

UNDP/GEF Danube Regional Project

Strengthening the Implementation Capacities for Nutrient
Reduction and Transboundary Cooperation in the
Danube River Basin

Concept for the Preparation of the Sava River basin management plan 2004 – 2006

Project Component 1.1-9: "Development of the Sava
River Basin Management Plan"

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Sava River Basin Overview Map

Sub-river Basin of the Danube River Basin District (Draft 2)



Table of Contents

Abbreviations and Acronyms	4
1. Introduction	5
1.1 Background	
1.2 Project objectives	
1.3 Activities carried out in Phase 1	
2. Methodological approach and scope of work	8
2.1 Participating countries in the Sava (Interim) Commission	
2.2 Coordination mechanisms for project implementation	
2.3 Project Concept for Phase 2	
3. Proposed activities and expected outputs	11
4. Technical description of project execution	14
4.1 Preparation of Work Programme taking into account other UNDP/GEF Project components and relevant projects (EU-CARDS, NL-IAC)	
4.2 Completion of the analyses and information collection related to the Danube River Basin Roof Report 2004/2005 (Parts A and B) in all Sava countries	
4.3 Assessment of monitoring programmes with regard to the needs of the WFD implementation	
4.4 Situation analysis and description of transboundary key issues related to water management and socio-economic conditions in the Sava river basin	
4.5 Preliminary Programme of Measures in line with the EU WFD	
4.6 Compiled Pragmatic Sava River Basin Management Plan (Roof Report)	
5. Planned cooperation with other projects of technical assistance	21
5.1 Coordination with other UNDP/GEF Project Components	
5.2 EU-CARDS and EU-ISPA	
5.3 Dutch technical assistance (IAC)	
6. Time Schedule for Project Implementation of GEF Sava Component	25

Abbreviations and Acronyms

BA resp. BiH	Bosnia and Herzegovina
CARDS	Community Assistance for Reconstruction, Development and Stabilisation
CIS	Common Implementation Strategy (of the WFD)
DRB	Danube River Basin
EAR	European Agency for Reconstruction
EC	European Commission
EG	Expert Group
EU	European Union
HMWB	Heavily Modified Water Bodies (according to WFD)
HR	Croatia
ICPDR	International Commission for the Protection of the Danube River
ISPA	Instrument for Structural Policies for Accession
mio.	million
MLIM	(ICPDR Expert Group for) Monitoring, Laboratory and Information Management
RBM/RBMP	River Basin Management (Plan)
RS	Republika Srpska (Entity within BiH)
SC	Sava Commission
SI	Slovenia
S-M resp. SCG	Serbia and Montenegro
SG SWM	Strategic Group on Sustainable Water Management (of the Sava Commission)
ToR	Terms of Reference
UNDP/GEF-DRP	United Nations Development Programme / Global Environment Facility-Danube Regional Project
WFD	EU Water Framework Directive

1. INTRODUCTION

1.1. Background

The present concept has been developed in line with the resolution of the ICPDR Steering Committee at its meeting in June 2002 in Prague to use the Sava River Basin as a model for the development of a River Basin Management Plan, and taking into account the Action Plan of the Interim Sava Commission.

The project concept and the modalities for implementing the GEF DRP Project Activity 1.1-9 were explained and discussed at the 1st meeting of the "Sava Working Group" on 18 October 2002 in Vienna. The proposed approach and related activities are in line with the objectives of the Framework Agreement on the Sava River Basin, with special reference to Article 3 (EU Water Framework Directive), to Article 5 (Cooperation with ICPDR), and Article 12, which stipulates the development of a "Sava River Basin Management Plan".

The UNDP/GEF Danube Regional Project has in Phase 1 (April to December 2003) carried out a first situation analysis, was examining the availability of information and data, and assessing institutional capacities in the four Sava countries to carry out the development of the Sava River Basin Management Plan.

At the 4th meeting of the "Sava Working Group" on 12 December 2003 in Ljubljana, the "Draft Concept for the preparation of the Sava RBM Plan" was presented and newly introduced changes regarding objectives, expected outputs and proposed processes were discussed and generally accepted. Particular attention was given to the need to reinforce national capacities to respond to the requirements for developing a pilot project for RBM planning in the Sava region.

It was further emphasized that the project should in Phase 2 be implemented in cooperation and coordination with other assistance programmes for the Sava River Basin, in particular the future Sava project of the EU-CARDS Regional Programme, but also the upcoming EU-ISPA pilot project for a RBM Plan in the Krka river sub-basin and the ongoing Dutch assistance for the Sava Interim Commission.

To respond to the mandate of the ICPDR, the GEF Project shall follow the guidelines established by its River Basin Management Expert Group, in particular the Strategic Paper for the "Development of a Danube River Basin District Management Plan" (May 2002) and the guidelines for the preparation of the Roof Reports for the Danube River Basin¹.

¹ - Outline of Roof Report for information needed by the end of 2004
- Implementation Plan for fulfilling the requirements of the WFD needed by the end of 2004 with special focus on the preparation of the Roof Report for the DRB, Sept. 2003

1.2. Project objectives

The UNDP/GEF Danube Regional Project supports the development of a pilot plan for the Sava River Basin as a model for river basin management planning in line with the requirements of the EU Water Framework Directive.

The Overall Objective of the Danube Regional Project is to complement the activities of the ICPDR required to strengthen a regional approach for solving transboundary problems in water management and pollution reduction. This includes the development of pilot projects for river basin management planning to demonstrate the implementation of the EU Water Framework Directive.

Following the mandate of the UNDP/GEF Project Document:

Objective 1 stipulates the “Creation of Sustainable Ecological Conditions for Land Use and Water Management” and under

Output 1.1 “Development and implementation of policy guidelines for river basin and water resources management”.

In consultation with the ICPDR2, and in taking into account the Action Plan of the Sava River Commission3, the SAVA River Basin was identified as the most appropriate pilot project for developing a Sub-river Basin Management Plan while taking into account the guidelines for implementing the EU WFD.

Activity: 1.1-9 requires in Phase 2 (2004-2006) to develop a RBM Plan in the Sava River Basin (pilot project) in applying in selected priority issues of transboundary importance common approaches, methodologies and guidelines, and in providing feed-back to the RBM EG and to the European Commission.

The long-term objective for Sava countries is to develop until 2009 a Sava Basin River Basin Management Plan that is in line with the requirements of the EU Water Framework Directive and other related EU water legislation. The Sava Basin RBM Plan will be one building block of the overall RBM Plan for the Danube basin and has to respect its objectives and requirements. This includes the application of guidelines developed for economic analysis, monitoring and public participation.

It was agreed in the Sava Working Group, that by the end of 2006 a **Pragmatic Sava RBM Plan** should be developed as the main instrument to trigger concrete actions and measures of the Sava Commission and the riparian countries with regard to transboundary issues. The plan should also serve as a basis for investments by international and bilateral donors.

² Resolution from the ICPDR Steering Group Meeting 6 and 7 June 2002 in Prague:

The Steering Group

- welcomes the initiative of the UNDP/GEF Project to support the activities of the ICPDR Expert Groups and to reinforce the implementation of the DRPC;
- welcomes the preparation of a pilot project for the development of the RBM Plan for the Save River Basin;
- asks the RBM EG to cooperate with the Project with the view to apply and to test the ICPDR strategy for implementing the EU WFD in the Save River Basin and to provide support for project implementation;
- recommends to establish, with the assistance of the Project, a coordinating body for the preparation of the Sava RBM Plan.

³ Framework Agreement on the Sava River Basin, Article 12 stipulates the development of the “Sava River Basin Management Plan”

In order to serve both purposes, the **Immediate Objectives** of the UNDP/GEF DRP should be to assist the Save River Basin countries:

1. to deliver the products required by the ICPDR in order to meet the WFD requirements between 2004 and 2006, depending on the specific country needs (Objective 1);
2. to develop a pragmatic Sava RBM plan which analyses the major transboundary issues related to water quality control and water management in the basin and identifies the main measures to deal with them, including the necessary investments needed to meet the main principles of the WFD (Objective 2).

Objective 2 will deliver an early result with regard to the overall Programme of Measures under the WFD and, in this respect, the Sava experience can serve as an example and pilot region for the entire Danube River Basin, providing a valuable experience for the implementation of the EU WFD in general.

1.3. Activities carried out in Phase 1

In supporting these initiatives, the UNDP/GEF Danube Regional Project carried out in Phase 1 (April to December 2003) a situation analysis that examined the availability of national information and data, and pre-assessed the institutional capacities to carry out the development of the Sava River Basin Management Plan.

The results of these studies are presented in two reports (prepared in fall 2003):

- “Summary of National Analysis for Socio-economic Indicators” and
- “Summary of National Analysis for Water Management Indicators of the Sava River Basin”.

These findings were presented and discussed at the 3rd meeting of the Sava Working Group on 9 October in Zagreb and briefly re-addressed at the regional UNDP/GEF Workshop on 12 December 2003 in Ljubljana (4th meeting of the Sava WG). They shall be complemented and completed in Phase 2 of the Project.

2. METHODOLOGICAL APPROACH AND SCOPE OF WORK

2.1. Participating countries in the Sava (Interim) Commission

Four independent States have parts of the Sava river basin:

Country	Size in the SRB	Share of the SRB	Share of total national territory
Slovenia	10,724 km ²	11.0 %	53 %
Croatia:	25,540 km ²	26.3 %	45 %
Bosnia i Hercegovina	38,719 km ²	39.8 %	76 %
Serbia & Montenegro	22,200 km ²	22.8 %	22 %
Total SRB	97,183 km²	100.0 %	

Slovenia will from May 2004 on be a EU member State and is as such required to implement the EU WFD in its national territory. In case of common water bodies (e.g. the Sava river basin), Slovenia should initiate the cooperation with Croatia, Bosnia i Hercegovina and Serbia & Montenegro to develop a common water management plan.

Croatia, which has signed an Accession Agreement to enter into negotiation for EU membership, has well developed its mechanisms to implement the EU WFD under the guidance of the RBM EG of the ICPDR.

Bosnia i Hercegovina and Serbia & Montenegro are both interested in entering the EU but are still at a very early stage of implementing the EU WFD in cooperation with the RBM EG of the ICPDR.

Further, all four countries have signed in December 2002 a “*Framework Agreement for the Sava River Basin (FASRB)*” with the commitment to create the Sava Commission in order to assure efficient use and protection of waters in the Sava River Basin.

In this context, the four countries have developed a Work Programme in which the “Development Strategy for River Basin Management Plan in the Sava River Basin” is foreseen to be executed within two years.

The Sava Basin Commission countries’ ownership of the process is a key for success of the entire Sava basin development process. Assistance programmes like the UNDP/GEF DRP should reinforce and/or create the necessary structures, capacities and provide institutional support for the SBC and its bodies. At the same time, all related activities should be closely co-operating with the Sava (Interim) Commission and coordinate with similar projects.

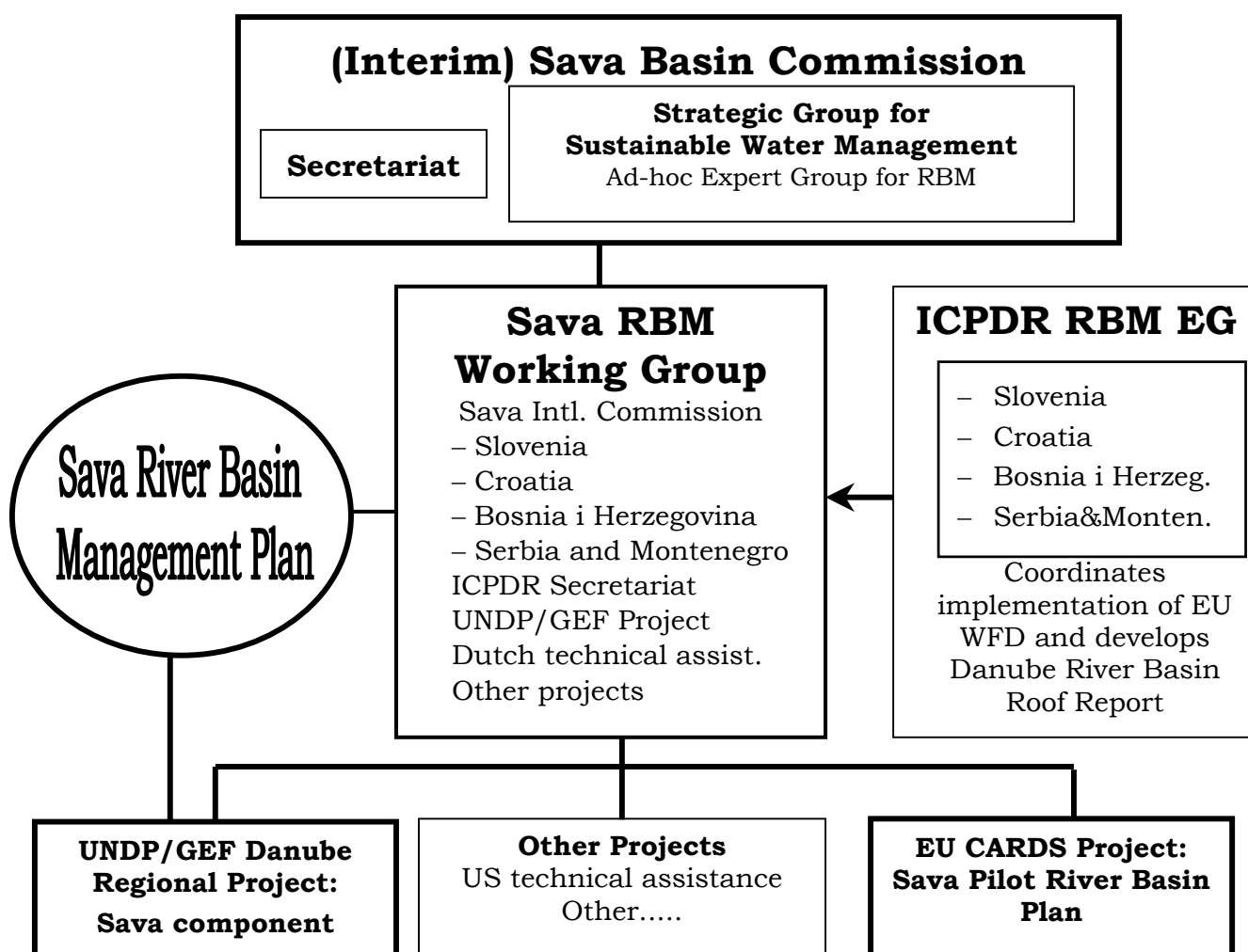
At the Sava Interim Commission’s meeting in December 2003 in Stubicke Teplice a more detailed working structure of the SC was agreed, with the *Strategic Group for Sustainable Water Management* now steering various *ad-hoc Expert Groups*. It is expected that by summer 2004, all Sava countries will have ratified the FASRB and that then a permanent Sava Commission with a Secretariat in Zagreb will become operational.

2.2. Coordination mechanisms for project implementation

In its meeting on 6-7 June 2002 in Prague, the ICPDR agreed to establish a special Working Group to guide and coordinate the activities of the GEF Project in developing a Sava River Basin Management Plan (see footnote).

The participation of experts from the ICPDR RBM EG from Slovenia, Croatia, Bosnia i Herzegovina and Serbia and Montenegro in the “*Sava River Basin Working Group*” (Sava WG) assures that the methodologies and guidelines developed by the RBM EG will be taken into account in the Sava pilot project, and that the concept of preparing the Sava RBM Plan will be coherent with the Plan (“Roof Report”) for the overall Danube River Basin.

It is further assumed that these experts will participate in relevant structures of the (Interim) Sava Basin Commission⁴ to assure full integration of methodological approach and activities related to the water management sector with those as practiced in the overall Danube Basin under the ICPDR.



⁴ According to the International Framework Agreement, which the riparian countries signed in December 2002, the Sava Basin countries will establish a Sava Basin Commission. The Sava Basin Commission (SBC) will among others be responsible for the elaboration of an Integrated River Basin Management Plan compliant with the EU Water Framework Directive. This implies that once the SBC has been established (presumably in spring 2004) the Sava Basin Working Group will act as an expert group of the SBC.

2.3. Project Concept for Phase 2

In Phase 1 essential data and information, as required for implementing the EU WFD by the end of 2004, have been collected and an analysis has been carried out to identify deficiencies in data but also in structural, professional and general human capacities needed for developing the Sava River Basin Management Plan (Roof Report).

This information and the respective analysis has helped to prepare the present Concept paper and scope of work for Phase 2 of the Project (2004 to 2006) to develop a *Pragmatic Sava River Basin Management Plan* as a demonstration case for the Danube river basin.

In this context, in 2004 and 2005 the analyses and information collection related to the DRB Roof Report 2004/2005 (Parts A and B) shall be completed (analyses of surface and groundwater bodies, pressure and impact on surface and groundwater, and economic analysis).

Based on the results of a carefully carried out pressure and impact analysis, it is possible at an early stage (2005/2006) to identify "preliminary measures" as required by the EU WFD in terms of policies, laws and regulations, investment programs, mechanisms for compliance, etc.

This target can be achieved if the GEF DRP gives priority to supporting Sava basin countries (in particular Serbia & Montenegro, Bosnia i Hercegovina, but also Croatia) with other Project activities related to the development of policies, regulations and other measures for water management as further described in Chapter 5.1.

In the same context, support provided by EU CARDS and by the IAC - Dutch technical assistance, both briefly described in Chapter 5.2 and 5.3, as well as by other international and bilateral assistance (e.g. US Government) should be taken into account in developing the work programme for the Sava River Basin Management Plan during the Inception Phase.

Further, it should be considered that the ICPDR holds a relative up-to-date and reliable data-base, recently up-dated to respond to DABLAS requirements, with information on investment projects, in particular for the municipal sector, which shall be enlarged for industrial and agricultural sector including investment programs and development of policies and legal mechanisms.

The development of the *Pragmatic Sava River Basin Management Plan* should then serve as a pilot step for the preparation of the Danube River District Management Plan (Roof Report), which should be finalized until 2010. It could further serve as a model for the preparation of Sub-River Basin Plans, which seems advisable when taking into account the size, diversity and disparity of environmental, social and economic issues in the Danube River Basin.

3. PROPOSED ACTIVITIES AND EXPECTED OUTPUTS

As the first efforts in 2003 have shown, the development of the Danube Roof Report on the Danube basin characteristics as well as the national reports require significant efforts of the Sava countries to deliver the necessary data and products to the European Commission and/or to the ICPDR. Moreover, in 2006 Danube basin countries will have to report on their monitoring systems. In parallel to these technical requirements the participation of the public has to be ensured based on the concept agreed in 2003 at the ICPDR.

The UNDP/GEF Danube Region Project should therefore assist the Sava basin countries to:

- Collect, evaluate and deliver the information to the ICPDR, required for the *Danube Roof Report 2004/2005* and as agreed at the ICPDR Ordinary Meeting in December 2003;
- Analyse the present *monitoring systems* in the Sava river basin countries with regard to the requirements of the WFD, and propose a phased approach to adapt those systems, including the necessary investments (see also chapter 5.1, GEF-DRP Component 2.2);
- Prepare a *public participation strategy* for the Sava river basin based on the strategy and the agreed activities for the Danube (see also chapter 5.1, GEF-DRP Component 3.4);
- Develop a *Pragmatic River Basin Management Plan* for the Sava Basin, including key water management issues and preliminary measures (Sava investment programme).

One of the major challenges for the Sava Commission is to make progress in dealing with the major transboundary water management issues. The development of a pragmatic river basin management plan in the spirit of the WFD should until 2006 not be technically perfect but concentrate on the major transboundary issues related to water quality control and water management. It should form the basis of a political commitment of all riparian countries and include a set of concrete measures with the necessary investments. The development of such a plan should not only concentrate on the main WFD issues but also include other water management issues such as flood management and economic use of water (irrigation, navigation, hydro-power production, etc). The development of such a “*pragmatic RBM plan*” should create also the necessary momentum, trust and capacity in order to get the Sava Commission fully operational.

Therefore, it is extremely important to develop and implement the necessary capacity and institution-building measures for the Sava Commission and the national authorities in order to achieve the project objectives and the expected outputs.

The measures should be tailor-made depending on expressed and identified needs of the riparian countries and should enable them to prepare a more elaborated RBM plan by 2009, largely based on their own capacities.

As the EU-CARDS Sava Project (see chapter 5.2.) will provide a lot of useful capacity building, careful coordination is recommended and foreseen between the UNDP/GEF and the CARDS projects.

In this frame the following project outputs and activities are proposed:

Output 1: Work Programme taking into account the work plan and guidelines developed by the ICPDR RBM Expert Group for preparing the Danube RBM Plan (Roof Report).

Activities:

- Prepare a draft work programme for the development of the Sava River Basin Management Plan including time frame,
- Organize a regional consultation meeting with Sava WG to discuss and approve the work programme,
- Finalise work programme and distribute to all stakeholders.

Output 2: Completion of Danube River Basin Roof Report 2004/2005 (Parts A and B) in all Sava countries via the collection and analyses of information and data.

Activities:

- Prepare a gap analysis for Sava countries on the base of needed and available information for completion of DRB Roof Report 2004/2005,
- Identify, develop and later implement capacity-building measures necessary to fill in the gaps (to be harmonised with EU CARDS Sava Project),
- Organize and coordinate national consultation meetings with involved institutions and stakeholders to screen national findings,
- Support Croatia, Bosnia i Herzegovina and Serbia & Montenegro in completion of the DRB Roof Report 2004/2005 tasks (see meeting June 2004 in Belgrade).

Output 3: Monitoring programme in Sava River Basin countries analyzed and upgrading of standards proposed as required by the EU WFD and integrated in the Danube TNMN

Activities:

- Assess and evaluate existing national monitoring programmes, according to requirements of the WFD and needs of the Danube TNMN,
- Propose and discuss with Sava WG a phased approach to meet these requirements.

Output 4: Situation analysis and description of transboundary key issues (pressures and impacts) related to pollution control, water management and economic conditions in the Sava River Basin

Activities:

- Design preliminary criteria for identification of significant transboundary key issues of Sava RB, taking into account the related DRB criteria, and discuss with Sava WG,
- Develop preliminary list of transboundary issues in the Sava basin, based on the results of the pressure and impact assessments and other sources of information,
- Prepare draft report on “Transboundary key issues related to pollution control, water management and economic conditions in the Sava River Basin”,

- Organize regional consultation meeting to discuss draft Sava basin report,
- Edit final report on “Transboundary key issues related to water management and economic conditions in the Sava River Basin” and distribute to all stakeholders.

Output 5: *Preliminary Programme of Measures* discussed and amended in public participation process as required by the EU WFD

Activities:

- Develop criteria for selecting measures to address significant transboundary issues in line with the EU WFD,
- Prepare preliminary programme of measures for consultation with stakeholders at national and regional level,
- Adapt public participation strategy developed for the Danube basin to the conditions of the Sava River Basin and develop implementation plan,
- Test the design and execution of the consultation process with stakeholders on selected pilot measures (to be harmonised with EU CARDS Sava Project),
- Produce “Preliminary Programme of Measures for the Sava River Basin” with focus on transboundary issues

Output 6: Compiled Pragmatic Sava River Basin Management Plan including Preliminary Programme of Measures and WFD-related investments

Activities:

- Prepare outline for Pragmatic Sava River Basin Management Plan and discuss with S-RBM WG for amendments and approval,
- Edit draft version of Pragmatic Sava RBM Plan,
- Organize regional consultation meeting to discuss draft Sava RBM Plan including programme of measures and related investments,
- Finalise Pragmatic Sava River Basin Management Plan and programme of measures.

4. TECHNICAL DESCRIPTION OF PROJECT EXECUTION

4.1. Preparation of Work Programme, taking into account other UNDP/GEF Project components, EU-CARDS Sava project and Dutch technical assistance

- Prepare a draft Work Programme for the GEF-DRP period 2004 – 2006 and relate to other UNDP/GEF project components, EU-CARDS national and Sava projects, and to other projects (e.g. Dutch technical assistance/IAC),
- Discuss draft Work Programme with GEF DRP Management and Sava WG,
- Organize regional consultation meeting to discuss draft Work Programme,
- Finalise Work Programme and prepare execution.

4.2. Completion of the analyses and information collection related to the Danube River Basin Roof Report 2004/2005 (Parts A and B) in all Sava countries

In Phase 1 of the GEF Sava component, national data for river basin management have been collected and analysed. The summary results are presented in two separate reports, “*Summary of National Analysis for Socio-economic Indicators*” and “*Summary of National Analysis for Water Management Indicators of the Sava River Basin*”, prepared in fall 2003.

The results obtained so far in Phase 1, also for Serbia & Montenegro and for Bosnia i Herzegovina, are encouraging and provide the hope that in 2004 a complete set of data and information can be collected, analysed and presented in a coherent form for the SRB. A complete picture can only be obtained in Phase 2 of the Project.

The upcoming EU-CARDS Sava project (see chapter 5.2.) will provide specific training on CIS Guidances for the implementation of the EU-WFD only in 2005, i.e. too late for the writing of the DRB Roof Report 2004/2005. The GEF Sava component will therefore provide support to Croatia, Bosnia i Herzegovina and Serbia & Montenegro allowing to submit the required information for the DRB Roof Report 2004/2005. This information will later be used for identifying key transboundary issues in the Sava basin (2005) and for writing the Pragmatic Sava RBM Plan (2006).

The collection of data and information will apply the following scheme:

4.2.1. Characterisation of Surface Waters (Art. 5 and Annex II)

4.2.1.1. Identification of surface water body categories :

- Rivers, lakes, transitional waters and coastal waters
- Heavily modified water bodies
- Artificial water bodies

4.2.1.2. *Eco-regions and surface water body types*

The assessment will be linked with GEF component 1.1-5 and the results from the Dutch assistance project (IAC). The report shall contain an overview map showing the eco-regions. A second overview map will show the types of surface waters bodies. The text will include a table with a brief description of these types:

- rivers in the SRB overview map,
- transboundary lakes,
- artificial and heavily modified water bodies of transboundary importance.

4.2.1.3. *Establishment of type-specific reference conditions for surface water body types*

The assessment will be linked with GEF component 1.1-5 and the results from the Dutch assistance project (IAC) which aims at defining reference conditions for the Sava Basin.

4.2.2. Identification of Significant Pressures

General attention shall be given to

- High nutrient loads
- Contamination with hazardous substances and priority substances
- Human impacts causing hydro-morphological changes of water regime

Specific significant pressure shall be identified from:

4.2.2.1. *Significant point sources of pollution (hot spots) concerning:*

- Urban,
- Industrial,
- Agricultural and other installations

4.2.2.2. *Significant diffuse sources of pollution concerning in particular:*

- Agricultural, urban and industrial and other sources,

Organic pollution and nutrients will be modelled with the help of MONERIS and DANUBS models.

4.2.2.3. *Hydro-morphological pressures with a significant impact*

Through the GEF Project an analysis of significant hydro-morphological pressures on the Danube is being carried out. This assignment includes:

- significant water abstraction,
- significant flow regulation, and
- significant morphological alterations.

For the assessment of hydro-morphological pressures it is necessary to include the impact on biological indicators.

4.2.2.4. Identification of accident risk sites and old contaminated sites (not specifically required by WFD)

- Methodology and inventory for the DRB established by the APC EG has to be amended and completed for the SRB (link to GEF component 2.3),
- Identification of accident prevention measures and requirements for the installation and handling of dangerous substances in water (with support of APC EG),
- Development of accident warning system established for the DRB by the APC EG.

4.2.2.5. Flood control and flood prevention (not specifically required by WFD)

- Methodology for the preparation of an “Action Plan for Flood Protection” for the DRB is under preparation by the APC EG. The Action Plan for the DRB should be available at the end of 2004 and later specified for sub-basins (e.g. Sava).
- The IAC has programmed to support the design of an integrated flood protection plan for the SRB.

4.2.3. Assessment of Impacts (risk of failure to achieve the good status)

In the frame of the GEF Pollution Reduction Programme (1997-1999) a first inventory (map with description) of “Significant Impact Areas” in the DRB has been elaborated.

This inventory may serve as a basis to further identify impact sites in the SRB. The MLIM EG has proposed to include only those areas that have a high risk of failing to achieve the good status. For the definition of “high risk” the MLIM EG will develop appropriate criteria. In the case of the SRB it is proposed to identify presently existing “Significant Impact Areas” with the intention to demonstrate over time the improvements or the rehabilitation of these areas, when respective “measures” will be implemented. The assessment will be linked with GEF component 1.1-10.

4.2.4. Land Use and Identification of Protected Areas

4.2.4.1. Land use patterns

Under the EU-WFD land use, including identification of the main urban, industrial and agricultural areas and, where relevant, fisheries and forests, is considered as a source of significant pressure. However, for the Sava RBM Plan it is proposed to develop an overall picture of land use, including all natural habitats (forests, grasslands, wetlands, etc.) taking into account the overall role of land use on water quality and quantity.

Concerning significant pressures, it is possible with the help of MONERIS to give estimates of nutrient flows with regard to different land use patterns. EMIS EG will deal with this aspect.

Regarding wetlands and floodplains an inventory is presently under preparation, and GEF-Project component 1.4 on land use assessment and 4.3 on nutrient removal capacities will provide further information, which will be useful to determine eventual pressure, respectively impact on wetland and floodplains.

4.2.4.2. Protected areas

- Inventory of Protected areas for species and habitat protection presently under preparation for the DRB by the GEF DRP (Annex IV, 1. (v)); the inventory and description shall be completed and amended for the SRB
- Inventory of Protected areas for drinking water abstraction (Art. 6, Annex IV, 1.(i))

4.2.5. Characterisation of Groundwater (Art. 5 and ANNEX II)

Based on the results of the Groundwater Workshop (GEF component 1.1-7) held in May 2003 in Budapest, detailed information on the characterisation and monitoring of groundwater bodies has been provided to facilitate the harmonisation of methodologies for:

- Identification and initial characterisation of groundwater bodies
- Further characterisation (review of human activities)
- Review of the impact of changes in groundwater levels
- Review of the impact of pollution on groundwater quality
- Preparation of maps for groundwater bodies in the SRB (special attention to groundwater bodies in carst regions)

4.2.6. Social and Economic Analysis (Art. 5 and Annex III)

A workshop on the economic analysis for the implementation of the WFD (GEF component 1.1-3) was held on February 3-4, 2003 in Vienna. The workshop introduced the WATECO Guidance document and defined a list of economic variables/indicators for use in the Danube river basin.

A simplified version of the template for collection of socio-economic data has been used in the Phase I of the SRB Project. However, also these results have shown that the template has to be further revised and adjusted to the realistic possibility to obtain reliable socio-economic data and information in the given timeframe. For Phase II the following information shall be considered (to be linked with GEF component 1.1-3):

4.2.6.1. Demographic indicators

- Total population (urban/rural)
- Economic active population
- Households

4.2.6.2. Economic indicators

- Employment
- GDP
- Average income

4.2.6.3. Water and waste water service indicators

- Water abstraction
- Water consumption per sector (households, industries, irrigation, hydro- power production)
- Public and private drinking water production
- Population connected to public water supply
- Population connected to sewer/water treatment facilities
- Inventory of WWTP (municipal and industrial)
- Irrigation
- Hydro power production
- Industrial water consumption

4.2.6.4. Reservoirs and storage capacities

- Multipurpose and specific purpose storage capacities
- Volume
- Water management

4.3. Assessment of monitoring programmes with regard to the needs of the WFD implementation

With regard to the requirements of the WFD, the present monitoring systems in the SRB should be analysed while taking into account the results of pressures and impact assessment. A proposal to adapt these systems to those requirements shall be developed in a step-wise manner, including necessary investments.

4.4. Situation analysis and description of transboundary key issues (pressures and impacts) related to water management and socio-economic conditions in the Sava River Basin

All information described under point 4.2 will allow preparing in early 2005 a first part of the Pragmatic Sava RBM Plan on “Transboundary key issues in the Sava river basin”, based on water management and socio-economic data and information as well as on a first transboundary analysis of pressure and impact.

First, the DRB criteria for identification of significant transboundary key issues should be adapted according to local circumstances in the SRB. The resulting preliminary list of transboundary issues should be discussed at a regional consultation meeting.

4.5. Preliminary Programme of Measures in line with the EU WFD

Taking into account that the ICPDR, RBM EG has not yet developed the respective guidelines for the identification and description of the program of measures, it is yet not possible to apply respective ICPDR guidelines in the SRB. It is not assured that the EC will develop in 2004 the necessary guidelines for the Programme of Measures, which then should be adapted by the ICPDR - RBM EG to the requirements for developing the DRB District Plan.

On the other hand, it should be noted that in 1998/99 the UNDP/GEF Project, already carried out a “hot spot” analysis (pressure or stress analysis) which identified and described in the Danube River Basin 34 Significant Impact Areas (SIA) out of which 9 (26 % of total) are situated in the Sava River Basin (impact analysis). Further the UNDP/GEF Project has developed an investment portfolio with over 500 projects in the municipal, industrial and agricultural sectors out of which about 85 projects (17 % of total) are in the Sava River Basin.

In 2000 the ICPDR developed its Joint Action Programme (JAP) with recommendations to all contracting parties to prepare specific policies, legal and institutional instruments to assure pollution reduction and efficient management of water resources in the DRB.

Further, in the frame of the DABLAS initiative, the ICPDR developed in 2001/2002 an updated investment portfolio with 158 projects in the municipal sector in the Danube River basin, responding to priority criteria and ready for immediate implementation. Also, a link will be made to the GEF component 1.1-9.

All these elements constitute valuable contributions, helping to develop a coherent pressure and impact analysis on the one hand, and to start the process of identification and description of preliminary measures, either in form of policies and legal actions, or in form of priority investments to assure pollution reduction and efficient water management on the other hand.

Following the example of the DRB public participation strategy, a similar process should start in the SRB. This new approach will be tested by designing and executing such consultation processes with stakeholders on selected pilot measures.

4.6 Compiled Pragmatic Sava River Basin Management Plan including preliminary programme of measures and related investments (Roof Report)

A Pragmatic Sava RBM Plan shall be finalized by the end of 2006 and constitute a pilot step for the Roof Reports for the DRB and for the SRB. In addition to the completed analyses and information required by the WFD Report 2004/2005 for the entire DRB, this Plan will further contain the Situation Analysis and description of transboundary key issues related to water management and socio-economic conditions in the Sava River Basin (see Chapter 4.4.).

It will also contain the Preliminary Programme of Measures in terms of policies, legal and institutional instruments, and an estimation of needed investments to achieve the requirements of the WFD by 2015.

The outline for the Sava River Basin Management Plan will be developed when the first draft outline for the DRB Plan is available (expected in 2005). This approach should then be adapted to the conditions of the Sava river basin, taking into account the specific requirements of the Sava Commission in relation to environmental and economic considerations and the results of GEF component 1.1-8.

The outline of the Sava RBM Plan could be prepared together with the work of drafting the Situation Analysis in 2005.

Major points of this report will include:

1. Geographical description of the Sava basin with particular attention to defined eco-regions (geographical and geo-morphological data);
2. Analysis of population data (urban/rural population, employment, income, etc);
3. Analysis of socio-economic data, GDP, income and economic activities (agriculture, industry and mining, transport/navigation and services);
4. Information on water usage and consumption (households, industry, irrigation, hydro-energy production, navigation, etc);
5. Identification and typology of water bodies in 4 of the 6 WFD categories (river, lake, heavily modified water bodies, artificial water bodies);
6. Reviewing/updating emission inventory (point and non-point sources);
7. Identification and assessment of pressures and impacts on water bodies from:
 - point sources of pollution
 - diffuse sources of pollution and land use patterns
 - hydro-morphological conditions;
8. Reviewing and analysing causes and effects from human activities on surface and groundwater bodies from point and diffuse sources;
9. Inventory and management of protected areas for species and habitat protection areas (WFD Annex IV, 1.(v));
10. Inventory of protected areas for drinking water abstraction (A IV, 1. (i));
11. Inventory and programmes of monitoring networks;
12. Identification of present measures for policy reforms for nutrient reduction:
 - from agricultural sources
 - through introduction of BAP in animal farming
 - through introduction of organic farming,
 - for integrated land use;
13. Identification of present policy measures for pollution reduction at municipal and industrial sites;
14. Identification and description of investment projects in the municipal, industrial and agricultural sector (Sava Investment Portfolio/DABLAS list);
15. Public participation in implementing the EU WFD (measures undertaken by Governments, and the role of NGOs and the private sector).

5. PLANNED COOPERATION WITH OTHER PROJECTS OF TECHNICAL ASSISTANCE

5.1. Coordination with other UNDP/GEF Project Components

There are a number of UNDP/GEF Project components which can provide useful advice and general guidance for the preparation of the specific outputs of the Sava basin component:

GEF Component 1.1-3: Apply the EU Guidelines for economic analysis and arrive at the overall economic analysis for the Danube River Basin with particular attention to:

- Methodology for socio-economic data collection and assessment based on experience from Phase I and being adapted to the requirements of the Sava Region,
- Collection and assessment of national population and economic data for 4 Sava countries, in cooperation with technical support provided for project component 1.1-3.

GEF Component 1.1-5: Developing river basin management tools with particular attention to:

- Mapping, development of GIS and remote sensing
- Data management.

GEF Component 1.1-6: Developing typology of surface waters and defining relevant reference conditions.

GEF Component 1.1-7: Implementing ecological status assessment in line with the requirements of the EU WFD using specific bio-indicators.

GEF Component 1.1-8: Characterization and analysis of groundwater bodies (this Project Component is accomplished in Phase 1 and should be further used to finalize the specific analysis in the Sava river basin).

GEF Component 2.2: Development of operational tools for monitoring, laboratory and information management for emission analysis from point and non-point sources of pollution with particular attention to nutrients and toxic substances, with focus on:

- Developing, upgrading and reinforcing capacities and tools for monitoring, laboratory and information management and for emission analysis from point and non-point sources of pollution (follow-up from Phase 1)
- Further development of databases (EMIS, MLIM, DABLAS, etc) in order to assess environmental stress and impact in Sava basin countries,
- Harmonizing water quality standards (finalize classification schemes) and quality assurance for nutrients and toxic substances in Sava basin countries (follow-up from Phase 1);
- Optimisation of the TNMN network (program, hardware, software, training) in the Sava basin countries (in particular in S & M, B i H and Croatia) and identifying sources and amounts of transboundary pollution for substances on the list of EU and DRPC priority substances (follow-up from Phase 1).
- Organizing workshops to support capacity building.

GEF Component 3.2: Applied awareness raising through community-based Small Grants Programme. In Phase 1 of the SGP relevant projects have been identified in Sava basin countries (S & M, BiH and Croatia) for:

- Demonstration activities and awareness campaigns for sustainable land management and pollution reduction (nutrients and toxic substances) in the agricultural, industrial and municipal sectors (follow up from Phase 1);
- Small-scale community-based investment projects for pollution control, rehabilitation of wetlands, best agricultural practices, reduction of use of fertilizers, manure management, improvement of village sewer systems, etc. (follow up from Phase 1)

GEF Component 3.4: Enhancing support of public participation in addressing priority sources of pollution (hot spots) through improved access to information through (Sava countries except Slovenia):

- Identifying and analysing different approaches and developing best practice methods adapted to the regional conditions (Sava river basin countries),
- Examining options and models for effective public involvement in water pollution reduction and “hot spot” control,
- Develop specific legal, regulatory, policy and institutional or practical measures to increase public access to information,
- Assist countries to develop measures and field testing of measures combined with local capacity building and training,
- Organizing workshops for government officials and NGOs on issues of public access to information concerning water management and pollution control.

5.2. EU-CARDS and EU-ISPA

There are a number of national projects under EU-CARDS (HR, BiH) and the European Agency for Reconstruction (S-M) presently under way resp. preparation for implementation between 2004 and 2006. All will strengthen local capacities in water management (including monitoring) and introducing the EU-WFD. Under the EU-CARDS Regional Programme 2003, a new project entitled “Pilot River Basin Plan for the Sava River Basin” will further assist Croatia, Bosnia i Hercegovina and Serbia & Montenegro from fall 2004 until fall 2007 by:

- Strengthening national capacities on WFD-oriented, transboundary water management (via information, awareness raising and various trainings on WFD guidances),
- Developing pilot projects in selected sub-basin areas (tentatively of the Dobra, Vrbas and Kolubara rivers) to test the implementation of the EU WFD, and to develop a harmonized methodological approach for river basin management in the Sava region.
- Strengthening the capacities of the Sava Commission (joint information system; coordination under its Strategic Group for Sustainable Water Management).

Slovenia will receive similar EU support (via ISPA funds) to test (in the Krka sub-basin) the EU guidelines for the WFD implementation.

All four countries want to cooperate in these projects and exchange experience and information to harmonize their approaches for implementing the WFD through the Sava Commission's Strategic Group for Sustainable Water Management.

Similar to this GEF Sava component, this CARDS project will contribute to the development of the Sava River Basin Management Plan. Details are given in the TORs of this project (finalised in March 2004) and will be further specified during the Inception Phase (expected for the end of 2004).

Due to their strong interrelation, the CARDS Sava project and this UNDP/GEF Sava component are designed for close coordination and tuning under the Sava Commission and the ICPDR.

5.3. Dutch technical assistance (IAC)

The Dutch government is funding a project "Integrated Transborder River Basin Management of the Sava" to assist the Sava Basin countries in implementing the International Framework Agreement (December 2002). The project is presently being implemented by a consortium of Dutch expert organisations headed by the International Agricultural Center in Wageningen (IAC). The Dutch assistance program will concentrate until the end of 2004 on the following issues:

1. Support to the Interim Sava Basin Commission to establish the Sava Basin Commission and to finalise the Interim Sava Basin Action Plan
2. Support the design of an ecologically sound flood protection plan (integrating biodiversity protection and flood alleviation; focus on the Lonjsko Polje wetland)
3. Support to the establishment of a Sava basin-wide GIS
4. Water quality management (describing reference conditions and typology of surface waters).

To assure complementarity of activities, the Work Plan for this project is taking into account the assistance provided by the GEF-DRP. Both projects will closely cooperate in the project implementation, and be coordinated under the Interim Sava Basin Commission and the ICPDR "Sava Working Group".

**6. TIME SCHEDULE FOR PROJECT
IMPLEMENTATION OF THE GEF SAVA
COMPONENT**

