



SEPIC

Support to Enhance Privatization, Investment, and Competitiveness in the Water Sector of the Romanian Economy

REVIEW OF LEGAL AND POLICY FRAMEWORK FOR WATER MANAGEMENT

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ACRONYMS

ANAR – National Administration "Romanian Waters"
APM – Environmental Protection Agency
ARPM – Regional Agency for Environmental Protection
DA – River Basin Directorates
EU (UE) – European Union
EG (GM) – Environment Guard
ICIM – Research Institute for Environment Engineering
ICPDA – International Commission for Protection of Danube River
INMH – National Company “National Institute of Meteorology and Hydrology
INHGA – National Institute of Hydrology and Water Management” S.A
IPPC – Integrated Pollution Prevention and Control
GD – Governmental Decision
GO – Governmental Ordinance
GOR – Government of Romania
GUO – Government Urgency Ordinance
MEWM – Ministry of Environment and Waters Management
NGO – Non-Governmental Organization
NTPA – Technical Normative on Water Protection
PIAC/ CIPA – Principal International Alarm Center
RBD – River Basin Directorate
SEPIC – Support to Enhance Privation, Investment and Competitiveness in the Water Sector of the Romanian Economy
SGA – Water Management Systems
STAS – Governmental Standard
WATMAN – Integrated **Water Management** Informational and Decisional System
WFD – Water Frame Directive

INTRODUCTION

EU accession is an important goal of the Government of Romania (GOR), which anticipates being invited to join in 2007. As part of the accession process the GOR must harmonize its national legislation to EU law and specific directives, including those related to water. The Water Framework Directive (WFD) mandates integrated river basin planning and management for EU Member States and Candidate Countries from the date of their accession to the EU. The GOR is now in the process of designing and implementing an integrated water management system.

The development of the capacity for integrated water management is not motivated simply by the legal requirements of accession. Romania has experienced significant economic losses from floods, accidental spills, and droughts, costs that could be substantially reduced through improved monitoring, use of effective decision support system tools in managing water allocation and quality, and implementation of a comprehensive communication network to ensure timely response by water users and the public to forecasts and warnings. Shortage of water may be the most urgent health problem currently facing some basins, exacerbated by geography, geology and hydrology. In addition, climate change is predicted to have an influence, especially in coastal areas where flooding may disrupt sanitation infrastructure and thereby contaminate watercourses. Although many parts of Europe are currently well provided with fresh water, the water resources are unevenly distributed between and within countries, leading to shortages in many areas. The countries that are heavily populated and receive only moderate rainfall are particularly affected. Groundwater and surface water have a limited capacity for renewal, and pressures from agriculture, industry and domestic users affect the quantity of water resources. Both water quality and availability must therefore be integrated in long-term planning and policy implications concerning water management.

WATMAN Project plans for strengthening Romania's capacity for integrated water management in Romania; to attend this goal, a particular attention focused on the policy, institutional, and infrastructure requirements for this new management regime. This chapter is referring to legal and policy aspects.

Romanian legislation: Looking to the water legislation evolution, we distinguish two phases: before 2000 and after EU accession preparing period of Romania. Until 1974 the legislation defined the strategy in water quantity management. Beginning with 1979, aspects of water quality control were included in the water management activity.

The determining legislation for water quality including environmental aspects are: the **Environmental Protection Law** (No. 137/1995) and the **Water Law** (No. 107/1996). The Law states that environmental protection is a national public interest, thus obligating both the public and private sectors to comply with the principles of the Law. The Law provides for the participation of non-governmental organizations and the public in decision-making and implementation. It also guarantees access to information regarding environmental quality.

The Law requires permits for all new, existing, or modified operations that may affect the environment. An obligation for enterprises to assist MEWM is imposed that permits the inspection of facilities, mandates submission of information and environmental impact reports. The public is invited to participate in permitting actions. Upon review of a permit application, MEWM must decide whether the proposed activity will have an impact on the environment.

If it does, then an environmental impact report must be prepared by qualified individuals or companies authorized by MEWM. MEWM then considers the report in an open debate and decides on the disposition of the permit. MEWM can propose favourable treatment (i.e., reduction of taxes) for individuals and/or legal persons who successfully take measures to reduce pollution in their respective area.

The Environmental Protection Law is a framework law based on the principles of precaution, polluter pays, and public participation. As a framework law, it must be complemented by more detailed and specific laws, decisions and orders.

The **Water Law** (No. 107/1996) establishes the responsibilities of MEWM in the area of water management. The Law states that water resources management is the responsibility of MEWM, and these responsibilities are elaborated in Government Decision No. 104/1999. According to this decision, MEWM is responsible to prepare, promote and apply strategies for water and environmental management including water quantity, quality, and infrastructure. Through its national headquarters and a series of regional offices, MEWM is responsible for inspection and control to assure implementation of the Law and to apply penalties for violations of the Law.

MEWM has the obligation to implement special measures *to guard against floods and accidental pollution*. The legal framework for a flood early warning and accidental spill system is defined by the Law and also by regulations issued afterwards:

| | |
|---|--|
| Decision No. 472/2000 and Ordinance No. 454/2001 | Authorization of the national water monitoring system |
| Decision No. 118/2002 | Authorization of the action program to reduce water pollution |
| Decision No. 114/2001 | Authorization of River Basin Committees whose main functions are approval of: Water rationing during drought periods; Plans to prevent and fight against accidental pollution; and Integrated watershed management plans |

The new Water Law no. 107/1996 settles two important elements, adding to the current legislation in the field, as it follows:

- The River Basin Committees, which provide the participation of the involved stakeholders in the decision – making process for water management;
- The economic mechanisms consisted in prices, tariffs, penalties and bonuses having the aim to protect the water resources and to provide an efficient management for the water systems.

Beginning 1997, some regulations referring mainly to water quality aspects were defined by different Government Decision (GD) like no. 101 and 740/1997. One important ordinance is referring to the allowable limits of the pollutants discharged in the sewage systems.

Actions and responsibilities during floods were established through GD no. 678/2000, an important document for acting during water disasters.

After 2001, the legislative documents in water domain were directed to transposition of the 2000/60/EC Water Framework Directive (WFD) into the Romanian legislation. This is the beginning of sustainable **water management** period – this involves an integrated quantity and quality water control and healthy ecosystems.

2. EU WATER LEGISLATION

Water is one of the most comprehensively regulated areas of EU environmental legislation. Early European water policy began in the 1970s with the adoption of political programmes as well as legally binding legislation. As regards programmes, the First Environmental Action Program covered the period 1973-76, and the latest so far is the 5th Environmental Action Program adopted for the years 1993 - 2000. The Commission is currently preparing a 6th Action Program as a follow-up. Parallel to political programmes a first wave of legislation was adopted, starting with the 1975 Surface Water Directive and culminating in the 1980 Drinking Water Directive. This first wave of water legislation included water quality standard legislation on fish waters (1978), shellfish waters (1979), bathing waters (1976) and groundwaters (1980). In the field of emission limit value legislation the Dangerous Substances Directive (1976) and its Daughter Directives (1982-1986) on various individual substances were adopted.

A second wave of water legislation followed a review of existing legislation and an identification of necessary improvements and gaps to be filled. This phase of water legislation included the Urban Waste Water Treatment Directive (1991) and the Nitrates Directive (1991). Other elements identified were revisions of the Drinking Water and Bathing Water Directives to bring them up to date (proposals for revisions being adopted in 1994 and 1995 respectively), the development of a Groundwater Action Program and a 1994 proposal for an Ecological Quality of Water Directive. Also, for large industrial installations, the IPPC Directive (finally adopted in 1996) covered water pollution as well.

There have been, at Member State as well as at European level, basically two different approaches to tackle water pollution:

- The **Water Quality Objective approach (WQO)** defines the minimum quality requirements of water to limit the cumulative impact of emissions, both from point sources and diffuse sources. This approach therefore focuses on a certain quality level of water in which condition and use is not harmful for the environment and human health. This approach was mainly used in the first wave of water directives (1975 to 1990) such as the Surface Water Directive (1975) or the Bathing Water Quality Directive (1976);
- The **Emission Limit Value approach (ELV)** focuses on the maximum allowed quantities of pollutants that may be discharged from a particular source into the aquatic environment. This approach in fact looks at the end product of a process (waste water treatment, discharges from industry, effect of agriculture on water quality) or what quantities of pollutants may go into the water and was mainly used in the second wave of water legislation during the 1990s: the Urban Waste Water Treatment Directive (1991), the Nitrates Directive (1991) and the IPPC Directive (Integrated Pollution Prevention and Control Directive, addressing pollution from large industries; 1996).

Since then, the question of which approach is the most appropriate one has been the subject of long scientific and political debate. As a result, more recent legislation both at European and Member State level, is based on a 'combined approach' where ELVs and WQOs are used to mutually reinforce each other. In any particular situation, the more rigorous approach will apply. The new European Water Policy, and its operative tool, the Water Framework

Directive, are based on this combined approach. This combined approach is also in accordance with principles established in the Treaty – the precautionary principle and the principle that environmental damage should as a priority be rectified at the source, as well as the principle that environmental conditions in the various regions shall be taken into consideration.

The Treaty provides for a set of principles for EU Water Policy as set out in Box 1 below.

Box 1 Principles of EU Water Policy

- High level of protection;
- Precautionary principle;
- Preventive principle;
- Rectification of pollution at the source;
- Polluter pays principle; and
- Integration of environmental protection into other Community Policies - e.g. agriculture, transport and energy.

Based on those principles, the European institutions - Commission, Parliament and Council, agreed that a fundamental review and restructuring process was needed for Community water policy.

The Commission which had already been considering the need for a more global approach to water policy, accepted request from the European Parliament's environment committee and from the Council of Environment ministers. Following a wide-ranging consultation of all interested parties, such as local and regional authorities, water users, enforcement agencies, water providers, industry, agriculture and, not least, consumers and environmentalist and non-governmental organizations (NGOs) the Commission presented, in 1997/1998, its Proposals for a new EU Water Framework Directive. This directive will have the following main objectives:

- expanding the scope of water protection to all waters, surface waters and groundwater;
- achieving "good status" for all waters by a certain deadline;
- water management based on river basins, with a "combined approach" of emission limit values and quality standards;
- getting the prices for water right;
- getting the citizen involved more closely involved; and
- streamlining legislation.

Progress on negotiating the Water Framework Directive in the European Parliament and in Council seems to indicate a final adoption during the year 2000 (reference is made to the fiche for the forthcoming Waste Framework Directive).

The water sector contains a range of directives and one Council Decision. The forthcoming Water Framework Directive will not only provide a managerial framework for the whole range of water protection policy and legislation, it will also replace many of the "First wave" legislation after a different transition periods: the directive on surface water and two related directives on measurement methods and sampling frequencies and exchanges of information on fresh water quality; the fish water, shellfish water, and groundwater directives; and the directive on discharges of dangerous substances. The provisions of these directives will be incorporated into the Framework Directive, allowing them to be repealed.

The existing and future legal instruments can be categorized as set out in Box 2 below.

Box 2 Legislation in the Water Protection Sector

Water Framework Directive (adoption foreseen year 2000)

- Proposals for a Water Framework Directive (Commission Proposals COM(97)49, COM(97)614 and COM(98)76; Amended Proposal COM(1999)271).
- Proposal for a Decision establishing the list of priority substances in the field of water policy. Council common position of 22.10.99 (COM proposal expected curly 2000).

Existing water legislation

Water Quality Objective oriented:

- Bathing Water directive (76/160/EEC)
- New Drinking Water Directive (98/83/EC).
- Directive on Surface for Drinking Water Abstraction (75/440/EEC as amended by Directives 79/869/EEC and 91/692/EEC)
- Freshwater Fish Directive (78/659/EEC) as amended by Directive 91/692 /EEC)
- Selfish Water Directive (79/923/EEC as amended by Directive 91/692/EEC).

Emission-Control oriented:

- Urban Waste Water Treatment Directive (91/271/EEC, as amended by Directive 98 /15/EC) and related decision 93/481/EEC.
- Nitrates Directive (91/676/EEC).
- Ground Water Directive (80/68/EEC as amended by Directive 91/692/EEC).
- Dangerous Substances Directive (76/464/EEC).
- Directive on Discharges of Mercury from the chlor -alkali electrolysis industry (82/176/EEC).
- Directive on Discharges by Cadmium (83/513/EEC).
- Directive on Discharges of Mercury from other sources (84/156/EEC).
- Directive on Discharges of Hexachlorocyclohexane (84/491/EEC).
- Directive on Discharge of List I Substances (Directive 86/280/EEC as amended by Directives 88/347/EEC and 90/415/EEC).

Monitoring and Reporting

- Directive on the Measurement of Surface (Drinking) Water (79/869/EEC as amended by Directive 81/855/EEC).
- Common Procedures for Exchange of Information (Decision 77/795/EEC as amended by Decisions 84/422/EEC, 86/574/EEC and 90/2/EEC).

There are important links between legislation within the water sector and also between legislation within this sector and legislation on other sectors. The most important links with the legislation in other sectors are identified in Table 1.

Table 1. Summary of Key Inter-relationships between Legislation in the Water Sector and other EC Legislation in the Environmental Acquis

| Related Sector Legislation | Relevance |
|--|--|
| <i>Horizontal Sector</i> | |
| Environmental Impact Assessment Directive (85/337/EEC) | Requires an EIA for new projects which are judged to have a significant impact on the environment. The results must be made public and views of the public taken into account in decisions. The impact on water quality is an important and relevant issue to consider in an EIA. |
| Access to environmental Information Directive (90/313/EEC) | Requires environmental information held by public bodies to make available to the general public request. Most of the water directives specify the collection of water quality information or information concerning permits. As a rule any such information held by public bodies would be covered by this directive. |
| Reporting Directive (91/692/EEC) and Water Questionnaires 92/446/EEC and 95/337/EEC) | Sets out provisions on the transmission of information and reports concerning certain EC direction Member States to the Commission. The reporting requirements specified in many water protection directives are modified by this directive. |
| <i>Water Sector</i> | |
| Waste Framework Directive (75/442/EEC and amending directives) | Requires the adoption of waste management plans. Within the plans the siting and operation of waste sites must be such as to avoid water pollution, and the possibility of water pollution occurring must be an issue to be taken into account in the plan. |
| Hazardous Waste Directive (91/689/EEC as amended by 94/31/EC) | Requires the adoption of hazardous waste management plans, which include provisions to prevent water pollution, e.g. through the permitting arrangements. |
| Sewage Sludge Directive (86/276/EEC) | Regulates the use of sewage sludge in agriculture in such a way that contamination of soil and pollution or water does not occur from metal contaminants, nitrates and phosphates. |
| Titanium Dioxide Directives (78/76EEC, 82/883/EEC and 92/112/EEC) | Aims to reduce and eliminate pollution of water caused by discharges from the titanium dioxide production industry. |
| <i>Nature Protection Sector</i> | |
| Habitats Directive (92/43/EEC) | Aims to protect a network of habitats throughout Europe and the flora and fauna they support. Satisfactory water quality is an essential factor in such areas. |
| <i>Industrial pollution Control and Risk Management Sector</i> | |

| | |
|--|--|
| IPPC Directive (96/61/EC) | Implements integrated measures for the prevention and control of pollution. Requires permits for prescribed activities which set conditions, including emission limits to water, using the principles of BATNEEC. The draft Water Framework Directive specifically requires that measures in River Basin Management plans must include those which give full effect to the provision of IPPC Directive in relation to industries and activities specified in Annex I to the Directive. |
| Risks of existing Substances Regulation (793/93) and related Regulations | This regulation applies to existing substances and places obligations on manufacturers and importers to provide data and on Member States to carry out risk assessments. The draft Water Framework Directive specifically requires that in drawing up strategies to deal with water pollution, the Commission must take into account risk assessments of pollutants carried out under the Regulation. |
| Sovesto II Directive (96/82/EC) | This Directive aims to prevent major accidents which involve dangerous substances. It requires operators to develop major-accident prevention policies and to provide safety reports outlining how they intend to manage and handle dangerous substances. |

Among the 16 directives have been assigned for water 9 have an expected date of implementation:

- 91/271/EEC - Urban wastewater treatment defines norms concerning wastewater discharge conditions into aquatic environment
- 91/676/EEC - Protection of waters against the pollution caused by nitrates from agricultural sources define an Action Plan for water protection against pollution by nitrates resulting from agricultural sources and the setting up of Commission and Supporting Group for applying the Action Plan for water protection against pollution by nitrates resulting from agricultural sources
- 76/464/EEC and the 7 Daughter Directives Groundwater protection establishes the bases of the Action Program for groundwater protection and reducing of pollution of aquatic environment caused by certain dangerous substances discharged into aquatic environment
- 75/440/EEC - Quality required of surface water intended for the abstraction of drinking water presents the norms concerning the quality required of surface water intended for abstraction of drinking water and norms concerning measurement methods, sampling frequencies for surface (drinking water) water
- 76/160/EEC - Quality of bathing water describes norms of quality for bathing waters within natural arranged areas
- 78/659/EEC - Quality of fresh waters needing protection or improvement in order to support fish life defines technical norms concerning the quality of fresh waters needing protection or improvement in order to support fish life
- 79/923/EEC - Quality required of shellfish waters establishes norms concerning the quality required for shellfish waters
- 80/68/EEC - Protection of groundwater against pollution caused by certain dangerous substances establish an action program for groundwater protection and reducing of pollution

of aquatic environment caused by certain dangerous substances discharged into aquatic environment

The 2000/60/EC Water Framework Directive is the step to a new stage of development - **sustainable water management.**

3. ROMANIAN PROGRESS IN TRANSPOSING WATER LEGISLATION

It has to be underlined that a lot of stipulations of the Water Framework Directive are already transposed in the Romanian legislation. Thus, the basic definitions presented in the Directive 2000/60/EC are also stipulated in the Water Law no. 107/1996 and also in the Environmental Protection Law no. 137/1995.

The following relevant information for the pressure / impact assessment is required both by the Water Framework Directive and the Romanian legislation:

- Estimation and identification of significant point and diffuse pollution sources from urban, industrial, agricultural and other activities,
- Estimation and identification of significant water abstraction for urban, industrial, agricultural and other users, including seasonal variations and total annual demand, and the loss of water in the distribution system,
- Estimation and identification of the impact of significant diversion on overall flow characteristics and water balances,
- Identification of significant morphological alternations of water bodies.

The management of the water resources is a very important objective underlined in the Water Law no. 107/1996, Government Decision no. 472/2000 (to protect the water quality) and in the Ordinances: no. 277/1997 and no. 1141/2002.

The necessity to assure monitoring of water bodies is stipulated in the Water Law no. 107/1996 and also in the Environmental Protection Law no. 137/1995. The monitoring system: parameters, frequencies, main elements, authorities involved, are presented in detail in the Ordinances no. 275 / 1997, no. 1072/2003 (for agricultural sources), no. 44/2004 (for main dangerous substances) and no. 454/2001 (for the representative sections in Romania). The monitoring structure is described in Annex V in the Water Framework Directive.

The trans-boundary impact is covered in detail by the Law no. 22/2001, and also by the Ordinance no. 864/2002 (procedure to evaluate the impact in trans-boundary context with the public participation).

The pollution reduction and integrated control are detailed in the Law no. 645/2002 and in the Ordinance no. 34/2002. The action program to reduce the pollution of aquatic environment by dangerous substances is presented in the Government Decision no. 118/2002.

Accidental pollution – methodology and plans are described in the Ordinances: no. 278/1997, no. 84/1995 and no. 761/1993.

The inventory of priority substances and *priority dangerous substances* is required by the Ordinance no. 501/2003 and the Register of pollutants is covered by the Ordinances no. 1144/2002 and 1440/2003.

The coordination of administrative arrangements within river basin districts, required by the Water Framework Directive - Art. No. 3 is partially transposed in Romania by the Water Law no. 107/1996 and also by the Ordinance no. 1212/2000.

The quality objectives and elements underlined in the Water Framework Directive – Annex V - are also transposed by the Ordinance no. 1146/2003.

4. Implementation of Romanian water legislation

4.1. Requirements of EU legislation

The WFD requires coordination of water management objectives among basin states and stakeholders and the achievement of “good status” for all waters by a set deadline (2020 in the case of Romania). Key objectives are general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water. River basin characterization must be completed by the end of the third year after accession (2010). This characterization process requires the definition of river basins and ground water aquifers and sub-catchments through the development of appropriate maps and geographic information systems (GIS). River basin characteristics of importance include: typology and baseline conditions for surface and ground waters, pressures and impacts on surface and ground waters, identification of artificial and heavily modified water bodies (HMWBs), establishment of a register of protected areas, and an economic analysis of water uses.

In order to achieve the environmental quality standards at Community level, the Directive establishes the following objectives:

- Drawing up of unitary water policy standards, for the Member States;
- Elaboration and implementation of River Basin Water Management Plans;
- The periods of time necessary for the Member States in order to achieve "a good status" for surface and groundwater;
- The economical analysis, at the river basin level, in order to estimate the effective costs of water management, environmental protection, drinking water treatment and waste water treatment measures;
- Public participation at the elaboration and implementation of the River Basin Water Management Plan.

In accordance with the Water Framework Directive, the **new elements** are the following:

- five quality classes of water taking into account the life in river and the biological elements. The physical-chemical, hydrological and morphological elements are helpful elements for the characterisation of the water status;
- the definition of the reference status for the surface water;
- the definition of the good status of the waters;
- the definition of a new category of heavily modified water body aims at the achieving of a good ecological potential;

- the river rehabilitation concept by defining the environmental issues, the reference status of the surface waters as well as the waters with heavily modified regime from the anthropogenic point of view.

The Water Framework Directive establishes a strategic framework for managing water environment. It establishes a common approach to protecting and setting environmental objectives for all groundwater and surface waters (defined as rivers, lakes, reservoirs, estuaries and coastal waters up to one mile from the shore) within the Community.

The Directive specifies how the objectives must be set. Surface waters objectives must include a chemical quality objective and, for the first time, an **ecological quality objective**. Quantitative and chemical quality objectives must be set for ground waters.

At the heart of the Directive it is the requirement to produce strategic management plans for each river basin, setting how the objectives that have been set for the water bodies within the river basin will be achieved. The plans must be based on detailed analysis of the pressures on the water bodies within the river basin and an assessment of their impact. This allows development of a comprehensive programme of measures, tailored to the specific circumstances in the river basin and, in particular, to target improvements and monitoring effort to those water bodies that are most at risk of failing to meet their objectives – table 2.

Table 2. Key implementation deadlines

| | |
|------------|---|
| 22.12.2000 | Directive entered into force (article 22) |
| + 3 years | Bring into force the laws, regulations and administrative provisions necessary to comply with Directive (i.e. to come into force by 22 December 2003) (article 24) |
| + 3 years | Identify competent authority (article 3) |
| +3 ½ years | Provide Commission with list of competent authorities (article 3) |
| +4 years | For each District, complete analysis of characteristics of the surface and ground waters, review the environmental impact of human activity (industry, farming etc.) and prepare economic analysis of water use (article 5) |
| +4 years | Establish register or registers of Protected Areas (articles 6 and 7) |
| + 6 years | Make operational monitoring programmes to ensure comprehensive view of water quality status within each River Basin District (article 8) |
| + 6 years | Publish and public consultation of the work programmes of the River Basin Management Plans in each Basin District (article 14) |
| + 6 years | In the absence of agreement at Community level, for substances included on the first priority list (see article 16), Member States need to establish environmental quality standards for all surface water affected by inflow of those substances and controls on main pollution sources (regulations specify a deadline of 5 years after subsequent inclusion of priority substances in the list) (article 16) |
| + 7 years | Public consultation on draft plans of the River Basin District in order to attend environmental objectives (article 11) |
| + 8 years | Publish draft plans of each River Basin District, and incorporate different users' observations (article 11) |
| + 9 years | Establish programmes of measures in each River Basin District to achieve environmental objectives (article 11) |
| + 9 years | Publish first River Basin Management Plan for each River Basin District, including environmental objectives for each body of surface or groundwater |

| | |
|-----------|--|
| | and detailed action plans (article 13) |
| +10 years | Ensure that proper water pricing policies are in place (article 9) |
| +12 years | Implement River Basin District action plans in order to achieve environmental objectives (article 11) |
| +12 years | Interim progress reports to be prepared on progress in implementing planned measures (article 11) |
| +15 years | Main environmental objectives to be met (article 4) |
| +15 years | And every 6 years thereafter – review and update plans (with same consultation and interim reporting arrangements described above) (article 13, 14 and 15) |

The existing legislative framework and associated secondary legislation will provide many of the empowerments that will be needed. But additional legislation would be necessary to fill in any gaps. The Government will need to ensure full transposition and effective implementation of the Directive in the most cost-effective manner possible without, as a rule, going beyond the Directive's requirements.

4.2. Responding to Water Framework Directive requirements

The first step in beginning implementation of WFD in Romania was to set out all aspects of water policy including water supply and resources, and the regulatory systems for the water environment and the water industry. These cover:

- Drinking water quality
- The quality of water in rivers, lakes and estuaries
- Coastal and marine waters
- Sewage treatment, and
- Reservoir safety.

Many quality standards are set at European level.

The Directive itself has a wide scope but presents challenges for the management of the environmental quality of water in an integrated and sustainable way, demanding water quality targets to be met by 2015. All this action will support Romanian's wider policy objectives for urban and rural areas.

The Romanian Government wants to ensure successful implementation of the Directive and it is already working closely with the European Commission and member states to pool expertise and develop a shared understanding of effective ways to deliver action required by the Directive.

In implementing this Directive, the Government will take into account the management of the trans-boundary rivers and the trans-boundary role of the newly created Environmental Agency.

Some consultative stages will be applied in WFD implementation in Romania. The first stage includes the water industry in the Romania, which means all businesses that have discharge permits, trade effluent licenses or abstraction licenses, navigation authorities and industry and agriculture at large. The directive will also be relevant to local authorities in their role as planning authorities as well as their work on local Agenda 21 plans, and to those water users and interested NGOs.

The first stage consultation began in 2002. This stage focused on the proposed approach to implement other elements of the Directive, and also included some initial draft regulations.

As this is a major Directive and there are many issues to be covered, it is not possible to predict exactly the course of future consultation. The second phase will set out the proposed approach of the Romanian Government to implement further aspects of the Directive. Some of the issues likely to be covered imply more detailed consideration of the environmental objectives, including the obligation to prevent deterioration in the status of water bodies and possible use of derogations. Mechanisms of the river basin management plans will need to be considered.

Other issues for future consideration include the proposed groundwater protection provisions and design an approach for heavily modified water bodies.

The Directive was planned to be transposed in draft into national legislation by December 2003. But the Directive specifies deadlines for meeting various obligations. The Romanian Government invites point of views on transposition of the Directive into Domestic Legislation from all stakeholders and the public.

The general legislation and regulatory framework for water management is given by the Environmental Protection Law no. 137 of 1995, and the Water Law no. 107 of 1996. The Environmental Protection Law has general provisions related to water resources protection and establishes rules for the regulation of economic and social activities having an environmental impact, respectively the permitting procedure.

The Water Law is the fundamental legal act on water management in Romania. This law covers all water bodies with the exemption of mineral and geothermal waters. The Law states that the waters are the integral part of public patrimony. The protection, re-evaluation and sustainable development of the water resources are actions of general interest. The Law has established the ownership of water, keeping the major water assets as public domain. The provisions of the law have the following objectives: conservation, development and protection of water resources, as well as ensuring free water flow; protection against any form of pollution and modification of the characteristic of water resources, of their banks and beds or basins; the restoration of the surface and ground waters quality; the conservation and protection of the aquatic ecosystems; ensuring drinking water supply to population and public sanitation; the complex valuation of waters as an economic resource and rational and balanced distribution of such resource; prevention and control of floods and of any other dangerous hydro-meteorological phenomena; and ensuring water needs for agriculture, industry, power generation, transport, aquaculture, tourism, recreation as well as human activities. The 1996 Water Law also establishes the river basins management concept of water resources, both for surface and groundwater. Any water user has the obligation to request a license and/or permit. Such licensees are also needed for wastewater discharges into water bodies and drainage water from deposit and mining areas. The legislative documents in Box 3 (GO and GD) bring specifications to rules to be applied for integrated water management.

After 1996, **integrated river basin management** concept (integrated management of water resources approach the quality and quantity, the surface and ground waters and taking into account the aquatic environment) has been applied in Romania. Both the Water Protection Law and the Environmental Protection Law include provisions for integrated river basin management. The catchments management plans are prepared by the MEWM. The plans include assessments

of water resources in terms of quantity and quality, flood risks, energy (hydropower) potential, navigation and an assessment of the capital works required for sustainable use of resources. All developments should be carried out in accordance with the outlined framework scheme and Environmental Impact Assessment procedures.

Water Management Framework Schemes are in place for all major river basins in Romania. They mainly follow the requirements of the integrated river basin management. These framework schemes will be improved in the near future and will fully comply with the integrated river basin management principles as defined by WFD. Within these framework schemes, an analysis is carried out regarding the development possibilities by taking into account the existing water resources, water demands, aquatic environment demands, environmental constraints, human life, economic and social goods protection. As a final result, the framework scheme presents a development proposal that balances all these aspects, but mainly the needs for human development and environmental protection.

Box 3. Derivative legislation of Romanian Water Law

The management of the water resources is a very important objective underlined in the Water Law no. 107/1996, Government Decision no. 472/2000 (to protect the water quality) and in the Ordinances: no. 277/1997 and no. 1141/2002.

The necessity to assure a monitoring of water bodies is stipulated in the Water Law no. 107/1996 and also in the Environmental Protection Law no. 137/1995. The monitoring system: parameters, frequencies, main elements, authorities involved, are in detail presented in the Ordinances no. 275 / 1997, no. 1072/2003 (for agricultural sources), no. 44/2004 (for priority and priority dangerous substances) and no. 454/2001 (for the representative sections in Romania). The monitoring structure is described in Annex V in the Water Framework Directive.

The trans-boundary impact is in detail presented in the Law no. 22/2001 and also in the Ordinance no. 864/2002 (procedure to evaluate the impact in trans-boundary context with the public participation).

The pollution, reducing and integrated control are detailed in the Law no. 645/2002 and in the Ordinance no. 34/2002. The action program to reduce the pollution of aquatic environment with dangerous substances is presented in the Government Decision no. 118/2002.

The accidental pollution – methodology and plans are described in the Ordinances: no. 278/1997, no. 84/1995 and no. 761/1993.

The inventory of priority substances and priority dangerous substances is required by the Ordinance no. 501/2003 and the Register of pollutants occurs in the Ordinances no. 1144/2002 and 1440/2003.

The coordination of administrative arrangements within river basin districts required by the Water Framework Directive - Art. No. 3 is partially transposed in Romania by the Water Law no. 107/1996 and also by the Ordinance no. 1212/2000.

The quality objectives and elements underlined in the Water Framework Directive – Annex V are also transposed by the Ordinance no. 1146/2003.

The Water Law also seeks to ensure that discharges to waters meet the **pollutant limits** and loads defined in the licences and permits based on norms NTPA-001 and NTPA-002. These limits are water quality standards and not emission limits: they are defined for each pollutant, fixing a maximum concentration in the receiving water body according to its quality class. Compliance with the permit is verified by EPAs and EGs from 1 to 24 times a year, depending on the importance of the discharge. Self-monitoring, which is unevenly carried out by the polluters or subcontracted to local EPAs or ANAR laboratories, is not used to assess compliance with permit conditions.

The existing Romanian legislation specific to the water management is presented on a CD which will be available with this report.

The interdependence between different kinds of water use, authority and protection, as well as that between different activity domains interested in a good management renders the water rational management a complex activity, which should answer to all the requirements of the socio-economical development.

The framing of all the hydro-technical works in an unitary outlook from the point of view of water integral turning into good account, its complex development plans drawn up between 1959-1963, and then continued with the framework schemes of hydrographical basins complex development drawn up between 1971-1975, which were periodically updated.

The long term National Program for hydrographical basins development in Romania approved under Law No.1/1976, had provided the framework necessary for correlating the water management works with the use of the hydro-energetic potential and the navigable ways development, the water quality protection, the defence against floods through attenuation lakes for high floods, water courses, calibration and embankment, soil erosion control and the growth of the forests part within the river hydrological regime enrichment.

Romania has obligation towards transposition of the EU legislation covered by the Aquis Communautaire, including the UE Water Framework Directive (WFD). For the transposition of WFD according to the Ministerial Order no. 913/15.10.2001, the framework content of Water Management Plan on river basins and the Action Plan on 2002 for the implementation of the Directive were approved. With regard to a policy for disaster preparedness there are commissions that operate at the national and local level as specified in the Law for Natural Disaster Preparedness no. 124 of 1995.

More specifically, in Romania, **the prevention and control activities against floods**, meteorological hazards and hydraulic structures accidents are performed in line with the provisions of Water Law no. 107/1996 and Law no. 124/1995 that approved Governmental Ordinance no. 47/1994 on protection against disasters. Coordination of these activities represent the responsibility of Central Commission against floods, dangerous meteorological hazards and hydraulic structures accidents, known as the Central Commission for protections against floods. This Commission operates as an advisory body of the Ministry of Environment and Water management, and permanently collaborates with and subordinates to the Governmental Commission on Disasters Defence.

According to the chapter 5 of the Water Law, the **financing of investments** regarding water management works, structures or installations shall be ensured, totally or partially, as appropriate, from:

- a) The state budget or local budgets, for works declared of public utility, pursuant to the law
- b) The water users' funds
- c) The development fund of ANAR
- d) Funds obtained through credits or issue of bonds, guaranteed by the Government or local public authorities, for the works of public utility or for partnership associations willing to carry out such works
- e) The Water Fund.

In fact, the Water Fund was used only to support the activity of ANAR.

Based on the Government Decision no. 1001/1990 at 1st January 1991 an integrated system of payments for products and services of water management has come into force, aimed at preserving and protecting water against pollution and overuse, setting-up water intakes,

protecting against flooding and also implementing market principles, which will increase the efficiency of water management and protection of waters quality.

This act has two parts: first part - General orders regarding the national water management; and second part - The policy of prices, tariffs and penalties in water management field.

This system of payments for water management was introduced starting with 1 January 1991. In principle, the National Company “Apele Romane” calculates the charges so that the total water management expenses at national level (National System of Water Management) are recovered by payments from users or beneficiaries. Payments consist of two elements, prices and tariffs:

- *Prices*: are the same all over Romania but differ in accordance with the source of water and the category of users (e.g. inner rivers, the Danube and groundwater and respectively industries, households, power plants, agriculture, fishery).

- *Tariffs*: are levied on a set of emission charges on water pollution aimed at reducing suspended substances and oxygen depleting substances in the river flows to the limits set by the law. If the limits are exceeded, fines or penalties are levied.

The variation in sewage charges is very wide due to the variety of conditions existing throughout Romania. The level of the charges depends primarily on whether the locality has a wastewater treatment plant or not, existing technology and operating set up, the discharge conditions and contents and the state of the sewage network. According to Government Decision No. 47/2000 the charge comprises two components: a tariff for within-limits discharges concentrations and a penalty (over and above the tariff) for excessive discharge concentrations.

At present there are twenty-seven parameters divided into five main categories: general chemical parameters, specific chemical parameters, toxic and very toxic chemical parameters, bacteriological parameters and physical parameters.

The penalties for non-compliance with the permits or contracts, for water intake and discharge of used waters represent an instrument for reducing the environmentally harmful impacts of certain activities and to oblige the users to respect the permits.

Apart of this water pollution non-compliance fee there are also ***financial mechanisms for the completion, modernization and rehabilitation for water quality improvements*** (water supply, wastewater treatment plant, sewage systems and networks, etc.). These mechanisms include state subsidies, government guaranteed loans and exemption from import duties on environmental technology. It is to these mechanisms that WATMAN project has to apply, in order to reach the implementation phase.

The present interpretation of the ‘polluter-pays principle’ seems restricted to recovering the cost of monitoring the ‘permitted pollution’ and levying a limited penalty in case of non-compliance.

The penalties are used as a source for an environmental water management fund named "Water Fund", that was created in 1991 and it is administrated by NA “Apele Romane”. The Water Fund was constituted to finance improvements in water quality field, in river beds stabilization, for flood control, for efficient use of water and also to cover water management units expenses in critical periods (droughts and floods). This fund means 5% from cashing of prices and tariffs of

all water management units and the revenue from the penalties mentioned. The Ministry for Environment and Water Management makes the distribution of this fund.

The Water Fund, together with other sources, is also used to financing:

- public works and interventions for prevention and control of floods and other natural calamities caused by the excess or lack of water;
- hydrological informational operative decision-making system in the water management field development and maintenance;
- elimination of the miss-functioning and deficiencies in the safety of the hydraulic structures of national or local interest, such as dams, embankments, etc.;
- the protection works against clogging in river basins.

The recent established Environmental Fund has a broader revenue base. Investment activities would also be extended to cover environmental remediation and other environmental protection activities, environmental training and education. Given the present economic situation any funding from new taxes or instruments is likely to be limited and shifting funds from the present Water Fund or existing regional or municipal sources will not increase the overall investment capital.

It is considered that the existing legislative framework responds to the requirements of the Integrated Water Resource Management approach. This is mainly because of the existing Water Law which is quite a progressive one updated to the context and in line with international basic principles for an integrated water management, such as beneficiary pays principle, polluter pays principle, water management on river basin level, economic value of water, etc.

In order to transpose in more appropriate way the Water Framework Directive, the Romanian Water Law is in a process of updating. Actually, a draft of the Law for the modification of the Water Law is available. All the appropriate provisions of the WFD (the Annexes included) are included in the draft law mentioned above.

The main provisions which will be changed or added (to the Romanian Water Law) are the followings:

- modifications concerning the unitary management by the same authority of all waters, including mineral and geothermal waters;
- *adding to the Law's objectives the WFD objectives respectively the reaching of the good status for all water bodies or the good ecologic potential for the heavily modified or artificial water bodies, including the deadlines for their achievement. In order to reach these objectives measures of prevention, pollution reduction, and improvement are provided. Also, the implementation of the emissions control based on best available technologies or the important emissions control;*
- establishment of River Basin District. Romania belongs to the Danube River Basin. All the underground waters from the Romanian territory are allocated to the Danube River Basin. Also the Romanian coastal waters are allocated to the Danube River Basin. For the Danube River Basin there is the Convention for the protection of the Danube River which is implemented By the International Commission for the Danube River. This Commission will have the coordination role for the implementation of the WFD. *Beside this we have to underline that the water management administration is carried out on basins (sub-basin according with WFD) level. The National Administration "Romanian Waters" has 11 Water Branches (Directions) Somes-Tisa, Crisuri, Mures, Banat Region, Jiu-Cerna, Olt, Arges, Ialomita-Buzau, Siret, Prut-Barlad, Dobrogea-Littoral District. In case of*

Somes-Tisa, Banat Region, Jiu-Cerna, Ialomita-Buzau districts, there are merged 2 river basins.

- Provisions concerning the protected areas are also included in the draft Law. This is to add the areas designated for the protection of aquatic species with an economic value, sensitive and vulnerable areas, areas designated for the protection of habitats and species including Natura 2000 sites. A Register of Protected Areas was also established.
- A River Basin Management Plan will be established for each River Basin District. Romania will have a Plan for the part of the Danube River Basin which is covered by its territory but also plans for the 11 sub-basins. In the actual Water Law some of these plans are provided (called Framework schemes) but they are more oriented to provide background for the necessary water management works. The River Basin Management Plans will be based on river basin characteristics, impact of the activities on the water status and an economic analysis of the water uses. An important part of the activity will be done in the framework of Basin Committees which are established at the level of each national river basin district. In this context the public participation has been adjusted according to the requirements of the WFD.
- There are also providing Programs of measures in order to achieve the environmental objectives of the WFD. These programs will include basic and secondary measures;
- Provision of the economic analysis aiming to the cost recovery has been introduced in the draft Law;
- All the Annexes will be also introduced in the draft Law.

5. Review of strategy and policy documents related to water management

Romania, being in full process of joining to the European Union, pays attention to the implementation of the European Union Directives, especially to the 2000/60/EC Water Framework Directive.

The Romanian National Action Programme for Environmental Protection includes priorities ensuring, among others:

- protection against natural calamities and accidents, as well as an increased capacity for warning, control and intervention, through the development of an improved integrated monitoring system for environmental medias, the development of an efficient information system, which should enable a prompt response in emergency situations.
- the firm enforcement of environment legislation and the endorsing system of norms, standards and regulations compatible with the requirements of the European Union.
- the decentralization of the institutional system, the introduction and employment of the economic instruments aimed at ensuring environmental protection.

The actions envisaged for this domain will result in securing good-quality water resources for the population and the necessary resources for the economic activities, especially for industry, agriculture, an update of the system of alarming and warning the population about potential hazards, the starting of a process of investment in protection works against flood and dangerous meteorological phenomena.

The main measures, relevant to this project, in the Government Programme aiming at rational management of waters include:

- the rational management, in terms of quantity and quality, of the surface and ground waters, in view of ensuring the water resources for various use, through hydraulic structures that should have only a minimal negative impact on the environment.
- protection against floods and dangerous weather phenomena, through planning works on river courses through the upgrade of the information system of warning and alarming the population.
- the harmonization of the water related legislation with the provisions of the Water Framework Directive (WFD).

The main goal of the 2000/60/EC Water Framework Directive is to achieve "a good status" for water bodies, which implies to assure the same life conditions from the water point of view for all Europe citizens. In accordance with WFD the "good status" of water means the status achieved by a water body when both its ecological status and chemical status are at least „good". "Ecological status" is an expression of the quality of the structure and functioning of aquatic ecosystems; "chemical status" means the chemical status achieved by a water body in which concentration of pollutants does not exceed the environmental quality standards and parameters under other relevant Community legislation that sets environmental quality standards at Community level.

The Ministry of Environment and Water Management (MEWM) carries out national water strategy and policy in the water resources quantitative and qualitative management field. The specific functions of the Ministry are:

- strategic planning including the elaboration of water management and development of national programmes;
- preparation of legislation and policy;
- allocation and management of national budget resources for water management and development;
- setting the standards as well as controlling and monitoring compliance with these standards; preparation of administrative procedures for regulated use of water resources through the system of licenses and permits; and
- international cooperation on trans-boundary water bodies.

The implementation of the national water strategy and policy, quantitative and qualitative water management, as well as the operation of the water management structures is carried out by the National Administration "Apele Romane" (ANAR). This Administration has 11 regional branches organized according to river basins of Romania. The Environmental Protection Agencies have responsibilities for issuing licenses and permits on the basis of technical reports elaborated by ANAR as well as for the monitoring of water quality and emissions.

5.1. Policy in responding to the EU Water Framework Directive requirements

5.1.1. European integration

The approximation of the national legislation with the Acquis, as an obligation undertaken under the European Agreement, constitutes a major objective in preparation for the accession to the European Union, harmonised with the requirements of the political and economic reforms in Romania. Romania has accelerated decisively the process of approximating the

national legislation with the Community one. In this context, important progress has been achieved in the approximation of the legislation in the environmental field as well.

The implementation of the WFD requires the fulfillment of four key tasks and several supplementary tasks. The key tasks include:

Set up River Basin Districts—The WFD requires that Member Countries adopt a single system of water management using a river basin approach. Article 3 requires that, by 2003 at the latest. All river basins and coastal waters must be assigned to a River Basin District (RBD) and the competent authority for each RBD identified. In the case of river basins shared by two or more Member States, International RBDs must be established. If a river basin extends beyond Community territory (as in the case of Danube), the relevant Member State(s) must seek to establish appropriate coordination with the non-Member State(s) concerned.

Romania has been managing water according to the river basin concept for over 20 years. The WFD requirement for basin scale management and planning is causing some difficulty for other EU members and applicants who have used administrative boundaries to manage water in the past.

Identify and agree on key water management issues—The WFD requires the coordination of water management objectives among basin states and the achievement of “good status” for all waters by a set deadline. Key objectives are general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water.

- Key water management issues must be identified in the context of the environmental objectives for surface- and ground-water bodies set out in Article 4;
- Waters must be characterized by 2004 at the latest, including a review of the environmental impacts arising from human activities and an economic analysis of water use in each RBD; and
- A register of protected areas within each RBD must be established.

Design Programs of Measures—Members States must establish by 2009 a Program of Measures for each RBD, composed of both basic (compulsory and required by the existing EU water-related Directives) and supplementary (beyond the minimum) measures for achieving and/or maintaining ‘good status’. The economic analysis mentioned above is to be used to establish the most cost effective combination of management measures to achieve ‘good status’ in the RBD, and the principle of cost recovery must be applied for water services in the development of water pricing policies. The WFD requires a combined approach to pollution control where all existing technology-driven source-based controls must be implemented as a first step, and, if this is not sufficient to achieve the objectives, additional controls are required.

Develop River Basin Management Plans—Each Member State must produce a River Basin Management Plan (RBMP) for each RBD wholly within its territory. In the case of trans-boundary RBDs, the Member States concerned must work jointly, with the aim of producing a single International RBMP. The plans are a detailed account of how the objectives set for the basin are to be reached within the timescale required. The first RBMPs must be published at the latest by 2009. The Program of Measures included in these RBMPs must be fully operational by 2012. The RBMPs must be reviewed in 2015 and every six years thereafter.

Establish and Maintain Appropriate Monitoring Networks—Member States must design and implement monitoring programs (surface- and ground-water) to establish an overview of water status within each RBD by 2006. Three types of monitoring are required: ‘surveillance’, ‘operational’ and ‘investigative’.

Taking into account that Romania is in the process toward European integration, one of the key issues of this process is the legislation approximation. The national legislative approximation program has been divided into chapters of *Acquis Communautaire* and has established precise, monthly deadlines and responsibilities for transposing the European Union legislation. The program is an annex to the National Program for the Accession of Romania to the European Union and is updated every year. Romania has to transpose the EU legislation covered by the *Acquis Communautaire*, including the European Union Water Quality Directives and also the EU Water Framework Directive. The directives are on different stage of transposition. The governmental Decision no. 964/2000 approved the Action Plan for the protection of waters against pollution caused by the nitrates from agricultural sources; the deadline for full implementation of the Directive 91/976/EEC is foreseen for the end of 2009, beginning of 2010. A key problem is to obtain derogation periods for those directives that call for “heavy investments”.

The water policy of the EU is based on sustainability. Major objectives are healthy drinking water supply, rational water use, preservation of ecosystems and prevention of risks. Therefore, during the last years, the EU directives from the “Water quality” sub-chapter have been transposed into the Romanian legislation (Table 3). This was based on an agreed strategy concerning the approximation of the EU directives in the field of water that has been elaborated by the MEWM.

Only 9 of the 16 directives have assigned an expected date of implementation. One main issue is to obtain derogation periods for those directives that call for "heavy investments". Compliance costs related to the urban wastewater directive (representing over 90% of the investment in the whole water sector) were estimated at €-12 billion.

6. Overview of international and regional agreements and treaties

The concept of the sustainable development was adopted at the *World Conference for the Environment and Development of Rio de Janeiro, in 1992*. At first, the concept was defined as the solidarity between generations, in other words the moral obligation of the actual generation to preserve sufficient resources and a health environment for new generation.

The sustainable development has to be understood and applied in a modern society.

Sustainable development can't be applied only in one region, in one economical sector, or in one country; it has to be integrated at regional, national and international level.

The sustainable development is the only alternative, on long term, to the actual crises between "man" and "environment"; it is an obligation assumed by the Romanian Parliament and Government by ratification of environmental agreements and international laws, and also a fundamental condition to joining the European Union.

Water has three important dimensions: economical, social and ecological. All dimensions have the same importance in achieving the sustainable water management. Human health, prosperity, food security, industrial development and biological diversity depend on the sustainable management of water resources.

The international community joined in the framework of the United Nations Conference regarding Water and Environment (Dublin, January 1992) in the arid areas, regarding the Environment and Development (Rio de Janeiro, July 1992) recommended for the sustainable management of water resources to apply the following principles:

- River basin principle;
- The quantity-quality water management principle;
- The solidarity principle;
- The "pollutant pays" principle;
- The "the user pays" principle.

These principles have been implemented in the water resources management in Romania. These principles are the starting points for the integrated water resources management. The integrated concept joins the social problems and economical development with the protection of the natural ecosystems by the integration of the water users at river basin level.

A special case is regarding the trans-boundary river basins. For these basins some international conventions were signed. To some of them Romania is mandatory:

- The United Nations **Convention regarding protection and utilization of riverside water flows and lakes (1992)** was adopted by 25 countries at the end of May, 1997, including by the States Members of EEA (excepting Iceland, Eire, and Lichtenstein).

This convention is referring to the obligatory character of prevention, control and reduction of trans-boundary water pollution, management and preserving of surface and underground water resources. The measures includes, for example, the reduction of pollution with nitrates from industrial, towns local sources or from agricultural diffuse sources.

- **Danube Convention** is signed by 11 countries traversed by Danube river, respectively by Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldavia, Romania, Slovak Republic, Slovenia and Ukraine; the oldest pact with regard to Danube is dated since 1815, and was referring to fluvial traffic regularization. Based on the recommendations of The *Danube International Convention* signed at Bucharest (1985), it was launched a water quality monitoring program; in continuation, in 1991, the riverside countries decided to adopt a *Convention for Danube pollution control and water resources management*. As a result, in 1994, was adopted the *Action Strategic Plan in Danube basin*, which is referring to river protection, fish breeding protection, downstream water quality control, and impact on the ecosystems, etc. As a result of this convention, every and each riverside country develops national programs for environmental protection in the areas adjacent to the Danube River – Table 3.

Table 3. Multilateral Environmental Agreements to which Romania Adheres.

| Agreement | Signed at, Date |
|---|-------------------------|
| Multilateral Agreements | |
| Convention on Protection and Use of Transboundary Watercourses and International Lakes | Helsinki, 1992 |
| Convention on Transboundary Effects of Industrial Accidents | Espoo, 1992 |
| Convention on Protection of the Danube River | Sophia, 1994 |
| Convention on Access to Information, Public Participation, and Environmental Justice | Aarhus, 1998 |
| Bilateral Agreements | |
| With Hungary | |
| Agreement on regulation of water problems in watercourses forming or crossing the borderline | |
| Agreement on cooperation in the field of environmental protection | Bucharest, May 26, 1997 |
| With Bulgaria | |
| Convention on cooperation in the field of environmental protection | Sofia, 1991 |
| Agreement for mutual assistance and coordination of alarm plans | |
| Agreement on monitoring flow of the Danube River on the border between the two countries | |
| With Moldova | |
| Agreement on cooperation in the field of environmental protection | |
| With The Former Republic of Yugoslavia | |
| Agreement on the operation of hydrotechnical facilities | . |
| Agreement on water quality monitoring along 240 km of the Danube which serves as the border between the two countries | 1983 |

Romania and Yugoslavia—There is no agreement with Yugoslavia on monitoring flow of the Danube River between the two countries. Up to 1987 there was joint monitoring of the flow but it stopped in that year. The reasons for this lack of agreement between the two countries on flow monitoring should be investigated. It is possible that the agreement on operation of hydro-technical facilities is sufficient.

Romania and Bulgaria—There is no agreement on joint water quality between Bulgaria and Romania. Prior to 1991, there was an agreement on joint monitoring of water quality between the countries, but it has been stopped since that time. The reasons for this lack of agreement between the two countries on water quality monitoring should be investigated. Bulgaria as a downstream riparian in the basin should be willing to undertake such monitoring, however, as an upstream state to Romania in the basin, it may have concerns that its activities pose some liability that may be unacceptable at the present time is elaborated through a monitoring activity.

How these conventions were transposed in the Romanian legislation is presented in detail in Annex II.

The River Basin Management Group of ICPDR has elaborated the "*Strategic Paper for Developing the Danube River Basin Management Plan*" which establishes a common implementation strategy of the WFD for the Danube riparian countries.

CONCLUSIONS

For the purposes of WATMAN Project we are addressing to integrated water management in the River Basin District (RBD). It is a direct requirement of the WFD that **Water Management Plans** will be elaborated per each river basin district, and in the case of international basins contained in the Community, a single plan will be elaborated, through the cooperation of all Member States involved, or a plan that contains at least that plan of the river basin that spreads on the Member States territory.

These plans must be published within 9 years from the date when the WFD becomes operative, and they have to be revised and up-dated after 15 years at the most, from the same date, and every 6 years afterwards.

Article 3 requires individual river basins including estuaries to be identified and assigned to river basin districts, which for the purpose of the Directive are then used as the main unit of managing the water environment such as the production of management plans. This is the best model for water management, and it is close to the approach already used in Romania.

The activity of getting knowledge on surface water involves a new strategy of integrated monitoring and quality status characterization of aquatic environment. This new strategy of integrated monitoring is based on the principles of ecosystems and biologic approach.

According to the ecosystem approach principle, water is regarded not only as a source of complex uses, but also as an ecosystem with intrinsic ecological value. Thus, the biological components are integrated in the mass of water and the sediments. Both biotic and abiotic factors are characterized and assessed, based on the same principle.

According to the biologic approach principle, biological components are regarded as "leading elements" in assessing the ecological situation of water courses; chemical and hydro-morphological elements are regarded as "supporting elements" as they are those elements that support the biological ones.

The **water monitoring system** was implemented at the hydrological level through DESWAT Project. WATMAN Project needs to add a new dimension to the water quality monitoring system, bringing in the biologic component. Monitoring regarding water use and water redistribution needs also to be implemented through WATMAN Project, in order to facilitate integrated water management in the basin.

WFD requires three monitoring programmes for surface water:

- surveillance monitoring to provide information for:
 - validating the impact assessment procedure;
 - the efficient design of future monitoring programmes;

- the assessment of long-term changes in natural conditions;
- the assessment of long-term changes resulting from widespread anthropogenic activity.
- the operational monitoring will be realized for:
 - establishing the status of those bodies identified as being at risk of failing to meet their environmental objectives;
 - assessing any changes in the status of such bodies resulting from the programmes of measures.
- the investigative monitoring will be implemented
 - where reasons for exceeding limits are not known;
 - where surveillance monitoring indicates that the environmental objectives for a body of water are not likely to be achieved and operational monitoring has not already been established, in order to ascertain the causes of a water body or water bodies failing to achieve the environmental objectives, or
 - to ascertain the magnitude and impacts of accidental pollution.

These principles have to be taken into account in designing the monitoring system of WATMAN Project.

The steps in technical implementation of WFD in RBD are presented in Annex I, to reach the 11 Chapters of Water Management Plan.

WFD implementation tasks

The implementation of the WFD will influence the Romanian legislation in the field of water management. What is the most relevant to this subject area is that the EU WFD requires the development of a new strategy for water services and the performing of economic analysis on water uses. According to the WFD, the development should be demand driven and community based, the basic services are a human right, the equitable regional allocation of development resources, as well as the integrated development and environmental integrity should be respected.

For the transposition of EU Water Directive according to the Ministerial Order no. 913/15.10.2001 there were approved the framework content of Water Management Plan on river basins and the Action Plan on 2002 for the implementation of the Directive. With regard to a policy for disaster preparedness there are commissions that operate at the national and local level as specified in the Law for Natural Disaster Preparedness no. 124 of 1995.

The upcoming demand of performing economic analysis of water uses in Romania shall impose a new set of regulations adapted to the presently available capacities in the country.

To better understand the need for new legislation covering the economic principles of the economic analysis of the WFD it is important to consider the definitions in the WFD.

Definitions on water services and water uses are to be found in Article 2:

38) 'Water services' means all services, which provide, 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, which subsequently discharge into surface water.

39) 'Water use' means water services together with any other activity identified under Article 5 and Annex II having a significant impact on the status of water.

This concept applies for the purposes of Article 1 and of the economic analysis carried out according to Article 5 and Annex III, point (b).

In interpreting these two definitions a first important finding is that according to Article 2 (39) water services are a subset of water uses. (Figure 2). This makes necessary to define: on one hand, which activities in a river basin are covered by water uses and, on the other hand, which part of these activities are water services. The diagram on the following page explains the coherences between water services, water uses and other activities.

It is logic at first to look at the activities covered by the definition of water services and then to work out the additional elements in the definition of water uses.

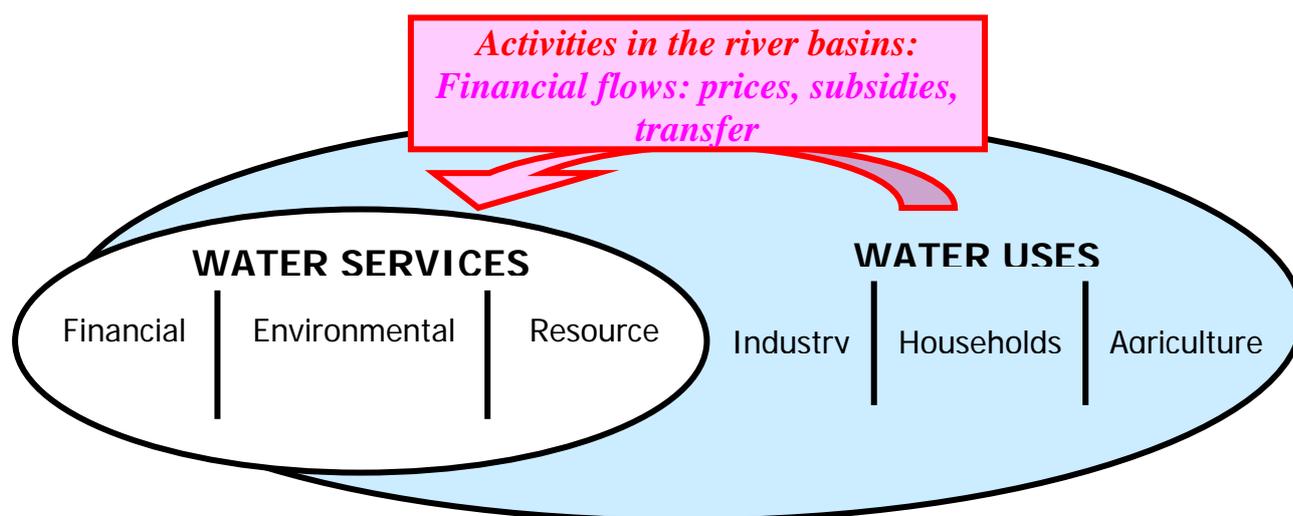
Water Services

The term "water services" is usually understood as comprising "water supply" as well as "sewerage" (including the collection, treatment and disposal of commercial and industrial effluents) and other forms of wastewater collection and treatment. Article 2 (38) (a) and (b) clearly denotes these two parts of water services. An extensive list of activities is mentioned which covers the full cycle in off-stream water use (abstraction, storage, treatment and distribution before use, collection and treatment facilities and subsequent discharge after use).

It should be noted in this context that the term "sewerage" which usually refers to services provided by public sewers is not used. Instead, the definition in Article 2 (38) (b) is based on the broader concept of wastewater, which includes industrial effluent not discharged to public sewers. The intention of mentioning "households, public institutions or any economic activity" is clearly to include services to all private and public (non-economic) parties as well as all economic activities, whether the service is provided individually or to a multitude of activities. As a result it can be concluded that the term water services includes all kinds of public and private water supply and waste water collection and treatment activities.

What is most relevant for the proposed legal initiative is linked to the issue of covering flood protection costs.

In the WFD, besides these services, Article 2 (38) (a) refers also to "impoundment". It means that reservoirs and dams for drinking water supply and irrigation are part of water supply business and can be included in the definition of water services. The denomination of constructed weirs and dams e. g. for navigation and hydropower (provide the impoundment of water to enable these activities) is even more ambiguous in calculating the water costs for services. But Article 2(38) summarizes an extensive list of activities/measures and does not further specify the context in which the activities take place. There is no evidence in Article 2 (38) that activities in a certain context should be excluded from the definition of water services.

Figure 1. Integrating water uses and water services within the river basin

Therefore all kinds of impoundment activities (e. g. for drinking water supply, irrigation, navigation and hydropower generation) are covered by the definition of water services. It also includes drainage that is an abstraction of water and groundwater recharge that usually requires also the abstraction of water from surface water. The definition of water services includes all the above-mentioned activities, irrespective of the amount of water or wastewater they use or produce.

Water Uses

The definition of water use is crucial for the economic analysis. The activities included in addition to the water services are not defined directly: All activities having a significant impact on the status of water (quantity and quality) are covered. They have to be determined on the basis of the assessment of significant human impact on water bodies (according to Annex II) due in 2004. It has to be stressed that only activities, which cause significant impacts on water bodies and therefore pose a risk to achieve the good status are covered by the definition.

General experiences show that navigation, water regulation, flood protection, hydropower generation, agriculture and industrial activities are important water uses which may cause significant impacts and therefore have to be taken into consideration. The creation of an initial "minimum" list of main water uses to be considered, would be useful. It should be developed in the context with the review of the impact of human activity on the status of surface waters and on groundwater, according to Article 5 (1) and Annex II (EU Working Group on "Impacts and Pressures"). In addition, a list of uses that do not have a significant impact on water resources ("non impact uses") can facilitate the implementation process.

The implementation of the WFD raises challenges that will impose new legislative initiatives and approaches.

Implementing WFD requires proper study, sound understanding and effective management of water systems and their internal relations (groundwater, surface water and wastewater; quantity and quality; biotic components - from upstream to downstream within the limit of the river basin).

As a basic principle, Article 1 points out that the purpose of the Directive is to promote sustainable water use based on a long-term protection of available water resources. Along this line, the Economic Analysis - according to Article 5, has to be performed for all water uses. Concerning water services the WFD implies additional requirements, in particular article 9 asks for full cost recovery (including environmental and resource costs).

To the monitoring, processing and data base system for integrated water management it has to be added a new dimension through social and economic data in the basin. Effective river basin management requires sound data, information and knowledge, including both data on surface and groundwater (quantity and quality) and social and economic data. Collection and processing of relevant data, easy accessibility and broad dissemination are eminent tasks of river basin and coastal zone management. To increase policy relevance, data should be aggregated into meaningful information, for example in the form of indicators and systems for benchmarking.

Pricing policies will need to be integrated into the development of river basin management plans. This integration remains a key challenge for the implementation of the Water Framework Directive to be addressed from the beginning of activities aimed at developing guidelines for implementing the economic elements of the directive.

Therefore, the use of economic instruments (taxes, duties, financial assistance, negotiable permits) has gained increasing importance in order to improve the sustainability of water resources.

Theoretically, in order to achieve the environmental aims and to include the major economic principles, water-pricing policies must reflect the following costs:

- Financial costs: direct costs including the costs of supply and administration, operation and maintenance, and also capital costs.
- Environmental costs: cost of the waste caused by water use on the ecosystem.
- Resource costs: cost of resource depletion leading to the disappearance of certain options for other users.

If pricing is to promote better water-resource use, prices must be directly linked to the amount of water consumed and/or pollution produced. Each user must bear the cost of consuming water. For reasons of cost and political acceptability, the introduction of a new pricing system will have to be gradual. Moreover social-order considerations must be taken into account in water pricing. The matter of scale is also to be considered. Financial costs are better assessed and managed at water-service distribution level, but in environmental terms it is that of water catchment area (level) that is the most appropriate.

The water pricing policies must be combined with other measures in order to solve the qualitative and quantitative water resource management problems.

A differentiated price for water for each river basin would reflect in each basin its scarcity. Basins with a low demand and high flood defence costs have currently a very high tariff. Charging mechanism should be based on incentives schemes.

It is very unlikely that a single tariff will satisfy all objectives – recover costs, encourage economy in the use of water and protect poor people. Therefore, ANAR needs to investigate the possibility of variable tariffs, of which the simplest is the so-called **rising block tariff**.

The use and effectiveness of economic instruments to address environmental problems is not any more limited, in Romania.

However, there are some factors, which can impede the efficiency of using economic instruments in water sector, such as:

- sensitivity that economic instruments are not viable under the present economic situation.

Furthermore, they have a direct negative effect on the political will to set realistic charges and impose sanctions;

- poor understanding of the links between policy instruments, environmental priorities and environmental investments. The links are not sufficiently visible to the public;
- a limited institutional capacity to design the detailed programmes and mechanisms for implementing the instruments. This also includes an inadequate capacity to assess the options available, and to identify the constraints on their implementation;
- difficulties in determining the economic levels of charges, policy interventions and environmental goals, so as to ensure a sustainable use of natural resources;
- the unclear relationship between the type of measure and the cost of remedying environmental damage, and the choice of the most feasible instruments and level of charges;
- inadequate monitoring capacity on the economic instrument efficiency, and efficacy in support of policy decisions;
- the clear dominance of revenue-raising concern in the choice and design of the economic instruments. Having no or very little incentive impact, few of the instruments can be considered as policy-implementing tools – least of all for environmental policy;
- controversies regarding the use of revenues;
- the general perception that fines and penalties are only for punitive purposes, and not to induce a change in behaviour through the threat of serious financial consequences or to enable justified compensation for damage. This also explains the limited current social acceptance and understanding of environmental policy interventions, such as taxes, pollution charges, fines and penalties.

The *issues, regarding the implementation of the Water Framework Directive in Romania*, are: legislative, organisational, scientific and technical.

From legislative point of view, the 107/1996 Water Law should be modified to comply with the provisions of the Water Framework Directive and the other European Directives in the water field.

From organizational point of view, an Inter-ministerial Water Council formed by the representatives of the ministries and central authorities and The National Administration "Apele Romane" was established within the Environment and Water Management Ministry for the implementation of the WFD.

The president of the Inter - ministerial Water Council is Romania's representative in the International Commission for the Danube River Protection.

According to the provisions of the 913/15.10.2001 Order of the Ministry of Water and Environmental Protection, the National Administration "Apele Romane" is the authority in charge of the implementation of the 2000/60/UE Water Framework Directive, in Romania. The River Basin Water Management Plans drawn up by the Water Branches will be submitted for concurrence to the River Basin Committees, which include representatives of the main actors in water field: state, local communities, water management units, industry and agriculture, NGOs.

Based on the River Basin Plans, The National Administration "Apele Romane" will elaborate the Water Management Plan for Romania, which will be integrated in the Danube River Basin District Plan.

Teams for the implementation of the WFD have been created within the National Administration "Apele Romane".

From scientific point of view, the specialised water management institutions have to modify their respective activity plans in order to perform research needed to implement the WFD. Also, the various institutions need to harmonise the guidelines and methodologies elaborated within the International Commission for the Danube River Protection, with the specific conditions of Romania.

From technical point of view, the implementation teams within the National Administration "Apele Romane" (ANAR) should be provided with adequate hardware and specialised software (ARC-INFO) in order to implement the provisions of WFD.

Financial resources are required, at the level of the Water Branches, to fund development of the monitoring activity by performing the analysis in accordance with the requirements of WFD. To achieve the goal of sustainable integrated water management, first an integrated monitoring system has to be designed including observations, measurements and sampling devices, as well as increasing capacity for laboratory work in order to achieve analyses for the supplementary parameters required by the WFD. This is the main reason why the investment in water sector represents a priority for the Romanian Government and that WATMAN Project is on the list of the first stage priorities.

In addition, specialised staff (e.g. IT specialists, physicist, chemists, biologists etc.) should be trained to increase the capacity in the implementation of the WFD and to apply the new technology coming with this implementation program. WATMAN Project needs to plan this activity carefully, considering it as a first necessity.

As a result of the work under this Terms of Reference, similar with DESWAT Project, the following **recommendations** can be made:

Standards—As noted previously, Romanian water quality standards often exceed EU standards. However, it is not clear that these standards have been set in accordance with use category of the water. This should be verified and if the standards do not satisfy the use criteria, then modified standards should be developed and recommended for approval and implementation.

Access to Information—Romania is a signatory to the Aarhus *Convention on Access to Environmental Information and Public Participation in Environmental Decision making* (1998). This convention codifies many of the recently developed principles of public access to accurate and timely environmental data and information. The government should explore the extent to which their current program of making this information available complies with the provisions of the Convention. As a result of such a review, recommendations should be prepared for the government on how to make the current program more effective and compliant with the Convention.

SGA Capacity Strengthening—The local National Water Authority offices (SGAs) have capacity in monitoring and forecasting of local level hazards as well as high resolution risk

analysis on the basis of local knowledge and intelligence. In addition, there exists a clearly defined communication structure for the exchange of information between these local level agencies and their counterparts at the regional and national levels. Once the DESWAT hardware is in place, the SGA offices will be responsible for monitoring the incoming data from day to day. To improve the SGA ability to manage this information and strengthen the data transmission and decision support capacity at various levels, the following is recommended:

1. Laboratory facilities:
 - a. The ongoing accreditation program should be supported through provision of required staff and equipment
 - b. Additional laboratory equipment should be purchased to enhance existing monitoring capabilities
2. Information and Decision Support System:
 - a. The existing system of communication of data and analyses from the local level to the regional and national levels should be retained and strengthened through the purchase of software and networking equipment
 - b. The use of Geographic Information Systems (GIS) should be strengthened at the regional level and consideration should be given to expand to the system to key local level, SGA offices.
3. Hydrologic sampling systems:
 - a. Equipment should be modernized through a planned program of maintenance and replacement

Emergency Procedures—During the Baia Mare spill, significant time was lost between when the local Environmental Inspectorate received notification of the spill from the ANAR. This issue needs to be solved defining Emergency Action Plans included as rules for the Rapid Response Centres for each large basin in Romania. In fact the new *Water Law (No. 310/2004)* status this demand.

Water Framework Directive—Adherence to the WFD will require the National Water Authority to modify some of its practices to be completely consistent with Directive. For example, the Directive requires that Geographic Information System (GIS) technology be an integral part of the tools that must be used in water management. This will require the National Water Authority to train staff, procure software licenses, and make other costly investments to be in compliance with the Directive. While this process is underway and the 11 regional offices are equipped and trained, this process should be strengthened and extension of GIS capacity to the local level should be considered on a limited basins.

Riparian Relations—Romania shares trans-boundary watercourses with several other countries. The relations with these neighbours are well defined in some cases, but require strengthening in other cases.

Romania – Yugoslavia: There is no agreement with Yugoslavia on monitoring flow of the Danube River between the two countries. Up to 1987 there was joint monitoring of the flow but it stopped in that year. The reasons for lack of agreement between the two countries on flow monitoring should be investigated. It is possible that the agreement on operation of hydro-technical facilities (Iron Gate I and II) is sufficient. Regulation of fishing in the Danube River between Romania and Yugoslavia should be considered. Protected areas that prohibit fishing should be created in certain areas. In addition, a wetlands rehabilitation program should be initiated.

Romania – Bulgaria: There is no agreement on joint water quality between Bulgaria and Romania. Prior to 1991, there was an agreement on joint monitoring of water quality between the countries, but it has been stopped since that time. The reasons for this lack of agreement between the two countries on water quality monitoring should be investigated. Bulgaria as a downstream riparian in the basin should be willing to undertake such monitoring, however, as an upstream state to Romania in the basin, it may have concerns that its activities pose some liability that may be unacceptable at the present time is elaborated through a monitoring activity.

Donor coordination—This is one of the greatest areas of concern relative to the successful implementation of the DESWAT system. Several programs have been initiated in recent years to ensure Romania’s ability to observe, predict and make decisions about hydrologic phenomena, especially in emergency situations. Some of these programs have built upon the results of earlier efforts and some are entirely new use of systems and technology. In addition, the government of Romania has made certain administrative changes that were not anticipated at the inception of the various projects. In the case of DESWAT, this has created a situation of uncertainty with regard to the future functioning and success of the system.

It is recommended that a meeting (or series of meetings) be organized to clarify the objectives, status, and plans of the various programs which are either underway now or planned for the future. This should include discussions between the donor agencies, their contractors, and the host government agencies. These discussions should include, at a minimum, staff members authorized to take decisions on important technical and financial aspects of the projects. The objective of these meetings should be a clear plan for integrating the various projects from the standpoint of data collection and transmission, as well as decision support and information dissemination.

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ANNEX NO. I

Steps in the technical implementation of WFD in Romania to RBD

As we have been able to notice, based on the experience of western European countries, the implementation of WFD is a long-term goal. For this, in our country, the steps that must be taken have been set, together with the time intervals needed to accomplish these actions, which will be situated between 2002 and 2015. They are:

-2002-

1. The identification of anthropogenic pressures and evaluation of the impact of human activity on surface and underground water:
 - the identification of the most important point sources and the assessment of their impact on surface and underground water resources - in accordance with WFD

-2003-

1. Description of the characteristics of river basin:
 - defining the limits of the river basin;
 - elaborating maps in GIS format;
 - identification of water resources used for water supplies.
2. Environmental objectives:
 - elaboration of stricter quality regulation, for protected areas (if necessary).
3. The General Measures Plan
 - taking measures in order to implement European legislation.

-2004-

1. Description of the characteristics of river basin:
 - defining 6 classes of surface water;
 - determining water masses;
 - characterization of the 6 classes of surface water;
 - characterization of underground waters, following specific methodology and identification of those in hazardous situations;
 - defining areas, in order, to establish reference conditions - defining reference conditions for surface water;
 - defining underground water for which less strict quality objectives are needed.
2. The identification of anthropogenic pressures and evaluation of the impact of human activity on surface and underground water:
 - the identification of the most important diffuse sources and the assessment of their impact on surface and underground water resources - in accordance with WFD;
 - assessing the impact of exploiting the land and of morphological alterations;
 - assessing the impact of over-exploiting resources, especially the underground ones;
 - assessing the impact of hydro-technical constructions.
3. Integrated monitoring of waters:
 - defining national or international reference networks for monitoring and defining the types of monitoring programs.
4. Economical analysis.

-2006-

1. Description of the characteristics of river basin:
 - defining reference conditions for surface water - inter-gauging exercise;
 - setting a „good ecological potential" which has to be reached in the case of waters with a highly modified anthropogenic condition.

2. Integrated monitoring of waters:

- establishing networks and monitoring programs
- completing monitoring areas with protected areas, with water body used for producing drinkable water, with artificial water ecosystems and with a highly modified anthropogenic condition;
- completing surveillance environments with that of sediments;
- completing monitored elements with macrophytes, phytobenthos, fish fauna, etc.
- characterization of water quality in 5 quality areas;
- maps with the monitoring network, protected areas and surface water quality.

3. Consulting the public:

- publishing a calendar and work schedule.

-2007-

1. Consulting the public:

- involving all interested parties in the implementation of WFD - consulting the public through the River Basin Board;
- publishing a synthesis of important problems.

- 2009-

1. Identification, mapping of protected areas and the elaboration of a record of these areas - in accordance with WFD.
2. Integrated monitoring of waters:
 - maps with the monitoring network, protected areas and the underground water quality.
3. Special measure programs, on sub-basins, ecosystems, etc.:
 - measures regarding sampling control for water uses from surface and underground sources - in accordance with WFD.
4. Consulting the public: - publishing the projects for the following plans
 - „Water Management Plan of river basin districts";
 - „Sea Water Management Plan";
 - „The Danube basin Water Management Plan";
5. Establishing a mechanism for getting information.

- 2010-

1. The modality to report the implementation of the Plan:

- report regarding the modality of implementing the economic mechanism in the field of water management.

- 2012-

1. The modality to report the implementation of the Plan:

- report regarding the stage of accomplishing the Water Management Plans.

- 2013-

1. Special measure programs, on sub-basins, ecosystems, etc.:

- measures required for protection of waters against over-exploiting.

2. The modality to report the implementation of the Plan:

- analysis of water environment 21 / 22 November 2002 - Timisoara – ROMANIA.

- 2015-

1. Environmental objectives:

- rehabilitation of affected ecosystems;
- reaching a „good ecological potential" for artificial waters or waters with highly modified anthropogenic conditions;
- reaching a „good status" of underground waters.

2. The General Measures Plan:

- measures aiming at promoting efficient and long-term use of water resources;
- measures aiming at preventing accidental pollution - in accordance with WFD;

- supplementary measures for those water ecosystems that haven't reached a „good status" in the established time range;
- measures aiming at reducing sea pollution - in accordance with WFD.
- 3. Special measure programs, on sub-basins, ecosystems, etc.:
- measures for restoring the „good status" of waters;
- measures aiming at reducing water pollution from point and diffuse sources - in accordance with WFD;
- measures aiming at banning waste waters exhaustion in underground waters - in accordance with WFD.
- 4. The modality to report the implementation of the Plan - up-dating the management plans.

The 11 Chapters of Water Management Plan (presented in Annex VII of WFD)

Demands of Chapters of the Water Management Plan:

1. a general description of the characteristics of the river basin district. This shall include:
 - 1.1. for surface waters:
 - mapping of the location and boundaries of water bodies;
 - mapping of the eco-regions and surface water body types within the river basin;
 - identification of reference conditions for the surface water body types;
 - 1.2. for groundwater:
 - mapping of the location and boundaries of groundwater bodies;
2. a summary of significant pressures and impact of human activity on the status of surface water and groundwater, including:
 - estimation of point source pollution;
 - estimation of diffuse source pollution, including a summary of land use;
 - estimation of pressures on the quantitative status of water including abstractions;
 - analysis of other impacts of human activity on the status of water;
3. identification and mapping of protected areas;
4. a map of the monitoring networks and a presentation in map form of the results of the monitoring programmes carried out under those provisions for the status of:
 - 4.1. surface water (ecological and chemical);
 - 4.2. groundwater (chemical and quantitative);
 - 4.3. protected areas;
5. a list of the environmental objectives for surface waters, groundwaters and protected areas;
6. a summary of the economic analysis of water use;
7. a summary of the programme or programmes of measures adopted, including the ways in which the environmental objectives are thereby to be achieved;
 - 7.1. a summary of the measures required to implement Community legislation for the protection of water;
 - 7.2. a report on the practical steps and measures taken to apply the principle of recovery of the costs of water use;
 - 7.3. a summary of the measures taken to meet the requirements for waters used for the abstraction of drinking water;
 - 7.4. a summary of the controls on abstraction and impoundment of water;
 - 7.5. a summary of the controls adopted for point source discharges and other activities with an impact on the status of water;
 - 7.6. an identification of the cases where direct discharges to groundwater have been authorized;
 - 7.7. a summary of the measures taken on priority substances;

- 7.8. a summary of the measures taken to prevent or reduce the impact of accidental pollution incidents;
- 7.9. a summary of the measures taken for bodies of water which are unlikely to achieve the environmental objectives;
- 7.10. details of the supplementary measures identified as necessary in order to meet the environmental objectives established;
- 7.11. details of the measures taken to avoid increase in pollution of marine waters;
8. a register of any more detailed programmes and management plans for the river basin district dealing with particular sub-basins, sectors, issues or water types, together with a summary of their contents;
9. a summary of the public information and consultation measures taken, their results and the changes to the plan made as a consequence;
10. a list of competent authorities;
11. the contact points and procedures for obtaining the background documentation.