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<h2>2nd Mission report</h2>
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Expert Name and Function

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Wording of missions: *In short, objective or content of mission*

BSBD Varna- Region of Crete - Directorate of water project focuses on specific areas of interest, based on Integrated Water Resources Management (IWRM), that have been identified as:

- Implementation of the Water Framework Directive
- (WFD): the CIS, works developed, Article 5 requirements.
- Groundwater (exploitation and protection)
- Monitoring networks
- Administrative framework (organization of the River Basin authority)

There are specific goals and numerous of expectations associated to the **Region of Crete - Directorate of water** project. Overall, from the twinning between the basin organizations, much is expected to be gained regarding the operation of the other's organization, as well as the exchange of practices and knowledge on IWRM that will help improve their work. Based on the TWINBASIN XN project, it is expected that BOs will:

- Promote a friendly cooperation between water managers.
- Strengthen ties among basin organizations. Improve contact between the basin management organizations participating in the twinning project.
- Encourage the exchange of expertise, knowledge and technical personnel.
- Improve the effectiveness of integrated water management within organizations.
- Improve the overall functional operation of these institutions.

1. CONTEXT

Place, location	<p><i>Country visited, Basin Organization concerned, other information about location</i></p> <p>BULGARIA, VARNA</p> <p>MINISTRY OF WATER AND ENVIRONMENT BLACK SEA RIVER BASIN DIRECTORATE</p> <p><i>Address: 33 Alexander Diakovish str, Varna 9000, Bulgaria,</i> bdvarna@bsbd.org; http://www.bsbd.org/bg</p>
Mission duration	<i>One week 10 – 16 September 2006</i>

2. OBJECTIVES

Initial objectives	Results	Results indicator <i>explain with some details how far the results have been achieved if compared to initial objectives</i>
<p>1</p> <p>Exchanging information for the implementation of the Water Framework Directive 2000/60/EC (WFD)</p>	<p><u>Topic:</u></p> <ul style="list-style-type: none"> - planning and management; implementation of WFD for preparation of the river basin management plan - characteristics of river basin district -Monitoring Program of surface water status, groundwater status and protected areas 	<p>The Greek experts were acquainted with:</p> <ul style="list-style-type: none"> -the Integrated water management (IWM) within the requirements of WFD in the BSRB Varna. -relative studies which are carried out to support the river basin management plan (primary results; activities at the present time; future activities). -the Analysis of the physical characteristics of the groundwater and surface water (typology). -the Survey of the anthropologic impact and pressure. -the Economic analysis of the water consumption. -the register of the protected areas. -the characterization of the water bodies (typology according to system B). -the monitoring system which has been carried out in two steps: a) concerning coastal water and lake monitoring (2005). b) rivers and ground water monitoring (2006) -the detailed analysis of the anthropologic impact and pressure. On the basis of the HPI analysis the main human pressures were identified as: a) point and especially diffuse sources of nutrients and b) areas strongly influenced by industrial sources are smaller and restricted within 3 sub basins. <p>The methodology/ activities/ work plan that have been carried out in BSRB for implementation of WFD are (in brief):</p>

			<p>-Before establishment of the basin structures in Bulgaria a comprehensive study of the current conditions of water resources in Bulgaria was done "General schemes of water use at the river basin areas" (Financed by Bulgarian Ministry of environment and water and was completed by Institute of water problems).</p> <p>-According to the terms set by WFD during 2004 BSBD experts have carried out determination of typology of surface waters and determination of the boundaries of the ground waters, identification of heavily modified and artificial water bodies and first review of anthropogenic pressure and impact on water bodies.</p> <p>-BSBD experts identified 9 river sub basins within their territory.</p> <p>-It was decided to implement typology according to the system "A".</p> <p>-On the basis of the typology during 2005 a national project has been initiated and completed "Determination of reference points and intercalibration sites for all water body types, choice of suitable biological parameters for ecological status classification and analyses of bioindices chosen in accordance with the requirements of WFD". Within the implementation of the project BSBD experts on the basis of the information available and HPI analysis have identified potential reference points. They have checked if this points really correspond reference conditions.</p> <p>-As the existing monitoring system for coastal waters was not in compliance with the WFD (until 2005 coastal waters have been sampled near the coast) and the information gained was not representative for determination of coastal waters status, BSBD experts have changed the monitoring network and started to sample in the 1 mile coastal waters and 12 mile territorial waters. The same was for lake monitoring points. BSBD expert started to sample from the middle of the lakes.</p> <p>This was an initial optimization. The aim was to gain some information before WFD monitoring programmes take place during 2007.</p> <p>-At the beginning of 2006 it was decided at a national level that Bulgaria have to implement typology according to the system "B" as being more "natural" and closely related with the conditions that maintain ecosystem structure, functioning and development. On the basis of the information available BSBD experts have</p>
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		<p>chosen the following criteria:</p> <ul style="list-style-type: none"> -Rivers: ecoregion, watershed area, geology, bottom substrata; -Lakes: ecoregion, average depth, salinity, size; -Coastal waters: ecoregion, tidal regime, salinity, average depth, wave disposal, bottom substrate. <p>-During 2006 Bulgarian experts carried out update of the HPI analysis. They filled in some data gaps: they have gained more information about landfills and lagoons for purification of wastewaters. BSBD experts have updated their databases and GIS layers with the new information.</p> <p>-Bulgarian experts have carried out review of the potential sources of priority substances and other specific pollutants. In this analysis they used WFD - SWIFT – analysis: “Screening methods for water data information in support of the implementation of W F D”.</p> <p>On the basis of these analyses, BSRB experts also carried out analysis of their current monitoring system and made some changes in terms of monitoring points and especially chemical analysis. This initial optimization was carried out in order to gain some information until the end of 2006, before the preparation of new WFD surveillance and operational monitoring programmes.</p> <p>-During July 2006 under the project EVD “PPA04/BG/2 Support to the Black Sea Basin Directorate for the implementation of the requirements of WFD concerning coastal waters monitoring system” an investigation monitoring survey was carried out for coastal waters including screening of the water column sediments and biota. The results will be taken into account in design in the monitoring programmes.</p> <p>-At the second mission Bulgarian experts were in the middle of preparation of their WFD monitoring programmes.</p> <p>-Greek experts were also acquainted with the methodology for preparation of programmes and with the difference between the existing monitoring system and the new programmes. For example: until the present moment Bulgaria had biological monitoring only for rivers and only for benthic invertebrates.</p> <p>-During 2005 –2006 a National project “Setting the Bulgarian system for biological monitoring in</p>
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		<p><u>Topic:</u> Administrative arrangement within river basin</p>	<p>accordance with the requirements of WFD” is running. The aim of the project is to prepare monitoring capacity to fulfill the requirements of WFD: analysis of all relevant quality elements for all surface water categories.</p> <p>-Future steps during 2007 are: the new WFD monitoring programmes will take place. It is also expected that new reference conditions and classification system will be developed according to the typology system B.</p> <p>The Greek experts were acquainted with:</p> <ul style="list-style-type: none"> -the new Administrative Directorate of Varna River Basin was established (Authority, functions, obligations, responsibilities, subordination) -practical approaches in decision of specific problems (e.g. technical decisions about the problems of effluent of waste treatment plant, sustainable freshwater supply, infrastructure, etc) -Cooperation with other institutions on subjects related to water resource management and exploitation (e.g. nonprofit organizations, scientific institutions) -Stakeholder involvement <p>From the very beginning BSRB accepted that “Public participation”, cover a wider range of activities that prescribed by the Directive.</p> <p>Until the present moment BSRB met some difficulties in this process of IWRM in Bulgaria e.g. which stakeholders and how to be involved in process as a major future goal for the management body in Directorate.</p> <p>The process for IWRM and for implementation of WFD 2000/60 EC in BSRB Varna going through several stages.</p> <ul style="list-style-type: none"> -At first in 2003 Black sea Basin consul was established. Basin counsel – consultative body, consisting of 30 members. The meetings of the body are at minimum twice per year There are representatives from main water users, governmental and local administrative structures and non-governmental and scientific institutions related with water. -Information provided in BSRB Varna for successful implementation of IWRM at the basin level through (first 6 month of 2006): <ul style="list-style-type: none"> ➤ 26 workshops with stakeholders, NGOs and public participation ➤ 3 public campaign ➤ quarterly information bulletins for the status
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		<p><u>Topic:</u> Integrate water management of Varna river basin - (tools)</p>	<p>of the water recourses within the BSRB - and 20 weekly information bulletins;</p> <ul style="list-style-type: none"> ➤ Internet page (www.bsbd.org) ➤ Dissemination of information by means of the Press Centre; ➤ Publication and dissemination of information materials -leaflets, flairs. ➤ “Blue phone” for accepting of emergency signals (0886406816) ➤ Catalogue for the sources of environmental information in Bulgaria, according to the requirements of the European Environmental Agency <p>Bulgarian experts have demonstrated the Tools that are applied / developed for integrated water management:</p> <ul style="list-style-type: none"> -GIS -computer model application in coastal waters, - Database
2	Water resource management in Varna river basin	Current situation, problems and issues were presented	<p>The implementation of sustainable water resource management is being considered to be a priority for BSBD. The following issues of great importance were discussed:</p> <ul style="list-style-type: none"> -Identification of main stakeholders. -Pressures in water management -Approaches and practice in water management -Risk assessment for surface water bodies (qualitative and quantitative) -existing monitoring system.
3	Administrative framework organization of the river basin authority: all departments and their functions.	Technical knowledge about the administrative structure of <i>Ministry of Water and Environment/ Black Sea River Basin Directorate</i>	<p>As a result of the first and second mission the following knowledge about the structure and functions of the two directorates have been gained:</p> <ul style="list-style-type: none"> -The administrative framework is similar; -The two directorates are new, but having some common particularities. -Discussion of solving issues related to water management and protection. -The cooperation with other directorates in specific water issues. <p>The cooperation with other Directorates:</p> <ul style="list-style-type: none"> -<i>Regional Environmental Inspectorate, Varna</i> -<i>Hygiene directorate, Varna</i> -<i>municipality organizations: Nessebar, Shaba, Doulgopol</i>

3. ACTIVITIES DEVELOPED during the mission

<p>Activity 1</p>	<p>Topic : <i>Institutional Framework and Capacity building of Ministry of Water And Environment/ Black Sea River Basin Directorate</i></p>
<p>Description</p>	<p>Exchange of experience and the acquaintance with administrative framework and capacity of Bulgaria Directorate, responsible for integrated water management at the basin level. Visit to <i>Ministry Of Water And Environment /Black Sea River Basin Directorate</i>:</p> <ul style="list-style-type: none"> - Description of the structure of directorate, the sections and the areas of their functions. The water management/protection structure and their function were presented. - The structure and the main objectives of directorate were presented by Mr <i>Vencislav Nikolov</i>, director and Mrs <i>Cenka Vasileva</i>, project's expert. - Specialists and the heads of all sections presented the topic of directorate (see CONTACTS paragraph 8) .
<p>Activity 2</p>	<p>Topic: <i>Water monitoring programs according to WFD</i></p>
<p>Description</p>	<p>Mr. M. Merkulov presented the experience in design of monitoring programs for surface waters, groundwater, coastal waters :</p> <ul style="list-style-type: none"> - Detailed presentation of the natural conditions of the Varna river basin in relation with the water management: water circle, main water users, water balance, naturally and anthropogenic induced problems; - Surface water typology; characterization of water bodies - pressures - Monitoring programs for surface water. <p>Both directorates meet similar problems as concerns development of biological indices for assessment of ecological status of running waters:</p> <ul style="list-style-type: none"> - Region of Crete: Because of natural conditions during the summer, rivers dry up which imposes development of their own bioindices. - Black Sea basin Directorate – an adaptation and development of bioindices for assessment of surface waters is running at present in Bulgaria; <p>There are rivers, that have not permanent flow during summer within Black sea basin area. These rivers are identified in an individual type. Both Creek and Bulgarian experts as concerns the quality assessment of the drying rivers can use the experience and furthermore will discuss it in future beyond the TWINBASIN missions. Additional, the developed methods in BSB D for monitoring the costal waters in Black sea are considered important for Crete. A more detailed discussion will take place during the 3rd TWINBASIN mission.</p>

Activity 3	Topic: Protected areas – wetland –RAMSAR areas
Description	<ul style="list-style-type: none"> - Visit system of lakes Duranculak (coastal brackish lake) and Shabla lake. Presentations of habitats of lakes and the measures have been taken for protection of the aquatic environment. Applied methods for conjunctive use surface and ground water as the source of lakes is mainly the seepage of the aquifer. - Visit Kamchia River and the river delta. Presentations of measures have been taken for protection of aquatic environment. The licenses, the restrictions and the control for a sustainable use. Discussions of “alternative tourist activities” into the river area.
Activity 4	Topic: Approaches for sustainable water use. Agriculture patterns and tourist activities.
Description	<ul style="list-style-type: none"> - Technical visit the area of Cape Kaliakra and Municipality of Shabla. Presentation of the agricultural crop patterns and the water management at local and municipality level. Discussion on extreme events, especially for flood protection and droughts. - Technical visit the towns Nessebar and Sunny Beach. Presentation of the tourist activities and the general plan of development of these areas. Discussion on water related issues regarding to touristy activities: water supply; conveyance system; water effluents; coastal water management.
Activity 5	Topic: Monitoring of coastal waters and protection of coastal zone
Description	<p>Experts from Crete River basin visited the National Institute of Oceanology.</p> <ul style="list-style-type: none"> -A summary of the main research archives of the Institute were presented on the topics: marine physics, marine chemistry, marine biology, marine geology and coastal zone dynamics of Black Sea. -The facilities of the Institute were presented especially the research vessel and submarine, the research equipment and the labs. <p>The issues discussed were of big importance, as Crete meets the same problems concerning coastal water monitoring and costal zone management.</p>

Activity 6	Topic: <i>Infrastructure of Varna River Basin.</i>
Description	<ul style="list-style-type: none"> - Visit Tsonevo reservoir and equipment. Technical visit at the reservoir and presentation of its functional systems (technical characteristics, water management, protection zones etc). - Visit Spring Devny. Technical visit at the spring cluster. Presentation of hydrological system of springs, the characteristics and the water use. Furthermore, discussion was held up for the ground water of the Varna river basin. - Visit waste – water treatment plant. Technical visit at the Varna waste – water treatment plant. Presentation of the plant’s operation and discussion with the experts about the effluents, the cost analysis and the reuse of water. - Visit waste effluent’s lagoon. Technical visit at the artificial lagoon of the industrial area of Varna and discussion about the treatment of liquid disposals and the plan for adaptation to EU regulations. - Visit a fish farm Technical visit at black sea mussel farm installations. Discussion about the environmental impacts; the monitoring program; the restrictions; and the licenses have to be issued.

4. LESSONS LEARNT during the mission

(what could be shared with other partners and/or introduced in guidelines, as far as IWRM is concerned)

- **About Methodology :**

The following main accents of the approach for integrated water management in the Region of Varna should be shared with other partners or included in Guidance:

- Approaches for sustainable water management in conditions of conjunctive use of surface and ground water.
- Approaches for sustainable development of wetlands and protected areas.
- Relation with other institutions – scientific, non-profit and stakeholder organizations. Approaches for their involvement.
- Application of GIS and computer models in the process of monitoring, prognoses and management of quality and quantity of water especially of costal waters. Approaches for design and optimization of a monitoring set and program. Methods for control, analysis and assessment of the monitoring data.

- **About Practice :**

The following practical experience should be shared with other partners:

- Practical issues connected with a sustainable use of wetlands (protection, “alternative tourist activities”, monitoring)

- Implementation of appropriate models supporting the coastal water monitoring.
- Harmonization of administrative structures with the E.U. regulations especially the 2000/60/EK directive.
- Wastewater treatment processes and monitoring of the effluent water

5. **DISSEMINATION (opportunities and difficulties).**

In what measure these learnt lessons are applicable to :

a) The Basin Organization, the expert belongs to:

The learnt lessons are applicable in the Region of Crete (Authority) especially at the directorates of: Water, Public Earthwork, Civil Protection, Technical Service of Municipalities, Regional Plan and Design. The dissemination of information could be performed through the site of Region of Crete (www.region-crete.gr), as well as directly by e-mailing information to people involved in relevant issues.

b) National IWRM practice:

The learnt lessons are applicable to the Ministry of Environment, Direction of Water. The dissemination of information could be done through the electronic site of the Ministry of Environment (www.minenv.gr), as well as directly by contacting persons in relevant Sections of the Ministries, authorized to evaluate a project out coming.

c) Regional experiences:

The learnt lessons and obtained information are applicable to the International Network of basin Organizations. In particular the Mediterranean Network of Basin Organization and the related to the implementation of the WFD the EURO – INBO group. The information could disseminate by Internet through the site of INBO (www.inbo.org).

d) Worldwide :

The learnt lessons as well as the obtained information are applicable to the International Network of basin Organizations. Particularly, the Mediterranean Network of Basin Organization and the related to the implementation of the WFD the EURO – INBO group. Internet could disseminate the information, through the site of INBO (www.inbo.org).

Furthermore, the specific web site that has been designed for the TWINBASIN project (www.twinbasin.org), could facilitate the exchange of information on best water resources management practices of River Basin Organization.

The learnt lessons and obtained information are also applicable to the INTEREG III (<http://www.interreg.gr/>) which is a Community initiative to strengthen economic and social cohesion throughout the EU, by fostering the balanced development of the continent through cross-border, transnational and interregional cooperation. Special emphasis has been placed on integrating remote regions and those which share external borders with the candidate countries.

6. IDENTIFIED TIPS

(Identified tips which could be useful for colleagues)

The mission is characterized as a successful, achieving all goals, and some contributing to that are summarized below:

- An agreement on the agenda before the mission;
- Experts should present the related to the agenda topics;
- PowerPoint presentations ;
- Demonstration of software , electronic maps, GIS , etc.
- In situ visit and discussions with All involved experts and water users;
- Preparations of dossiers, including all relevant information, articles, maps etc.
- A learn about the civilization of the area with focus to water.

7. PERSONAL COMMENTS

What does the missionary think about his mission?

The mission was very interesting, useful and it was well organized. It should be mentioned that over 20 people were involved in different activities developed. The people which were involved were experts in are specific field concerning the management of water sources and protection of the environment. Furthermore, the hospitality and warmth of all Bulgarian People turned a business trip to a wonderful experience exchange for all participants.

A very important remark is that water management systems are similar, but we found out also that we have some differences in some activities. In that reason, we determined in details all differences, which help us to decide major problems.

Bulgaria and Greece are neighbouring countries. Both River Basin Directorates (Crete and BSBD) are public bodies for management of water at the basin level, newly formed according the 2000/60/EC WFD. The common tasks and duties provide a guarantee for future close exchange of knowledge and fruitful cooperation. Moreover the monitoring and management of coastal waters are characterized as having a great importance, providing long term exchange of experience on these fields.

Visitations to historical – archaeological interesting sites (Kape Kaliakra, archaeological Museum), contributes to a deeper understanding of the development of the area.

We find it will be very useful and we support the idea of organizing a final conference of all involved TWINBASIN missions.

8. CONTACTS

Principal local contacts met

Name	Occupation	E-mail	Phone Number
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Dr. Hristo Slabakov	Director of Institute of Oenology	office@io-bas.bg	0035952370484

9. BIBLIOGRAPHY

Main documents, manuals or supports used during the mission which could be useful for colleagues

Bibliography	
Name	Description / Notice
" Annual bulletin of water quality and quantity status for the Black sea basin area 2005 "	Prepared by BSBD Monitoring department
BSBD basin Overview report	Issued December 2004
Licence for water use for Black sea mussel breeding	Issued by Minister of Environment and water, control of implementation by BSBD Varna

Websites		
Name	Description / Notice	Address
BSBD	Black sea basin Directorate Varna	www.bsbd.org
	Regional Inspectorate for human health protection and control Varna	http://www.freewebs.com/riokoz-varna/
	Regional environmental Inspectorate Varna	http://www.riew-varna.org/
	Institute of Oenology	http://www.io-bas.bg/