



## **Twinning Project - SR 2005/IB/EN/01 Capacity Building of the Directorate for Water**

between the Ministry of Agriculture, Forestry and Water Management of Serbia and the  
German Ministry for Environment, Nature Conservation and Nuclear Safety

### **Component 1: Strengthening the institutional capacity of the Directorate for Water and related institutions**

#### **Sub-Component 1.1: Assessment of institutional capacities and planning of training activities**

##### **Activity 1.1.1**

### **Institutional Structures, Training Status and Training Needs In the Water Sector**

#### **– Assessment Report –**

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Twinning Project “Capacity Building of the Directorate for Water”  
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# I. Institutional structures

## 1. Executive Summary

Task outlined by the Twinning Contract

This report focuses on the assessment of institutional structures, training status and training needs in the water sector in the Republic of Serbia, outlined in the activity 1.1.1, evaluating the administrative ability to implement and enforce EU water legislation.

Results and recommendations

- a) The major actors in the water sector are: The Water Directorate of the Ministry of Agriculture, Forestry and Water Management (WD), the Hydrometeorological Service of Serbia (Hydromet), the two public water management companies (Vojvodina Water Company and Srbijavode Water Company) and the municipal/local water companies.
- b) One of the goals of the water sector is to meet the requirements of the EU Water Framework Directive (WFD), which are: river basin approach, integrative (cross-media) approach (i.e. water as part of the ecosystem, integration of land/use, soil protection and nature conservation aspects), analysis of the environmental status, drafting and implementation of monitoring programs, programs of measures river basin management plans and finally achieving the good water status. These requirements can be met by the water sector if certain prerequisites are complied with: strengthening the cross-media approach, administrative reform, improvement of intra- and inter-institutional communication and coordination. Finally we propose which institution should be doing what in order to implement the requirements mentioned above.
- c) WD staffs received and receive eventually considerable number of training and support, in the country and abroad, with the result of increasing the individual expertise of particular employee. Internal transfer of the knowledge gained is rather limited and the acquiring of the knowledge is on ad hoc basis, devoid of firm planning in terms of carrier objectives etc. However, to do it on more structured way is logical next step, since the job description structuring (for the whole Ministry), conducted in July 2006, opens the possibilities for more elaborated human resources development.
- d) To avoid the risk of overlapping with some previously attained training and to bridge the recognized gaps, the beneficiary institutions were asked to express their views. Such training needs assessment leads convincingly toward the feasible training plan within our project in the activity 1.1.3.

## 2. Existing institutional framework of the water sector in Serbia

Water Management is organized at the national, province and local levels and is also conducted by public water companies at regional and local levels.

### Ministry of Agriculture, Forestry and Water Management –Directorate for Water

The *Water Directorate* (WD) is a state body responsible for monitoring and securing water regime which constitute or cross state borders, as well as for water management policy, multipurpose water use /except water distribution/ flood protection, conducting water protection measures and planning of rational use of water, water regime management, as well as other responsibilities defined by water law./Law on Ministries performing administrative and specialized duties in the water sector, especially formulation of the national water policy and international coordination mainly in the field of water use, protection of water and flood management. Therefore the WD prepares major strategies and finances programs. It drafts water law and relevant by laws, sets standards and norms and formulates administrative acts. The WD has departments and sections, among them departments for executive and analytical affairs and water standards, strategic planning and management, water use and protection, flood protection and international cooperation.

The WD is organizationally part of the Ministry of Agriculture, Forestry and Water Management but has certain independence in terms of finances. It collects fees that are to be reinvested in the water sector. Directorate for Water has been subject to rather strict segmentation of earmarking of water-related revenues according to current Water Law. Thus, revenues from drainage charges are to be used for the operation, maintenance and construction of drainage systems in irrigation and drainage areas. Irrigation charges are funding the operation, maintenance and construction of irrigation systems. Water effluent charges are to be used for financing water protection measures and wastewater treatment. Water use charges can only be used for financing the construction of water supply systems and the regulation of watercourses.

The major elements of the national policy and strategy for the water sector have been defined in several strategic documents:

- Water Master Plan of the Republic of Serbia, approved by the Serbian Government in 2002 with a time span of 10 years;
- Study of Sustainable Development of the Serbian Water Sector prepared in 2003 and
- Blueprint for the Reorganization of Water Management in the Republic of Serbia, prepared in 2003.

The documents define a strategy of sustainable use and protection of water resources until 2012-2020. The fundamental water sector reform objectives and tasks include the following:

- Adoption of a platform for legislative and institutional reforms of the water sector;
- Entering into force of the Draft Water Law under preparation and new Water Sector Funding Law;
- Institutional and territorial reorganization of the Serbian water sector; and
- Definition of legal status and modification of ownership of water services
- The legal framework

### The legal framework

The most important law that governs the water domain in Serbia is the Water Law from 1991. The Law regulates protection of water, protection from water disasters, use and management of waters as a resource of public interest, criteria and methods

of performing the water management activity, organization and financing of water management, and supervision and monitoring of implementation of its provisions. The Law covers surface waters and underground water, including drinking water, thermal and mineral water, boundary and transboundary waters and inter-republic water bodies within Serbia.

In order to regulate the water sector issues, a wide range of by-laws has been developed.

Serbia is in the process of formulation of the new water law with the main objective to regulate the water sector to satisfy the water demand, simultaneously preserving the resource and protecting the environment. Besides, the draft Water Law has been prepared to address issues unsolved by the 1991 Water Law in force, such as: eliminate overlapping or incompatibility with other laws, decrees and by-laws, adjust for future compliance with the EU *acquis*, transfer the state-owned water assets to Public Water Utility Companies etc. The draft Water Law has been prepared in such a manner that it is consistent with international practices and trends in the areas of water use and protection (e.g., EU Water Framework Directive), and protection against the adverse effect of water/flood protection/. The draft law also aims at creating conditions for public involvement and democratic decision-making, and to provide control in all stages of water related operations and development.

Decree on classification of waters, (OG SRS № 5/1968)  
Decree on categorisation of water flows (OG SRS № 5/1968)  
Law on Protection Against Natural and Other Major Disasters (OG SRS № 20/1977, 24/1985, 27/1985, 6/1989 & 52/1989 and OG RS No. 53/1992, 67/1993, 48/1994)  
Law on Usage and Protection of Water Supply Sources (OG SRS № 27/1977, 24/1985 and 29/1988)  
Regulation on dangerous substances in waters (OG SRS № 31/1982)  
Regulation on the methods and the minimum number of waste water quality tests (OG SRS № 47/1983)  
Regulation on sampling and methods for laboratory analysis of drinking water (OG SRS № 33/1987).  
Plan for Water Pollution Prevention (OG RS № 6/1991)  
Law on Water (OG RS № 46/1991, 53/1993, 67/1993, 48/1994 and 54/1996)  
Law on fluoridation of drinking water (OG RS № 35/1994, 38/1994, 25/1996)  
Regulation on allowed concentrations of hazardous and harmful substances in soil and water for irrigation and on methods for their determination, (OG RS № 23/1994)  
Regulation on regularity of hygienic quality of drinking water (OG FRY № 42/1998, 44/1999)  
Law on Use of Funds for Rehabilitation and Protection against Natural Disasters (OG RS № 50/1992)  
Law on Water Regimes (OG RS № 59/1998)  
Law on Planning and Construction (OG RS № 47/2003)  
Law on Ratification of Convention on Cooperation for the Sustainable Use of Danube River, (OG FRJ № 2-2/2003)  
General Flood Defence Plan for 2003-2008, (OG RS № 34/2003)  
Operative Flood Defence Plan for 2006.  
Operative Flood Defence Plan for 2006.

### **The institutional framework**

The Water sector in the Republic of Serbia is under the mandate of the Ministry for Agriculture, Forestry and Water Management (MAFWM) and the Directorate for Water (DW). In the Autonomous Province of Vojvodina, this responsibility is extended toward the Provincial Secretariat for Agriculture, Forestry and Water Management. The DW oversees the use and functioning of all water resources, in particular their monitoring, allocation, and protection.

Under the DW (64 staff in 2006), there are two Public Water Companies (PWC), which are the implementation agencies of the Directorate: Srbijavode (Serbia Water, 132 staff in 2005) for Central Serbia, and Vode Vojvodine (Waters of Vojvodina, 336 staff in 2005) for Vojvodina. These public water authorities have been entrusted with the management of the water infrastructure. Field operations are carried out by water services under contractual arrangements with Srbijavode and Vode Vojvodine, and, according to the draft of Water Law, PWC's activities include the development of plans and programs and the preparation of technical documentation.

Since the early 1990s the sector of water utility companies underwent big crisis. Low tariffs not reflecting full cost recovery and low collection rates brought to a general deterioration of the water assets and poor level of service. Piped drinking water often fails to meet quality standards and funds for the extension of sanitation facilities (i.e. sanitary networks and wastewater treatment plants) are scarce. Furthermore 90% of the municipalities have not yet adopted protection measures for areas used for water abstraction.

Other Ministries involved in the management and protection of waters are:

- Ministry of Science and Environmental Protection;
- Ministry of Public Administration and Local Self-Government;
- Ministry of Health;
- Ministry of Capital Investments;
- Ministry of Mining and Energy; and
- Ministry of Finance.

In addition, the Ministry of Public Administration and Local Self-Government is responsible for water utilities, including water supply and sewerage treatment. Therefore, what is left to the authority of the MAFWM is mainly in the sphere of issuance of water management criteria approvals and permits for the use or release of water, as well as in the encouragement of and provision of subsidies for investment capital to construct projects.

In addition to the state bodies and institutions, the following governmental and non-governmental institutions are also important stakeholders in the water domain:

- Public Enterprise "Serbia Forests" (and Public Enterprise "Vojvodina Forests");
- Electric Power Utility of Serbia;
- Scientific and professional organizations: universities, hydrometeorological institute, chambers of commerce and other similar organizations and institutions; and
- Non-governmental institutions such as "Jaroslav Cerni"-Institute for the Development of Water Resources, numerous design, contracting and other companies, as well as numerous non-governmental environmental protection organizations.

The Hydrometeorological Institute is in charge of systematic monitoring and quality analysis of surface and underground water, warning in case of accident contamination of water and special monitoring during contamination of water that is caused by the accident. Moreover, the responsibility for monitoring and control of drinking water quality rests with the institutes of public health.

### **International obligations**

Because of its geographical and hydrological location, Serbia is a key actor for sustainable management of international water resources at bilateral and multilateral levels (See Chapter 3). A regulated international legal regime in the water sector is extremely important for all neighbouring countries, the Danube riparian countries, and consequently for the cooperation within and the positive outcome of International Commission for the Protection of the Danube River (ICPDR) activities. In the framework of the ICPDR the MAFWM-DW is responsible for the implementation of

the Danube River Enterprise Pollution Reduction Project (DREPR). The nutrient reduction plans to be prepared within the project will pave the way for the transposition of the EU Nitrate Directive and develop a code of good agricultural practices. The ratification of the ICPDR has also been the engine that started up two key initiatives in the water sector: flood risk management planning and the transposition of the EU Water Framework Directive into the draft Water Law.

Considering bilateral cooperation, there are agreements signed with Albania, Bulgaria, Hungary and Romania. The outcome of the implementation of these agreements varied from country to country so general re-assessment is required in light of the conditions under which they had to be implemented, rather than their content.

There are no bilateral agreements governing sustainable management of transboundary water with Bosnia and Herzegovina, Croatia and the former Yugoslav Republic of Macedonia, although preparatory work has been done by the Ministry of Agriculture, Forestry and Water Management/Directorate for Water.

Being aware of high importance of establishment of framework for multilateral cooperation, the Republic of Serbia had ratified/approved several agreements:

- The Danube River Protection Convention (Sofia, 1994), ratified in 2003;
- The Budapest Declaration/Tisza Water Forum, approved in 2001;
- The Framework Agreement on the Sava River Basin approved in 2002; and
- The Convention regarding the Regime of Navigation on the Danube approved in 1948.

The national targets of the policy in the domain of the protection of waters, so as the targets of the water resources management may be summarized as:

- To harmonise the national water management legislation with the EU Water Framework Directive 2000/60/EC, and introduce emission limit values for effluent discharges according to the Urban Wastewater Treatment Directive 91/271/EEC,
- To ensure sustainable use of underground water aquifers and to establish protection zones for all current and planned water supply sources,
- To ensure that drinking water in urban areas meet quality standards of the Drinking Water Directive 98/83/EC, and to extend the centralised water supply to selected rural areas with the most unsatisfactory water quality and to improve standards and efficiency of laboratories for water quality monitoring,
- To harmonise national institutional competences for integrated water management, and
- To extend sewerage system to cover 65% of population by 2014, to provide wastewater treatment in agglomerations with organized sewerage system that have significant impact on the recipient waters and especially on sensitive areas and to upgrade or renew operation of the existing municipal wastewater treatment plants.

## **Norms and Standards**

The design of water supply and wastewater infrastructure is based on the domestic standards that set 250 l/capita/d as design capacity. This figure is high if compared to EU standards (180-200 l/capita/d).

Domestic drinking water standards are in compliance with the WHO guidelines and the European Drinking Water Directive 98/83/EC. Responsibility for hygienic control of the drinking water quality in Serbia rests under the local Institutes for Public Health. The control is conducted in compliance with the Regulation on hygienic regularity of quality of drinking water (OG SFRY № 42/1998). The control of the surface water quality has been systematically treated from the aspect of the quality of recipient water, not requiring the control of effluent. On the basis of threshold values of the quality parameters set by the Decree on classification of waters, all water flows in the Republic of Serbia are classified into four classes. The basic principle of domestic

regulation is that after the discharge, the class of the recipient water body must not be compromised. The draft Water Law proposed by the MAFWM-DW foresees the adoption of the combined approach, ambient water quality and emission limits, proposed by the EU Water Framework Directive.

### *Instruments for water management*

#### Regulatory instruments

##### Permits and related procedures

According to the draft water law, water instruments shall comply with the Water Master Plan. Water instruments are: water criteria (or conditions), water approval, water permit, and Water Order.

Water criteria (or conditions) are the set of rules to comply with whenever any action (that may alter water regime) is carried on. Water criteria are issued by the Directorate of Water, after the opinion of Hydrometeorological Institute and PWE. Water criteria expire after 2 years. If the technical documentation complies with water criteria, the water approval is issued by Directorate of Water. The water approval expires within two year and it is followed by a water permit valid for ten years. Finally, the Water Order defines the obligations on a water permit holder in specific timeframe or situation.

The right to use water for economic and other industrial activities shall be acquired via a concession agreement. The concession agreement is granted upon the presentation of technical documentation prepared by public water management enterprises. It is usually valid for 10 years.

#### **Inspections**

Inspections related to the management of waters are provided by the water inspectors of the MAFWM-DW. The coordination of the inspections includes the monitoring of the implementation of the Water Law, other regulations and general instruments governing construction/reconstruction projects and other activities which might result in an alteration of the water regime.

Inspections regarding drinking water are carried out by the Health Inspectorate.

Inspectors have a set of duties defined in the current Water Law and from the yearly work plan defined by the authority they belong to. Inspectors can also undertake specific measures and actions, such as confiscate the objects which caused suspect criminal water pollution accidents.

#### **Economic instruments**

The economic instruments applied in the water sector comprise abstraction charges, drainage and irrigation charges, water user charges, water protection charges (i.e. effluent charges), and charges for excavation of materials from water courses. They are described in Chapter 4.

#### **Water pricing**

Water resources management is funded by user charges, water protection charges, and drainage and irrigation charges as well as by charges for the excavation of material from watercourses and by funds from the state budget earmarked for the realization of projects in the water sector.

Current average tariff for drinking water is EUR 0.25 or one sixth of the estimated tariff of EUR 1.5 that would allow for a full cost recovery for operation, maintenance and new investments.

In the last 15 years the municipal water supply and sanitation sector suffered from budget limitation. As a result few new investments were carried out and maintenance was kept to a minimum. Most of water and sanitation assets are currently in critical conditions and require urgent rehabilitation or replacement.

Tariffs for water and sanitation services are proposed yearly by municipal water companies to the municipal assembly for approval. Since 2004 the Ministry of Finance has put a ceiling to the tariff increase that cannot be higher than the programmed inflation rate.

As far as charges for wastewater discharge are concerned, tariffs and fines for discharge above the authorized limits are very low compared to the costs of treatment facilities, and sanctions for non-compliance not implemented. They do not constitute an adequate incentive for the industrial and agricultural sector for complying with the law. (For more information on economic instruments see also Chapter 4).

Revenues from drainage and irrigation charges as well as the charges for the water resources management have to be paid to the Public Water Company. In principle, revenues have to be used for financing the operation and maintenance of the corresponding infrastructure as well as to contribute to the new infrastructure investment in this part of the water sector. Charges and charge revenues have in general been too low to allow for adequate maintenance of facilities and equipment. An additional obstacle was low collection rates but these rates are reported to have improved in recent years.

#### Hydrometeorological Service of Serbia (Hydromet)

Hydromet is a state agency conducting routine water monitoring on the whole territory of Serbia. Hydrometeorology has a long history in Serbia, the first regular meteorological measurements in Serbia starting in the 1840ies. The hydrometeorological service on the territory of the Republic of Yugoslavia was unified in 1947 by founding the Federal Hydrometeorological Institute, a predecessor of the Hydromet that again was founded in 2003.

Hydromet is led by a Director who is appointed by the government to a position comparable to a state secretary. The Director supervises several Departments e.g. Meteorology, Hydrology, Environment (water and air quality), Protection from hail and General affairs. It runs laboratories that monitor water and air quality parameters. It reports to the government, not to a specific Ministry. It has links especially to the WD but also to the Ministry of Science and Environment and to the Ministry of Health. It is financed by the state budget not by a single Ministry. It does not collect any fees. Its laboratories do not work for private companies.

Hydromet is an independent institute. The advantage is the immunity against strong political interference, thus it does not get orders from a specific Ministry. On the one hand, Hydromet's independence from a specific Ministry certainly has its advantages. On the other hand there is the disadvantage that no Ministry feels really responsible for the agency.

Hydromet is an agency for monitoring, measurement and technical support. It does not issue permits or fine polluters, i.e. it is not involved in law enforcement. But it is involved in licensing procedures by providing technical expertise.

The meteorological branch is focussed on running a monitoring system, climatology and agricultural meteorology; the hydrological branch runs a surface and groundwater hydrological stations network, does hydrological analysis and weather forecast.

688 public servants work at Hydromet, 250 of these at the headquarters in Belgrade and about 438 all over the rest of the country. About 78 employees work for the hydrological branch, 297 at the Meteorological Department and 240 employees work for the hail protection department. Hydromet runs air quality measurement stations at 50 sites all over Serbia.

Because of the technical and methodological coincidences, Hydromet measures both meteorological and air quality parameters. But Hydromet is not the only institution measuring air quality. Cities/municipalities do monitoring as well.

There is also a government agency for environmental protection, which is organizationally linked to the Ministry of Science and Environment. Hydromet is neither closely linked to this agency nor to other environmental authorities/agencies outside of the Water Sector. It does send data to the agency for environmental protection which in addition collects data from the municipal air quality measurement stations.

Hydromet is responsible for monitoring quantity and quality parameters. It is to be addressed by other components of this Twinning Project whether the existing set of parameters that are monitored by Hydromet meets WFD requirements.

#### Autonomous Province of Vojvodina – Secretariat for Agriculture, Forestry and Water Management

Serbia has one autonomous province in the north of the country, the Province of Vojvodina. According to the Law on Delegating of Certain Competences to the Autonomous Province from 2002 provincial government and its secretariat are competent to carry out the activities of water management on their territory. The Province - among other things - collects water fees. The remaining part of Serbia (without Vojvodina) is under direct jurisdiction of national level.

#### Vojvodina Water Company and Srbijavode Water Company

Both are public companies. The Vojvodina Water Company covers the territory of the Vojvodina Province and is subordinated to the province government and regulated by this instance. The Srbijavode Water Company covers the rest or the territory of the Republic (although the Kosovo part of the territory is covered by the Srbijavode Water Company legally, practically it is governed by a separate water regime). Art. 82 of the Water Law defines the responsibilities of Srbijavode Water Company – among others - as follows: water resources management and coordination of water needs; maintenance and improvement of the water regime; maintenance and reconstruction of water resources systems (incl. investments) and flood protection. Thus both companies are public bodies that are responsible for maintaining water management facilities on a regional level (municipal water companies are distributing the water to the final users).

Vojvodina Water Company has about 340 current job positions, whereas Srbijavode Water Company – although covering much more territory and facilities – has only 132 employees (35 in Nis, the rest in Belgrade). They are organizationally separate from each other and – as far as we understand - institutionalized working relations do not exist. But there is informal exchange of experience among professionals on both sides.

The main activities of both companies are usage of water (water supply to the population, irrigation, water supply to the industry, navigation, fishery, recreation and tourism), protection of water (sources of pollution, waste water treatment plants) and protection from water (protection from flood and ice, drainage, and protection for hydra-energy-power-plant). This is covering all surface and ground water including drinking water, thermal water and mineral water. That does not mean that they do maintain and reconstruct the water management facilities with their own personnel. For instance Srbijavode Water Company hires private construction companies to do that. Furthermore they are confronted with a variety of owners of the infrastructure – quite often ownership is not clear. In the long run, it is important to establish a harmonized system of ownership in order to be able to maintain the infrastructure consistently.

The public water companies are financed by the state budget and they receive fees (drainage, irrigation, hydro/system uses). It is a speciality that they – as companies – issue permits in some cases, i.e. they – as water users - act on behalf of the state. In the long run it will be necessary to evaluate this situation because there might be a conflict of interests between the function of permitting and the function of supplying water.

As stated already the segmentation within the water sector is quite obvious – as well as the distance to other environmental authorities/agencies. Institutionalized coordination procedures either with the WD or with Hydromet however, might be improved. Furthermore, the territorial borders of the companies and the river basin regime outlined by the WFD do not correspond. The territorial borders are defined administratively.

#### Municipal Water Companies (local level)

Municipal/local Water Companies are responsible for distributing fresh water and collection, distribution and treatment of waste water. In terms of the WFD the municipal level is relevant in order to implement the requirements outlined by the state but they are not central players in the context of the WFD. That is why this report does not focus on them.

#### Other important actors

The Jaroslav Cerni Institute for the Development of Water Resources is an independent and state owned research entity that formerly was linked to the university. Now it focuses on applied research, development of strategic plans and projects. It also supports the WD during preparation of the new national legislation in the water sector.

### **3. Requirements and implications of the EU water legislation for the institutional framework**

As known, the major requirements of the WFD are:

#### **3.1 River Basin Approach**

The major institutional requirement of the WFD is the implementation of River Basin Districts (RBD's) with its implication on administration. First of all, the determination of a river basin is a technical approach independent of institutional/administrative interests. According to Article 2, (13), (14), (15), "river (sub-) basin means the area of land from which all surface run-off flows (...) into the sea (to a particular point in a water course)".

Furthermore the WFD requires the identification of responsible public authorities which are in charge of implementing the WFD within a river basin. The new Water Law should identify such an authority.

#### **3.2 Integrative (cross-media) approach**

Water protection is closely linked to a variety of other ecological policies like nature conservation (FFH Directive), soil protection, waste disposal and so on. Water is part of the eco-system, it is a natural resource and it is – as a resource– also an economic good. A major principle is to look at water as part of the ecosystem, to ensure a sustainable and rational water use also by integration of land-use, soil protection, nature conservation and water protection.

#### **3.3 Analysis of the environmental status**

One of the first steps for implementing the WFD is to analyze the characteristics of river basin districts and to review the environmental impact of human activity (Art. 5 WFD).

#### **3.4 Drafting and Implementation of the Monitoring Programs**

Art. 8 of WFD establishes programs for the monitoring of water status in order to generate an overview of the water status within the river basin districts, i.e. the ecological status and chemical status of surface waters and the groundwater quantitative and chemical status have to be scrutinized.

#### **3.5 Drafting of the Programs of Measures and River Basin Management Plans**

Art. 11 of WFD requires programs of measures for each river basin district that take into account the results of the analysis of the environmental status (Art. 5 WFD) and the environmental objectives for all water bodies. Furthermore, river basin management plans have to be produced and implemented for each river basin district (Art. 13 WFD).

#### **4. Proposals for a future institutional framework – Who should be responsible for what?**

Improving institutional abilities: some proposals for institutional reform

Strengthening the cross-media approach

The Water Management authorities are separated from other environmental authorities. This is notable, considering the strongly inter-media orientation of the European environmental policy. For instance the WD is organisationally linked to the Ministry of Agriculture and not to the Ministry for the Environment. The inspection system is also organized along media lines. Furthermore Hydromet is specialized on water and meteorology and separated from other environmental media authorities/agencies on air and soil.

It is proposed to evaluate the inter-institutional segmentation of responsibilities and to link the water sector more closely to other policies esp. in the field of environmental, social and economic affairs. If authorities/agencies with corresponding tasks cannot be merged at least the communication among them need to be better institutionalised and their administrative districts be adjusted.

Administrative Reform

Careful consideration of the water management issues position in administrative structure is needed because of the complexity of water issues due to its vital importance, social impacts, heavy investments needed for building necessary water infrastructure and last but not least due to its environment component. The separation of the water administration from other environmental agencies should be assessed. One approach could be an organizational integration of the Ministries for Environment and for Agriculture in order to link policies that are closely connected: environmental planning, water management, pollution control, waste management, biodiversity and nature protection. Cross-media problems could be addressed in one Ministry. Common strategies would integrate the requirements of the WFD, FFH-Directive and many other EU environmental protection Directives.

Due to the specific requirements of EU environmental protection legislation the government of Serbia has to ensure sufficient staffing. It can be doubted that the existing staff will be able quantitatively to implement the new environmental policies approach. The exact personnel needs have to be found out by a manpower requirement computation. Again oriented towards EU environmental protection legislation an advanced training program should be developed. As far as the water sector is concerned such a program will be prepared within this Twinning Project.

In the long run, the PWC should not issue permits any longer because of their status as water suppliers. Since they apply for permits in their own interests, they act as both parties the applicant body and the authorising agency. Consequently, an interest of conflict will be unavoidable.

Furthermore, we propose to organizationally link Hydromet more closely to one Ministry in order to provide support at cabinet level which could be helpful to ensure budget and staff needs.

Privatisation

240 public servants at Hydromet work in hail prevention. That is almost a third of its staff. Hail prevention though does not seem a public responsibility anymore. By introducing the hail insurance, the farmers would be able to chose between the insurance and a private hail prevention service. It is proposed to privatize the hail prevention service in the long run.

## Inter-institutional communication and coordination

It is to consider that a lack of communication between several actors is notable. Considering the inter-media environmental strategy of the European Union and the integrated approach, it is of great importance to overcome this institutional splitting either through an organizational merger of these institutions or by an institutionalized coordination. A well-functioning intra- and internal communication is not only a benefit for the environment oriented issues but also a key for an effective and well prepared water management particularly for handling the flood waters. It is proposed to strengthen the administration by elaboration further means and methods of communication and coordination tools within this Twinning Project. For example, there could be institutionalized coordination and cooperation on a vertical, horizontal and inter-sectoral level.

At the **vertical level**, the Director of the WD could meet on a regular basis with the Directors of Hydromet, the two public water companies and with other major water sector actors at the municipal level to discuss major problems of law enforcement, WFD issues, new issues outlined by the national government or issues of EU legislation.

At the **horizontal level**, experts of the two public water companies could exchange their experiences implementing water law.

Finally, at the **inter-sectoral level**, WD, Hydromet and the two public water companies could coordinate their policies with their counterparts of the environmental branch. For instance the WFD of the FFH Directive have large-scale implications with other environmental policies (e.g. water, nature protection, soil protection, waste etc.). Reciprocally, soil pollution influences the quality of water.

## Territorial aspects of the allocation of responsibilities

At the national level, the government (incl. WD and Hydromet) is responsible for the whole territory of Serbia. On a regional level, there are the two public water companies, covering the whole territory of Serbia, which is divided into two parts (among which the Vojvodina Water Company covers about a quarter of the territory). The territory of Vojvodina Water Company and Vojvodina Province are congruent.

Hydromet has its own territorial organization as well. It has six regional measurement centers that are organized along water courses.

The territories of the four water inspectorates do not match neither with the Province nor with the three river basin districts nor with the regional structure of Hydromet measurement centres. Furthermore the river basin districts are divided in several parts that are neither compatible with the territorial borders at the province level nor with the regional water companies' borders.

As mentioned above, there are responsibilities at the municipal/local level for the distribution of fresh water and waste water treatment. So, it can be stated that each administrative (territorial) district of the main institutions in the water sector is different from the other (no congruence). This is a serious handicap for communication esp. for data exchange.

## Implementing the Water Framework Directive: some institutional remarks

### River Basin Approach

In Serbia, three river basins districts have been implemented by law (see Art. 6 of the Water Law), i.e. the Danube, Sava and Morava basin districts. The river basins which make up the river basin districts of course follow hydrological lines and are neither

congruent with the administrative districts in the water sector nor with the water districts.

The 'River basin district' pursuant to Article 2 (15) WFD means the area of land and sea, made up of one or more neighbouring river basins ... which is ... **the main unit for management of river basins**. This point has to be considered in the new Serbian Water Act.

#### Strategy – Ministerial/WD level

The Ministry is in charge of a nationwide consistent implementation of the WFD. Therefore the WD should establish close working relations with all staff of the interactive public companies and Hydromet that are involved in implementing the WFD. The responsible Ministry and the WD have to implement a unified national policy regarding water management. The cooperation with institutions of autonomous provinces (e.g. Vode Vojvodine) might be supported by an administrative agreement .

#### Establishment of a WFD implementation project structure

The outlined requirements for the implementation of the WFD could be best met by establishing a project structure. The main actors should be involved, especially the WD, Hydromet, the two public water companies and other agencies that work in river basin management (e.g. local agencies or local water companies). Also other environmental agencies could be involved (agencies for nature conservation and - as far as land-use is concerned - agriculture). On different levels the project structure should represent the organizational responsibilities and the requirements of the WFD outlined in this chapter. In practical terms: Within the WD an organisational unit should be established which should coordinate all activities and involve all the actors connected with the implementation of the WFD. The project might give closer particularities in the result of its Activity 1.3.3, if it is enlarged to a broader approach of administration issues and not limited to the enforcement tasks.

#### Analysis of the water quality

It is proposed that this analysis of the status of the water is done by Hydromet as lead agency, supervised by WD and in close cooperation with the two public water companies Vojvodina Water Company and Srbijavode Water Company.

#### Establishing and implementing the Monitoring Programs

As in the case of the analysis of the environmental status the drafting and the implementation of the monitoring programs should be carried out by Hydromet (lead), assisted by the two public water companies and supervised by WD. A close cooperation with the Environment Directorate should take place.

#### Producing the Programs of Measures and River Basin Management Plans

Water protection will be the core task once the programs of measure and the river basin management plans will be established. Therefore the existing key players have to be enabled to do this. The identification of the experts for this task should not be done without considering the fact that the ecological element plays an important role in reaching the good water status.

Because of the central role of the river basin plans, the WD should be the lead agency (top-down approach) and the public water companies should be involved as well (bottom-up).

## Implementation of the River Basin Management Plans

All involved institutions have to be named and made responsible for implementing the river basin management plans. It is proposed that the WD should supervise the implementation process, involving the public water companies, local government and local water companies. Closer details will be elaborated under the subcomponent 1.2 of this project "Implementation of training for the pilot application of River Basin Management Plan (RBMP) issues in a pilot small river basin".

## 5. Conclusions and recommendations

Since the first EPR significant progress was made in the water management sector in order to bridge the gap with EU practices and directives. However there is the risk that if not properly funded and enforced the new practices will not be applied as it happens with a set of water laws and regulations in force.

Serbia committed to the implementation of the EU Water Framework Directive as a contracting party of the ICPDR. Most of the contents of the Directive have been transposed into the draft Water Law; however it has not solved a few issues such as the institutional overlaps between the Ministry of Agriculture, Forests and Water Management and the Ministry of Science and Environmental Protection, nor it includes the combined approach for point and diffuse sources of pollution of the EU Water Framework Directive. The implementation of the combined approach would be facilitated with the transposition of the EU nitrate and urban wastewater directives. Furthermore, the draft Water Law will need a set of by-laws in order to be implemented.

### 5.1 Recommendation:

*The Ministry of Agriculture, Forests and Water Management should finalize the draft Water Law taking into account all EU requirements in regard to the combined approach for point and diffuse sources of water pollution. The Government then should adopt the draft Water Law and urgently develop and implement the related secondary legislation.*

The implementation of other key aspects in the draft Water Law (such as the reduction of discharges, phasing out of hazardous substances and the register of protected areas) is shared with the MSEP. In order to avoid these and other overlaps and allow for a better-coordinated action, it would be more efficient that the Government unite the competences of the Ministry of Environmental Protection with those of the MAFWM-DW.

Since the early 1990s, the water utility sector underwent a big crisis. Insufficient revenues resulting from low tariffs not reflecting supply costs of services and low collection rates led to a general deterioration of the water supply and water protection infrastructure (buildings, machinery and equipment) due to inadequate maintenance and associated with that a poor level of services. The water sector infrastructure belongs to the State, which is not providing sufficient funding for its proper management. As local problems are in general best solved at the local level, shifting the ownership of water sector infrastructure to the municipalities and giving them full responsibility of their functioning, including collecting water charges, would ensure a better management of these assets. Municipalities could, moreover, be given the choice to manage their water utilities themselves or to sub-contract their management partly or fully to public or private water companies. This points to the need for the government to develop guidelines and rules concerning the involvement of the private sector in the provision of utility services (see recommendation 5.3 in chapter 5).

The poor condition of the water sector infrastructure and insufficient coverage of costs of services provided are largely the result of an inadequate tariff policy. Higher water prices will not only reduce the water consumption, but also create incentives for investments by water companies to reduce water losses. The adoption of full cost recovery tariff will allow not only for better financing of operation and maintenance of water and wastewater services but also for new investments required to extend them..

### 5.2 Recommendation:

The Government should proceed with the transfer of ownership of water utility infrastructure from the State to municipalities as specified in the draft Water Law.

Due to budget shortfalls in the last decade only minimum maintenance of flood protection infrastructure was carried out. A coordinated policy at the national level for flood risk mitigation has, moreover, not been adopted. As a result a large portion of land is subject to floods jeopardizing human lives, buildings, crops and infrastructures.

5.3 Recommendation:

Under the ICPDR Flood Action Plan (FAP) and in coordination with the GFDP, the Ministry of Agriculture, Forests and Water Management should develop and enforce a national flood risk management plan that shall address all phases of the flood risk management cycle (i.e. prevention, protection, preparedness). The plan shall include a flood alert system interconnected with European flood alert system for medium-range forecasts, flood risk assessment and mapping, land use changes to reduce flood damage potential, improvement of existing flood defence infrastructure and planning new ones where necessary and the development of contingency plans.

In spite of the fact that the polluter pays principle is to some extent in place in the current national legislation, its application is rarely effective. The small group of inspectors from the MAFWM-DW is not adequate to the number of inspections that should be performed to monitor wastewater discharges in an efficient way. When the polluter is identified the process of prosecution and fine is successful only in 10% of cases. Costs born by the MAFWM-DW to identify the source of pollution are usually much higher than the fine imposed to the polluter. Small fines do not constitute an adequate economic leverage to encourage polluters to invest in wastewater treatment facilities. WD ENFORCES WATER LAW /1991/ and relevant by laws. The Director is nominated by the Minister and appointed by the government.

The water inspectorates are organisationally linked to the WD. The Department for water inspection is decentralized and has head offices in Novi Sad, Kraljevo, Nis and Belgrade. The WD has about 64 staff members, of which 35 members work for the water inspectorates. It covers the whole territory of the Republic of Serbia and is focussed on the implementation and enforcement of water law. The inspectors conduct on-site controls, check facilities, licences, certificates etc. in the water sector in order to prevent pollution. The inspection is in touch with clients, local governments, companies and the media.

The WD sets technical standards for sites in cases that are defined by law (for instance water resource management terms (i.e. technical standards) are established by the Ministry for dams, water supply systems, power plants, industrial facilities, waste water treatment plants, pipelines and so on).

## **II. Training status and training needs**

### **1. Findings on the existing training status**

The training status and training needs screening was directed in the first line toward the Directorate for Water and only secondarily toward the other involved institutions (since the role performed by Hydromet is basically one-issue role (monitoring) and public water management companies are not foreseen in the contract). For later only the oral interviews with key representatives were made (in addition to cross-checking of the general written material made available by them) and for former more in debt methods to overview were used. In the training needs assessment workshop all institutions were equally treated and represented proportionally to their total number of staff.

As foreseen in the contract, the results of the Dutch twinning project of Capacity Building in the Ministry of Agriculture, Forestry and Water Management are studied, among those the training needs assessment conducted by Dutch colleagues, but the need to analyse the current state of knowledge and skills of the beneficiaries was apparent.

The newly passed (July 2006) Act of Systematization for the whole Ministry of Agriculture, Forestry and Water Management structured the work positions within Directorate for Water. The clarity and the coherency there are more or less beyond the question. As checked against the real number of people employed there, it was discovered that some work positions, even key once, are empty. Probably their filling in will bring additional knowledge and expertise to the institution. Internal filling in of those positions is not expected. However, the process of recruitment is running slowly and randomly, obstructed by many factors (low salary, lack of experts in the labour market etc.). On the other side, the fluctuation of the staff is high.

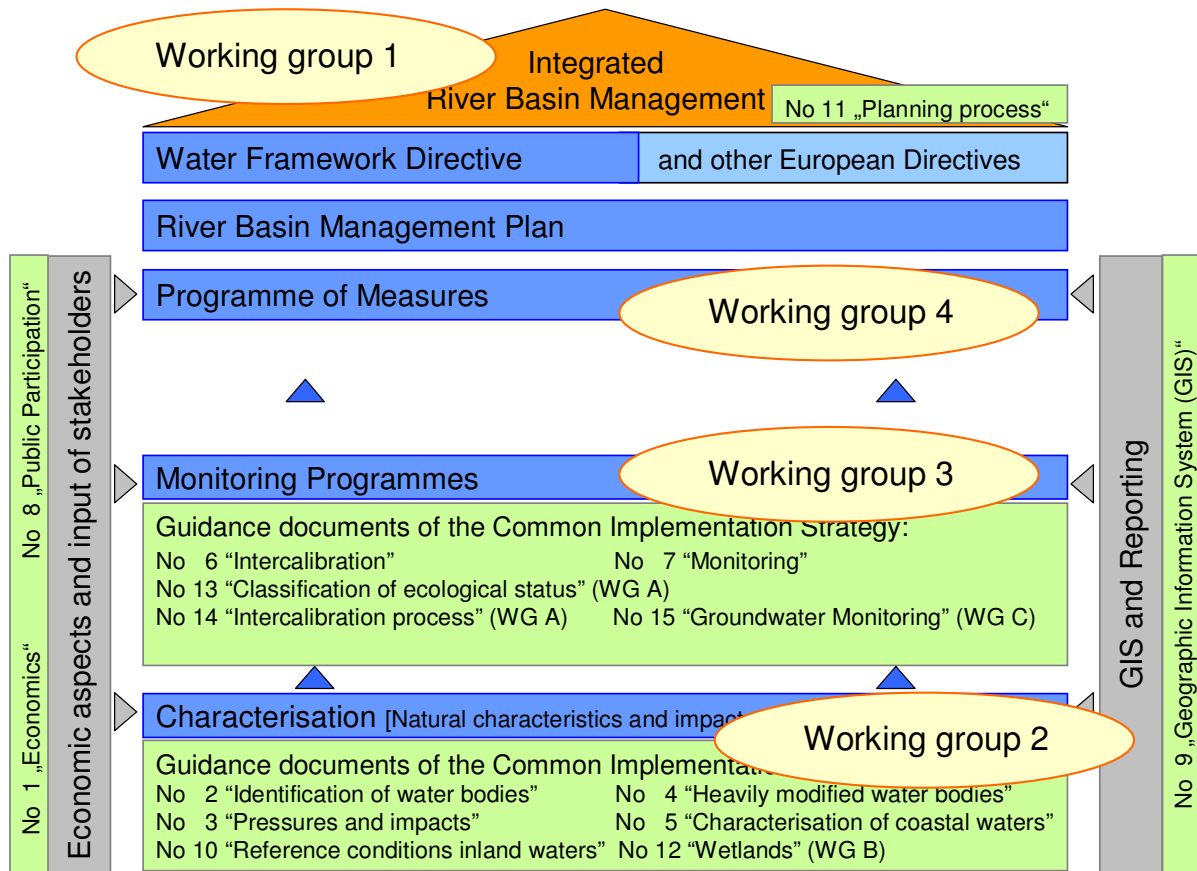
When called to prepare the report on the trainings achieved in the last two years, the outcome in the Directorate for Water was the list (see the Annex 1) containing only the names of the employees and the titles of the seminars together with the location in which each has taken place, without any further details. The finding shows that the numerous opportunities for knowledge updating have been used by one part of WD staff. Also the covered topics are related to the topics planned originally in the contract. The staffs are willing to attain the training and ready to upgrade, personal motivation is beyond doubt. But the sharing of acquired knowledge among the colleagues even sitting in the same office is missing. In some cases, the follow up is not forthcoming and multiplying function is not implemented.

Concerning the selection of who is receiving which training there are no open tensions and grievances among employees, but also neither plan nor structure within institution. It is related to the lack of staff, there is no human resource manager work position in the job descriptions of employees of WD, so even the human resources development matters are performed on spontaneous way (and partially done by HR unit of the whole Ministry of Agriculture, Forestry and Water Management).

### **2. Findings on training needs in the water sector**

Since it was necessary to specify which gaps still remain after so far achieved knowledge transfer in the involved institutions, the workshop for training needs assessment was held to open up the space for around 45 employees from 4 institutions divided in 4 thematic working groups (mixed composition in terms of the involved institutions) to discuss and precise the gaps. They were instructed to think mainly on main, central and basic topics from their field of work, which also influenced their answers. The focus on integrated river basin management was agreed as the starting point for thinking the gaps.

The following diagram was explained to the participants and was spinning the following debate.



Each of the working group submitted some concrete and operable statements on what additional training and support they might usefully apply in their daily work, having in mind also the general preconditions for their work that are not connected with the training and knowledge transfer itself (political decisions on the national level concerning relations of Serbia with the EU and on other issues). With such detailed wishes, in some cases, for training and support, the training needs are mirrored and reliably expressed. See the Annex 2.

It must be stressed also that an iterative and flexible planning process for the future trainings will be necessary. The same goes for the process of identifying multipliers within the four institutions.