)) contributing to achieve the WFD objectives.

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.

The most relevant guidance documents for this workshop are the following:

N° 1 – Economics and the Environment

N° 2 – Identification of Water Bodies

N° 3 - Analysis of Pressures and Impacts

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° 20 - Exemptions to the environmental objectives

N° 21 - Guidance for reporting under the WFD

N° 24 - River Basin Management in a changing climate

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 - Work programme 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

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Management, Climate Change and Water, Water Scarcity and drought, Agriculture and Water, Biodiversity and water, Hydromorphology and the Economic Issues.

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.

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- 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.
- 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).

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.

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EU LEGISLATION, GUIDELINES AND REPORTS

WATER

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

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IV. Highlights from the Training

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

Highlights Day 1

The first two days have been dedicated to the discussion of the Drina River Basin Management Plan and the Program of Measures.

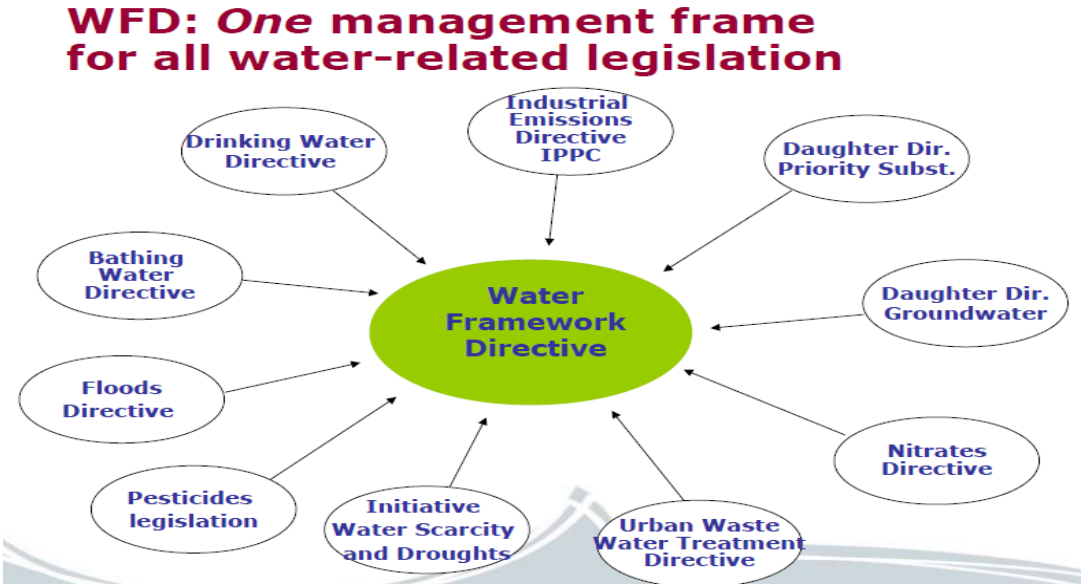
1. Overview of the relevant EU policies and directives in the RBMP development

Apart of the WFD, Nitrates Directive and the UWWT Directive which have been introduced in the previous chapters, there is a large package of EU legislation – directives, policies, regulations, communications which are useful for the preparation of the RBM plans, such as those shortly introduced below:

Blueprint and EU 2020

The Blueprint to Safeguard Europe's Water Resources initiative, launched by the EC in December 2012, which will set the agenda for EU water policy for the years to come – until 2050 -, in particular for the Common Implementation Strategy (CIS) that brings together the European Commission, Member States and stakeholders under the Water Framework Directive.

The Water Blueprint has established the objective "to improve compliance rates on waste water treatment by 2018 through long-term investment planning (including EU funds and EIB loans)".



In practical terms, the Blueprint announced that the Commission will cooperate with Member States to prepare implementation plans, which could take the form of partnership implementation agreements, by 2014.

The goal of Blueprint is to ensure sustainability of all activities that impact on water, thereby securing the availability of good-quality water for sustainable and equitable water use.

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Another priority issue in the Blueprint which is relevant for the selection and implementation of the program of measures is the need to harmonize the reporting timetables of the Urban Waste Water Treatment, Nitrates and Water Framework Directives.

The Blueprint contributes to EU 2020 and growth and jobs by reinforcing the natural capital foundation of our society. The Blueprint is the milestone for water on the Roadmap for a Resource Efficient Europe.

The Groundwater Directive (2006/118/EC)

Main provisions:

- Groundwater quality standards to be established by the end of 2008;
- Pollution trend studies to be carried out by using existing data and data which is mandatory by the WFD (referred to as "baseline level" data obtained in 2007-2008);
- Pollution trends to be reversed so that environmental objectives are achieved by 2015 by using the measures set out in the WFD;
- Measures to prevent or limit inputs of pollutants into groundwater to be operational so that WFD environmental objectives can be achieved by 2015;
- Reviews of technical provisions of the directive to be carried out in 2013 and every six years thereafter;
- Compliance with good chemical status criteria (based on EU standards of nitrates and pesticides and on threshold values established by Member States).

The Environmentally Quality Standards

The EQSD established:

- in Annex I, limits on concentrations of the priority substances in surface waters of 33 priority substances and 8 other pollutants
- the list of 33 priority substances in Annex II as Annex X of the Water Framework Directive (WFD);
- the possibility of applying EQS for sediment and biota, instead of those for water;
- the possibility of designating mixing zones adjacent to discharge points where concentrations of the substances in Annex I might be expected to exceed their EQS;
- a requirement for Member States to establish an inventory of emissions, discharges and losses of the substances in Annex I;
- an obligation to review the list of priority substances by 13 January 2011.
- Amended by Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013 amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy.

Flood Directive 2007/60/EC on the assessment and management of flood risks

Its aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity

The following stages are covered by the implementation process:

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- Preliminary risk assessment

- Flood mapping

- Flood risk management plans

Implementation shall be carried out in coordination with the Water Framework Directive, by flood risk management plans and river basin management plans being coordinated, and through coordination of the public participation procedures.

Initiative on Water Scarcity and Droughts

Based on the periodical follow-up results, assessment of the River Basin Management Plans and further information, a Policy Review for water scarcity and droughts has been completed in November 2012, which is part of the "Blue Print for Safeguarding European Waters" adopted by the European Commission on 14 November 2012.

In the next implementation cycles of the WFD this need to be ensured along with further integration of water quantity issues into sectoral policies. In addition, the integrating water quantity issues more fully into the overall policy framework will be key to the river basin management.

Pesticides legislation

Regulation (EC) no 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC

Directive 2009/128/EC of the European Parliament and of the Council establishing a framework for Community action to achieve the sustainable use of pesticides

Regulation (EC) no 1185/2009 of the European Parliament and of the Council concerning statistics on pesticides

Directive 2009/127/EC of the European Parliament and of the Council amending Directive 2006/42/EC with regard to machinery for pesticide application

Directive 2010/75/EU on industrial emissions (replacing IPPC Directive)

Main EU instrument regulating pollutant emissions from industrial installations

Aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT)

Activities listed in Annex I of the IED are required to operate in accordance with a permit (granted by the authorities in the Member States). This permit should contain conditions set in accordance with the principles and provisions of the IED.

Based on several pillars:

-integrated approach,

-use of best available techniques,

-flexibility,

-inspections

-public participation

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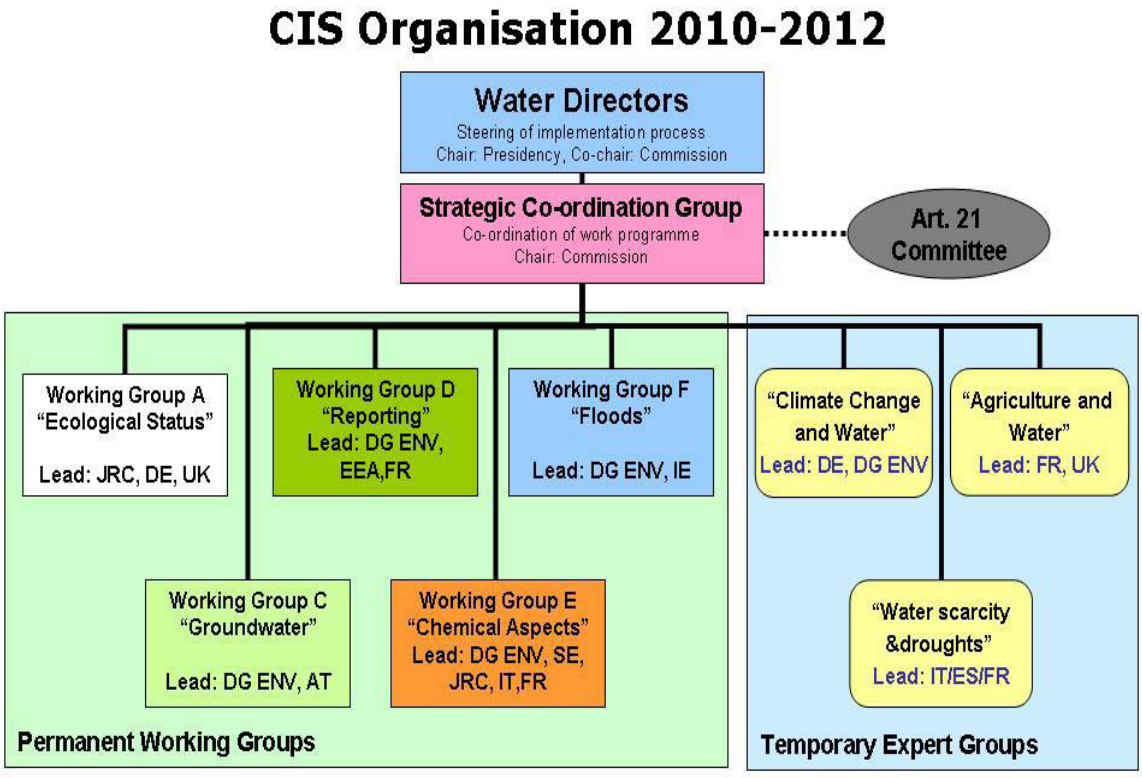
Through the European Pollutant Release and Transfer Register (E-PRTR) emission data reported by Member States are made accessible in a public register.

2. Review of the coordination mechanism at the basin, regional, national and international levels for RBMP development and implementation

Coordination structure at the EU Level

- Directorate General Environment
- Water and Marine Director Meetings
- Common Implementation Strategy for Water Framework Directive
- Common Implementation Strategy for Marine Strategy Framework Directive
- Marine Strategy Coordination Group
- Coordination Group for Common Implementation of the Water Framework Directive

Coordination required in several policy areas at the EU Level



3. Overview of the Drina RBMP draft 2

The WM WG agreed to prepare a report on the River Basin Management Plan and the Program of Measures, which will include information not only to Drina River Basin, but also case studies covering the non-Drina countries, on the same topics as for the Drina countries.

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The report followed the agreed methodology, includes the contributions of all beneficiary countries, and reflects the knowledge and the experience of the participants of the WM WG which is outstanding. Considering the data gaps, some parts of the report will be more theoretical than those where real assessment and interpretation have been made.

CONTENT OF THE REPORT ON THE PROGRAM OF MEASURES IN DRINA BASIN AND CASE STUDIES FROM ECRAN BENEFICIARY COUNTRIES

The Drina RBM plan is structured as follow:

1. **Introduction**
2. **Legal basis**
3. **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.
4. **Overview on the Significant Water Management Issues of the Drina RB**

   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.
5. **Identified significant pressures in the Drina RBD**
   a. Organic pollution
   b. Flooding
   c. Hydromorphological alterations
   d. Nutrient pollution
   e. Hazardous substances pollution
   f. Other significant issues
      i. Groundwater
         1. Groundwater quality
         2. Groundwater quantity
6. **Monitoring networks and ecological/chemical status**
7. **Environmental objectives and exemptions**
8. **Economic analysis of water uses**
9. **Drina Joint Programme of Measures**
   a. **Organic pollution**
      i. **Visions and management objective**
      ii. **JPM approach toward the management objective**
      iii. **Summary of joint measures on the basin wide scale**
   b. **Flooding**

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Highlights Day 2

4. Drina RB problems and Significant Water Management Issues (SWMIs)

Drina RB problems

Insufficient wastewater treatment and inappropriate waste disposal. This important area has come under threat of many unregulated dumps of untreated or inadequately treated waste, and wastewaters are discharged into the river and its tributaries.

A sustainable solution to Drina's problems imposes a synchronised cooperation at national and international level to ensure good water quality status for Drina River Basin, the preservation, protection and sustainable uses of water resources in the basin.

Flooding risk. The Drina basin is affected by floods, holds great natural assets and requires regional dialogue to balance competing demands for flood protection, hydropower production, and ecosystems needs. While many development opportunities have obvious national and regional significance, such as for hydropower, the waters of the Drina and its tributaries also are strongly connected to local economies, with livelihoods and environmental values, ranging from insecure water supply due to fluctuating

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Hydropower (HP) is dominating Drina water management. The DRB still holds the largest unutilized hydropower potential in Europe estimated to represent an additional 12,000 GWh per year. The existing reservoirs have insufficient routing capacity during flooding.

Significant soil erosion along the river banks caused by poor land management and zoning. This has compromised water retention capacity of the land and caused an increase in surface run off. In many locations, communities suffer from the large fluctuations in reservoir levels and dam water releases.

Uncontrolled exploitation of sand and gravel from the river bed has adversely affected the water regime of the Drina River and caused local bank erosion, endangering drinking water sources, affecting the natural ecosystems and destroying flood control structures such dikes.

Climate change impacts. The Drina basin is also considered an area most sensitive to climate variability within the Danube basin. There are landslides and droughts that affect water supply and agriculture. The river is notorious for its extreme high and low flows, with part of the base flow due to snowmelt. The extremes are exacerbated by un-harmonized operation of numerous hydropower plants. While the impact of climate change on the overall magnitude, duration and frequency of floods and droughts cannot be forecasted with precision, evidence exists that extreme wet and dry episodes have increased in recent years in frequency and in amplitude across the basin. Therefore, as the future economic and social policies of the countries will depend on sustainable water management, these policies will need to be calibrated against the best available forecasts for climate variability to ensure optimal climate change adaptation.

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.

Possible solutions to deal with the SWMIs in the Drina RB included, as suggested by the Drina countries include:

1. Increase of the sewage coverage and building of WWTPs.

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2. Development of sustainable flood management
3. Implementation of financial water management tools (water price, PPP)
4. Improvement of Water polluter's cadastre
5. Building of fish paths
6. Introduction of BMP in agriculture and nutrient management (soil testing, fertilizer application).

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.

5. Financing and funding sources in the Drina Basin

Financing sources

Domestic public finance remains the dominant source for water & sanitation. Among the funding sources, there are:

- EU funds (Pre accession and then cohesion);
- National and local budgets;
- Loans and PPP;
- Environmental Fund;
- Water operators;
- Consumers (tariffs and taxes).

The implementation of the POM considers the financing sources from:

- European funds - Cohesion Funds for implementation of the requirements of Drinking Water Directive and Urban Waste Water Directive and for financing of the measures addressing hydromorphology, priority substances and groundwater, EFARD, EFRD, LIFE, European Fisheries Fund, etc.
- Governmental budget, Environmental Fund, local budget, ministerial environment budget for specific research activities.

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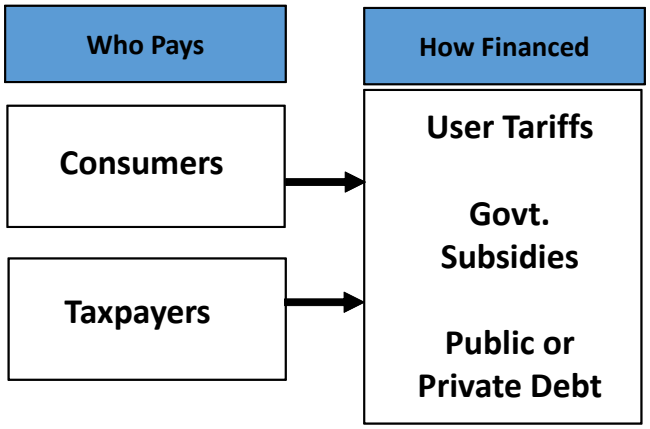
The financing paradox must be resolved



- Operators for water services and own sources of economic units for implementation of the technical measures;
- River basin authorities – contributions from all water users;
- Other sources (i.e. international loans).

The implementing financing strategy should consider:

- Ensure EU funds adsorption
- Linking the strategy to the budgetary decision making process
- Ensuring that tariff policies are sustainable from economic and social point of view
- Increase the collection rate for water bills
- Rehabilitate and rationalize infrastructure by adjusting its capacity to present and future
- Optimizing capital and operational expenditure

There are measures to improve creditworthiness, such as:

- Agreed programme of tariff increases, taking into account social considerations
- Clear / predictable allocation from central/local tax revenues
- Improved operational management/collections
- Increase data availability to make informed decisions.

Issue to be further explored include:

- Reassess the environmental cost in water price (including drinking water and waste water)

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- Assess, establish and internalize the environmental costs for diffuse pollution and hydromorphological alteration
- Reassess the environmental cost of water for irrigation
- Promote a system of social protection in order to improve affordability
- Balance supply and demand
- Implement the bonuses as an incentive for reaching good water status.

Highlights Day 3

The last workshop day was dedicated to the presentation of countries case studies related to the development of the RBM plan and the Program of Measures.

Albania presented the provisions introduced by the Law 111/2012 on "Integrated Water Resources Management" related to the resource use tariffs, fines / penalties which will be collected for the State Budget (Ministry of Agriculture, Rural Development and Water Administration).

In Bosnia & Herzegovina, the significant water management issues are defined as follows:

- Organic pollution of surface water,
- Nutrient pollution of surface water,
- Hazardous substances pollution of surface water,
- Hydromorphological alteration of surface water bodies,
- Alteration of ground water quality, especially due to nitrates and pesticides pollution,
- Alteration of quantity of ground water, especially due to excessive abstraction
- Insufficient reimbursement of water charges.

Further, Bosnia & Herzegovina presented the results of pressures assessment in the Drina River Basin, both in Federation of B&H and in Republic of Srpska, indicating the organic pollution from population, industry and the landfills.

Specifically, in Drina river basin, in Federation of B&H, there are 196 settlements, with 27.32% population connected to sewerage system, respectively 19.8 % in Republic of Srpska.

There are a total of 18 industries in Drina RB in FB&H and Republic of Srpska.

As diffuse sources of pollution, the main sources are:

- Land use (agriculture)
- Population that is not connected to sewerage – 195.200 out of 246.336 inhabitants is not connected (79.24 %)
- Farming (farms and fisheries) – total of 55

Regarding the hydromorphological alterations, in Drina RB in FB&H there are 4 Small HPP

- Goražde - Osanica 1 - 944 (kW)
- Goražde - Osanica 2 - 630 (kW)

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- Pale FBiH - Kaljani - 1.816 (kW)
- Pale FBiH - Čemernica - 1.105 (kW)

There are hydropower plants: HPP Višegrad, HPP Zvornik*, HPP Bajina Bašta*

In the category of hydromorphological alterations there are facilities for flood control and water regulation, sand and gravel excavation, especially in downstream river flow of Drina.

The following basic measures in Drina RB are proposed:

- To upgrade existing or build new sewage systems;
- To upgrade existing or build new wastewater treatment plants;
- To reduce nutrient pollution from agriculture sources;
- To reduce pesticides pollution from agriculture sources;
- Remediation of contaminated sites (historical pollution, including sediment, ground water, soil)
- To improve flow regime and/or establishment of environmental flow.

Former Yugoslav Republic (FYR) of Macedonia presented an update on the legislation, specifically the Law on Water, where the basic principles and requirements of the WFD and other EU Directives related to water are transposed with the start to implement from 01.01.2011. Under the Law on Waters, a number of 30 sub-legislation acts have been adopted, such as the WFD, UWWTD, Sludge Directive, Nitrate Directive, and Dangerous Substances Directive.

Full transposition in LW (Article 252)- River Basin Management Plan, also in Article 66(9) – Subsidiary law for detailed content and the method of development of the river basin management plans Official Gazette No. 148/09), and Article 71(3) – Subsidiary law for methodology of assessment of RB – Official Gazette No. 148/09**).**

Further, FYR of Macedonia introduced information about the cost-based valuation method – which is based on the assumption that the cost of maintaining an environmental benefit is a reasonable estimate of its value. Finally, about the necessity of assessing disproportionate costs, FYR of Macedonia considers an approach for determining whether the total costs of the programme of measures are disproportionately costly is relevant for justifying derogations or not.

Montenegro presented the results of pressures assessment for Drina River basin, where the main pollution source are communal untreated waters, as concentrated point sources. Further, the population which is not connected to the sewage system (rural and suburb areas), with their septic tanks, is considered as a diffuse source.

Other major pollution sources are:

- Energy generation (Coal mine Pljevlja, TE Pljevlja with its inappropriate dump sites with ash and slag, affected to Ćehotina and its watershed – ground waters; HE Mratinje at Piva)
- Agriculture (extensive agriculture and livestock farms at the valley of Lim and Ćehotina and Žabljak area, as well)
- Heating, prevailed with local coal (Pljevlja city) and the wood (other cities)
- Food industry associated with livestock farms (Bijelo Polje and Pljevlja)

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- Atmospheric run-off from urban and traffic surface
- Communal solid waste – trash dumps (Berane, Pljevlja, Bijelo Polje, Kolašin)
- Touristic activities (Tara)
- Waste disposal of Mine of lead and zinc at Šuplja stijena
- Mine area around Mojkovac (natural run-off of heavy metals from land to local rivers)
- Several fish ponds.

As potential future sources there are:

- The new coal mine at the border of urban zone of Pljevlja
- Planned coal mine at new location Maoče, near Pljevlja, aimed for the planned, new TE Pljevlja II.

Montenegro proposed the following basic measures for Drina RB:

- Building the WWTP installations at the municipal centers (Master plan)
- Building the sanitary landfill for each municipality and closure of the existing dumps with remediation of their area (Master plan).
- Implementation of BAT and environmental friendly technologies, with treatment of their waste waters before discharging, in existing and new industries, especially at Pljevlja (Mine and TE), which is absolute biggest pollution source at DRB part in Montenegro.

Finally, Montenegro introduced the assessment methodologies and criteria used for water quality status classification, according to the Regulation on waters quality classification and categorization (Off p of Mne, No 02/07).

Turkey introduced the calculation of Cost Recovery for the Büyük Menderes RBMP, with exemplification of the provisions for the cost recovery mechanisms and the respective calculations in the case of (i) the supply of surface water to agriculture (irrigation), (ii) supply of groundwater to agriculture (irrigation), (iii) supply of domestic and industrial water from surface waters and groundwater, (iv) waste water collection and treatment for households and industries, and (v) waste water collection and treatment by industries (having own treatment facility or an OIZ treatment facility).

Water services	Payments of water users	Costs made by providers of water services	Cost recovery (%)	Cost recovery mechanism
1. Supply of surface water to	No fee for farmers with self service	Farmers (self service)	60	Revenues equal costs

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agriculture (irrigation)	Farmers pay a fee to irrigation unions	1. Irrigation unions (operations & maintenance) + 2. Repayment of investment costs		Farmers pay yearly fee/ha 1. Fee consists of fee depending on crop/ha 2. Fixed fee is not dependent on crop ** (Fee not related to actual water use)*
2. Supply of groundwater to agriculture (irrigation)	No fee for farmers with self service	1. Farmers (self service)	80	Revenues equal costs
	Farmers pay a fee to irrigation cooperative	1. Irrigation unions (operations & maintenance) + 2. Repayment of investment costs		Farmers pay yearly fee/ha 1. Fee consists of fee depending on crop/ha 2. Fixed fee is not dependent on crop ** (Fee not related to actual water use)*
3. Supply of domestic and industrial water from surface waters and groundwater	Households and industries pay to municipality	DSI constructs dams, pipelines, treatment plants and water storage house. Municipality builds pipelines to houses.	between 50 and 100	Households and industries pay progressive fees.
4. Waste water collection and treatment for households and industries	Payments of households and industries for sewage system and treatment to municipalities	Municipalities cover the costs of sewage systems connected to treatment plants (Investments, and Operation and Maintenance)	40	Fee for connection to sewage system paid once. Sometimes fees are integrated with drinking water bills.
5. Waste water collection and treatment by industries (having own treatment facility or an OIZ treatment facility)	Factories (themselves or in an OIZ) treat their own waste water and discharge into the receiving environment, which is controlled by the ministry	Factories (themselves or in an OIZ)	45	Factories (themselves or OIZ) pay for the complete treatment according to By-Law on the Control of Water Pollution.
	Factories (themselves or in an OIZ) discharge to the municipal system2 after primary treatment	Factories (itself or in an OIZ) pays for part of treatment. Municipality covers costs of advanced treatment and municipal system		Factories (themselves or in an OIZ) pay for the additional treatment.

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In the analysis of cost recovery for water services, all services shall be considered, which is provided for households, public institutions or any economic activity: (a) abstraction, impoundment, storage, treatment and distribution of surface water or groundwater, (b) waste-water collection and treatment facilities.

The role of pricing and levels of cost-recovery involve:

- An identification of water services structure, the entities providing water services, the public sector investors and the cost-recovery instruments;
- An estimation of the price/tariff currently paid by users and analysis of its structure;
- A study by water service (limited to water supply and sanitation) of the contribution of the significant water uses (at least industry, households and agriculture) to the costs of water services (including the financial, environmental and resource cost).

The level of cost recovery for water services must be calculated for a given year by dividing the annual income and the annualized cost of services.

The costs of water services consist of financial cost and non-financial cost (environmental and resource costs). It should be noted that at this stage of the planning process, only the financial cost shall be assessed.

Financial costs includes current costs (operation: costs incurred to keep an environmental facility running; and maintenance: costs for maintaining existing or new assets in good functioning order till the end of their useful life) and capital costs (cost of new investment expenditures for the provision of services).

For each type of infrastructure, capital costs are calculated on an annual basis as the aggregated Annual Equivalent Cost (AEC) of the investments made in the corresponding period of lifetime.

Environmental costs may be assessed as the capital costs (aggregated Annual Equivalent Cost) of the measures to be executed (in the year for which the analysis is performed), aimed at correcting an environmental status worse than the objective, when such a condition is due to a deterioration caused by the use of water and it is associated with a water service.

Turkey illustrated as well the approach for calculating the cost recovery.

In the situation of misallocation, the way to assess the resource cost is the functioning of water markets and resulting water prices. However, water markets are not widely implemented in Turkey.

Another option is to assess the resource cost as the opportunity cost in a scenario of overexploited resources and reduction of water allocations, for Konya River Basin.

This scenario of overexploited resources should be thought in terms of overexploitation of groundwater bodies, as well as of water stress situations in which environmental needs (ecological flow) are not satisfied.

The methodological approach for assessing the cost of the resource is the marginal water product, in a region / zone it is an observable indicator. When reducing water allocations (to confront a situation of overexploitation), the opportunity cost is equivalent to the foregone value of the activity that must end.

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Other key points of discussion

In addition to the highlighted topics, other issues were raised and discussed at the meeting, including the following topics:

1. Mixing zones - The Water Framework Directive (WFD) aims to protect the aquatic environment and human health by reducing pollutants at the source. In order to achieve this, the concentration of priority substances should be lower than Environmental Quality Standards (EQS) values at the point sources. There are cases when the priority substance exceeds the EQS at the effluent discharge, however, they should be met at a distance close to the discharge point. The zones in the vicinity of discharge points where the priority substances exceed the relevant EQS values are called mixing zones.
2. Small hydropower plants - There are many aspects which have to be taken into consideration, covering many disciplines ranging from business, engineering, financial, legal and administration. These will all be necessary at the different development stages from, first choosing a site until the plant goes into operation.
3. Fish migration, connectivity, barriers, solutions
4. Monitoring pesticides: In order to achieve the objectives of good status in ground- and surface waters, article 11.3 in WFD states that a review of, and if necessary updates of, the measures to prevent and control the use of pesticides should be performed and included in the River Basin Management Plans (RBMPs). Instruments for achieving sustainable use of pesticides are voluntary agro-environment commitments funded within Rural Development Programs (RDPs) and regulatory minimum requirements of cross compliance and basic measures according to WFD. According to WFD risk based (operational) monitoring programs should be designed in order to follow the need of measures in order to reduce pollutants in ground- and surface waters. These costs of monitoring are within the member states to a various extent covered by the public and the pesticide users. The implementation of the WFD has been running for the first management cycle and there are various implementation gaps in Member States depending on prerequisites and national problems and opportunities.
5. The application of the water classification methodology, in line with the WFD Guidance Document N° 13 - Overall Approach to the Classification of Ecological Status and Ecological Potential
6. User tariffs, assessment of cost recovery through water pricing, water tariff reforms implemented to charge the "full price of water", to achieve the WFD objectives of full cost recovery and efficient water use
7. Regionalization of water services, in terms of consolidating water utility ownership, operations, or management within a politically geographic or hydrogeological area. Regionalization reflects institutional change in terms of establishing public policy and resource planning frameworks that encompass regional considerations.
8. Financing, economies of scale, approaches for urban wastewater and water supply joint management.

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Final Workshop Outcomes

Based on the discussions at the workshop, the outcomes of the training consist of the following:

- Improved understanding of the topics, challenges and tasks, and related responsibilities along the eutrophication process, and the selection of the reduction measures in the RBMP in line with the WFD
- Agreement on the final draft of the Drina RBM Plan and the Program of Measures
- 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 on eutrophication reduction measures
- Guidance documents related to the WG tasks discussed and clarified

The participants have also agreed on the topics of discussion in the final workshop planned for 11-13 July 2016, dedicated to the first task of the Water Management Working Group – preparation of the Drina RBM Plan, implementation needs and challenges.

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V. Evaluation

Workshop – Participants' Evaluation

Question		N°. Responses	Yes	No	Partially	Do not know
1. Was the workshop carried out according to the agenda		18	17 (94)%	1 (5)%	0 (0)%	N/A
2. Was the programme well structured?		18	18 (100)%	0 (0)%	0 (0)%	N/A
3. Were the key issues related to the topics addressed?		18	18 (100)%	0 (0)%	0 (0)%	N/A
4. Did the workshop enable you to improve your knowledge?		18	17 (94)%	1 (5)%	0 (0)%	N/A
5. Was enough time allowed for questions and discussions?		18	18 (100)%	0 (0)%	0 (0)%	N/A
6. How do you assess the quality of the speakers?	Speaker/Expert	N°. Responses	Excellent	Good	Satisfactory	Poor
	3	43	36 (83)%	7 (16)%	0 (0)%	0 (0)%
Question		**N°. Responses**	**Yes**	**No**	**Partially**	**Do not know**
7. Do you expect any follow-up based on the results of the workshop (new legislation, new administrative approach, etc.)?		18	15 (83)%	3 (16)%	N/A	N/A
8. Do you think that further TAIEX assistance is needed (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?		15	15 (100)%	0 (0)%	N/A	N/A
9. Were you satisfied with the logistical arrangements, if applicable?	Conference venue	18	16 (88)%	0 (0)%	2 (11)%	0 (0)%
	Interpretation	14	14 (100)%	0 (0)%	0 (0)%	0 (0)%
	Hotel	17	15 (88)%	1 (5)%	1 (5)%	0 (0)%

Comments:

- Mr Mihail Dimovski didn't attend the Workshop, so I can not assess the quality of presentation;
- During the filling my form I wrongly marked z. Mihail Dimovski;
- I consider that lecturers have a very good experience regarding the issues that have to do with the requirements of the European Union, for water and environmental objectives. They know how to transfer their knowledge to the Working Group of the Beneficiaries countries;
- Preferably all participants to be more active in some way. So that anyone could present something of accomplishments in their own country related to the topic of the workshop or at

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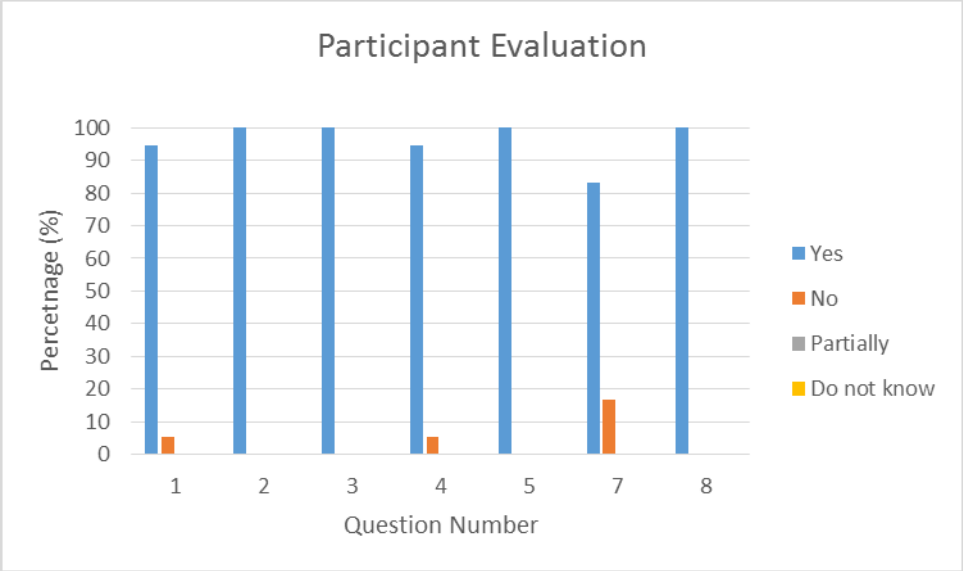
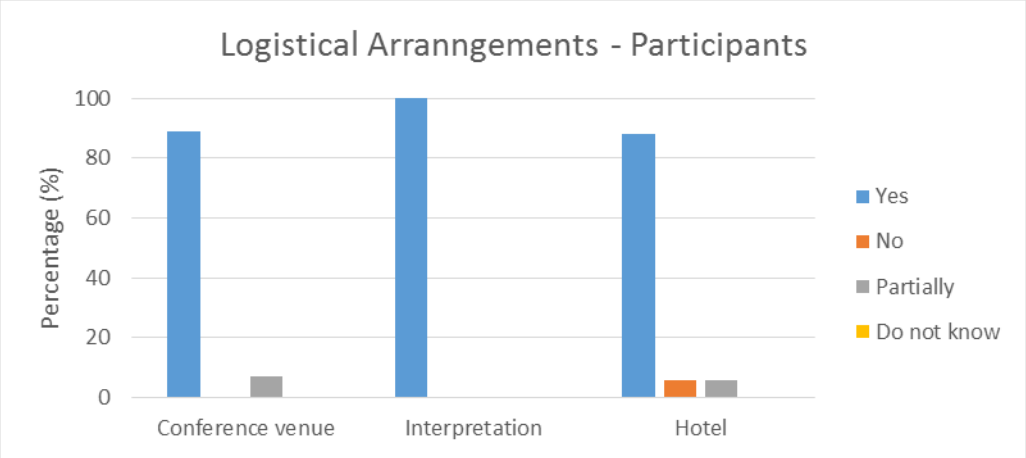
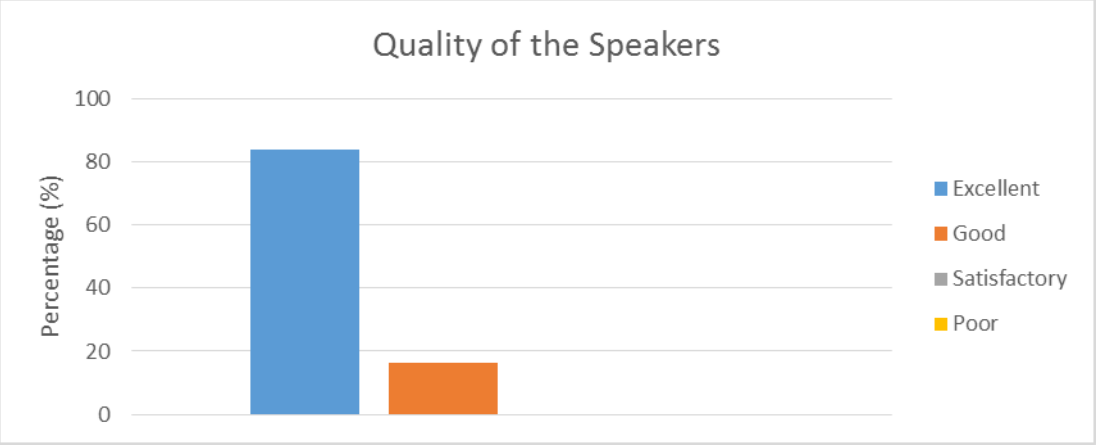
least participate in the discussion.







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Workshop – Speakers' Evaluation

Question		N°. Responses	Yes	No	Partially	Do not know
▪ Did you receive all the information necessary for the preparation of your contribution?		3	3 (100)%	0 (0)%	0 (0)%	N/A
▪ Has the overall aim of the workshop been achieved?		3	3 (100)%	0 (0)%	0 (0)%	N/A
▪ Was the agenda well structured?		3	3 (100)%	0 (0)%	0 (0)%	N/A
▪ Were the participants present throughout the scheduled workshop?		3	3 (100)%	0 (0)%	0 (0)%	N/A
▪ Was the beneficiary represented by the appropriate participants?		3	3 (100)%	0 (0)%	0 (0)%	N/A
• Did the participants actively take part in the discussions?		3	3 (100)%	0 (0)%	0 (0)%	N/A
• Do you expect that the beneficiary will undertake follow-up based on the results of the workshop (new legislation, new administrative approach etc.)		3	3 (100)%	0 (0)%	N/A	0 (0)%
• Do you think that the beneficiary needs further TAIEX assistance (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?		3	3 (100)%	0 (0)%	N/A	N/A
• Would you be ready to participate in future TAIEX workshops?		3	3 (100)%	0 (0)%	N/A	N/A
• If applicable, were you satisfied with the logistical arrangements?						
	Conference venue	3	3 (100)%	0 (0)%	0 (0)%	0 (0)%
	Interpretation	3	3 (100)%	0 (0)%	0 (0)%	0 (0)%
	Hotel	3	3 (100)%	0 (0)%	0 (0)%	0 (0)%

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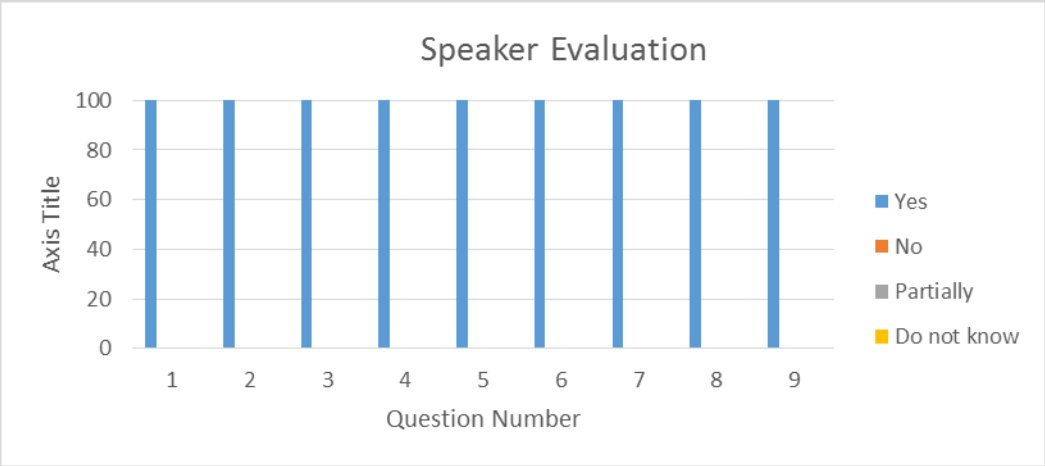

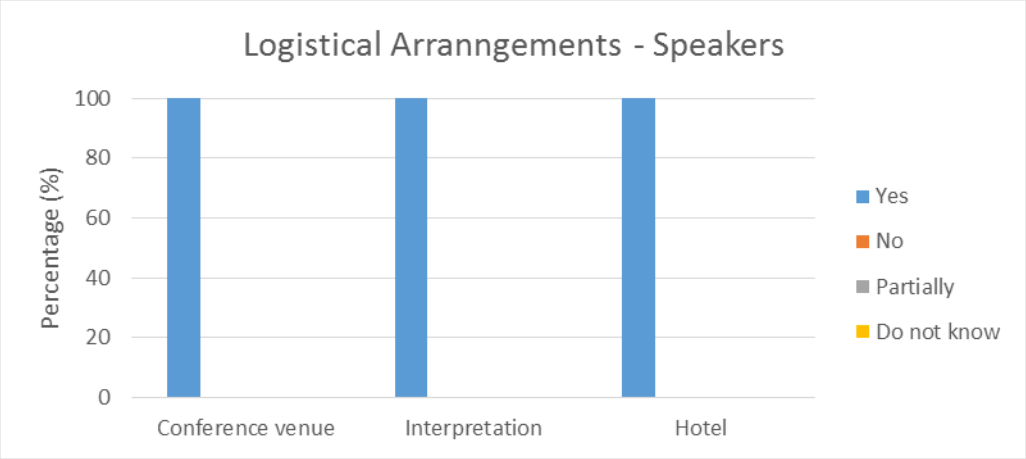

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ANNEX I – Agenda

Day 1: Monday 20 June 2016

Topic: WM WG – Multi-beneficiary Workshop: "WFD – Program of Measures" Drina RBMP and PoM **Chair and Co-Chairs: Mihail Dimovski and Mihaela Popovici**				
08:30	**09:00**	**Registration**		
09.00	09.15	Welcome and opening	Mr. Mihail Dimovski ECRAN Team Leader	Address by ECRAN
09.15	09.30	Introduction of the Agenda of the workshop	Ms. Mihaela Popovici	Introduction to the purpose of the workshop and its expected outcome Presentation and adoption of the agenda
09.30	10.30	Presentation and discussion of the results achieved in 2015 related to the WFD 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	Overview of th relevant EU policie and directives in th RBMP development	Mr. Gheorghe Constantin Head of Wate Department, Ministry c Environment Romania TAIEX expert All participants	1) Review of the key issues EU policies 2) Review of the key issues EU Directives Method : PPT and Q&A
12:30	***14:00***	***Lunch Break***		
14:00	15:00	Overview of th relevant methodologies, concepts, guidanc and references in th RBMP development	Ms. Mihaela Popovici	Review of the most useful guidance, methodologies and references in the RBMP development and implementation Method : PPP and Q&A

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15:00	15:30	Review of the coordination mechanism at the basin, regional, national and international levels for RBMP development and implementation	Mr. Gheorghe Constantin TAIEX expert All participants	Concepts, experiences, recommendations to ensure proper development, involvement and implementation of the RBMP Method : PPP and Q&A
15:30	***16:00***	***Coffee Break***		
16:00	16:30	Overview of the Drina RBMP draft	Ms. Mihaela Popovici All participants	Through this presentation, the 2nd Drina RBMP is summarized, including the received comments/suggestions Method : PPP and Q&A
16.30	17.00	Overview of the Drina PoM draft	Ms. Mihaela Popovici All participants	Through this presentation, the 2nd Drina PoM is summarized, including the received comments/suggestions

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Day 2: Tuesday 21 June 2016

Topic: WMWG - Regional Workshop: "WFD – Program of Measures" Drina RBMP and PoM

Chair: Mihaela Popovici and Gheorghe Constantin

Start	Finish	Topic	Speaker	Sub topic/Content
09.00	09.30	Drina RB problems and Significant Water Management Issues (SWMIs)	Mr. Gheorghe Constantin TAIEX expert Serbia All participants	Presentation of an overview of the assessment of the most significant problems in the Drina RB Input from Serbia on the topic Comments and suggestions Method : PPP and Q&A
09.30	10.00	Impact and pressures assessment in Drina RB - WFD Article 5	Mihaela Popovici Bosnia and Herzegovina Kosovo[2]* All participants	Presentation of concept, criteria, pressures and impacts in Drina RB Input from Bosnia and Herzegovina and Kosovo* on the topic Comments and suggestions Method : PPP and Q&A
10:00	10:30	Risk assessment in Drina RB	Mr. Gheorghe Constantin The former Yugoslav Republic of Macedonia All participants	Presentation of the risk assessment concept in Drina RB Input from the former Yugoslav Republic of Macedonia on the topic Comments and suggestions Method : PPP and discussions
10:30	***11:00***	***Coffee Break***		
11:00	12:00	Assessment methodologies and criteria used for water quality status classification	Mihaela Popovici All participants	Presentation of the existing methodologies and criteria used for water quality status classification Comments and suggestions

[2] This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

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				Method : PPT and Q&A
12:00	12:30	Results of pressures and impacts of trans-boundary waters in Drina RB	Ms. Mihaela Popovici All participants	Overview of trans-boundary effects in Drina RB Comments and suggestions Method : PPP and Q&A
12:30	***14:00***	***Lunch Break***		
14:00	15:00	Economic analysis – methodology, water price and tariffs, cost recovery	Mihaela Popovici Montenegro Turkey All participants	Presentation of the methodology used for the Drina RBMP and results Input from Montenegro and Turkey Comments and suggestions Method : PPP and Q&A
15:00	15:30	Economic analysis – Environmental and resource cost, Affordability	Mihaela Popovici Albania the former Yugoslav Republic of Macedonia All participants	Presentation of the concepts and results of calculating environmental and resource cost and assessing affordability concerns Input from Albania and the former Yugoslav Republic of Macedonia on the topic Comments and suggestions Method : PPP and Q&A
15:30	***16:00***	***Coffee Break***		
16:00	17:00	Financing and funding sources in the Drina Basin	Mr. Gheorghe Constantin TAIEX expert Serbia All participants	Presentation of the financing options and possible funding sources for WFD implementation in Drina RB Input from Serbia on the topic Comments and suggestions Method : PPP and Q&A

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ANNEX II – Participants

First Name	Family Name	Institution Name	Country	Email
Adrian	Shtino	River Basin Agency Ishem-Erzen	Albania	aubishemerzen@yahoo.com
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Gheorghe	Constantin	Ministry of Environment, Water and Forest	Romania	Gheorghe.constantin@mmediu.ro
Mihaela	Popovici	ECRAN	Austria	mihaela_popovici@yahoo.com

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ANNEX III – Workshop materials (under separate cover)

Workshop materials including presentations and case studies can be downloaded from:

http://www.ecranetwork.org/Files/Workshop_Presentations_WFD_PoM_June_2016_Tirana.zip

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