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PROJECT BRIEF FOR THE DANUBE REGIONAL PROJECT (TRANCHE 2)

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

MARCH 2003

International Commission for the Protection of the Danube River

UNDP/GEF Assistance

PROJECT BRIEF

1. IDENTIFIERS

PROJECT NUMBER	**PIMS 2184**
PROJECT NAME	**Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin (Tranche 2)**
DURATION	3 years (December 2003 – November 2006)
IMPLEMENTING AGENCY	UNDP
EXECUTING AGENCY	UNOPS in cooperation with the ICPDR
REQUESTING COUNTRIES	Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Bosnia & Herzegovina, Serbia and Montenegro, Bulgaria, Romania, Moldova, Ukraine
ELIGIBILITY	Eligible under para. 9(b) of GEF Instrument
PARTICIPATING COUNTRIES	Germany and Austria
GEF FOCAL AREA	International Waters
GEF PROGRAMMING FRAMEWORK	GEF Operational Strategy for International Waters / Waterbody-Based Operational Programme (#8)

2. SUMMARY

The long-term development objective of the proposed Regional Project is to contribute to sustainable human development in the DRB through reinforcing the capacities of the participating countries in developing effective mechanisms for regional cooperation and coordination in order to ensure protection of international waters, sustainable management of natural resources and biodiversity.

In this context, the proposed GEF Regional Project should support the ICPDR, its structures and the participating countries in order to ensure an integrated and coherent implementation of the Strategic Action Plan 1994 (revised 1999), the Common Platform, the ICPDR Joint Action Program (approved by the ICPDR Plenary in November 2000) and related investment programs in line with the objectives of the DRPC.

The overall objective of the Danube Regional Project is to complement the activities of the ICPDR required to provide a regional approach and global significance to the development of national policies and legislation and the definition of priority actions for nutrient reduction and pollution control with particular attention to achieving sustainable transboundary ecological effects within the DRB and the Black Sea area.

Taking into account the basic orientations of the Danube/Black Sea Basin Programmatic Approach, the Danube Regional Project, in its Tranches 1 and 2, shall facilitate implementation of the Danube River Protection Convention in providing a framework for coordination, dissemination and replication of successful demonstration that will be developed through investment projects (World Bank-GEF Strategic Partnership, EBRD, EU programmes for accession countries etc.).

Specific objective of Phase 2 of the Project, December 2003 – November 2006, is to set up institutional and legal instruments at the national and regional level to assure nutrient reduction and sustainable management of water bodies and ecological resources, involving all stakeholders and building up adequate monitoring and information systems. To reach these goals and to secure the implementation and consolidation of those basin-wide capacity-building activities, the Project has to build up on the results achieved during the 1st Phase of the Project (December 2001 – November 2003).

Altogether 20 project components with 79 activities will be carried out during the 2nd Phase of the Project. The following immediate objectives are designed to respond to the overall development objective:

(1) Creation of sustainable ecological conditions for land use and water management;

(2) Capacity building and reinforcement of transboundary cooperation for the improvement of water quality and environmental standards in the Danube River Basin;

(3) Strengthening of public involvement in environmental decision making and reinforcement of community actions for pollution reduction and protection of ecosystems;

(4) Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances.

3. COSTS AND FINANCING (USD)

		Project Tranche 1	**Project Tranche 2**
GEF	**Project**	*5,000,000 USD*	**12,000,000 USD**
	PDF-B	*350,000 USD*	
	Subtotal GEF	*5,350,000 USD*	**12,000,000 USD**
Co-Financing	Government / ICPDR / others	*6,600,000 USD*	**12,878,000 USD**
	Subtotal Co-financing	*6,600,000 USD*	**12,878,000USD**
Total Project Cost		*11,950,000 USD*	**24,878,000USD**

4. ASSOCIATED FINANCING

- Government	279,000,000 USD
- UNDP	1,069,000 USD
- Bilateral, EU and NGO	249,562,000 USD
Total Baseline Costs:	**529,631,000 USD**

5. GEF Operational Focal Point Endorsements (Annex 13)

Czech Republic	15 September, 2000
Slovakia	31 August, 2000
Hungary	30 August, 2000
Slovenia	29 August, 2000
Croatia	29 August, 2000
Bosnia & Herzegovina	1 September, 2000
Serbia & Montenegro	13 September, 2000
Bulgaria	1 September, 2000
Romania	30 August, 2000
Moldova	30 August, 2000
Ukraine	7 September, 2000
ICPDR President	15 September, 2000

6. Implementing Agency Contact

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Preface

In May 2001, the GEF Council approved Tranche 1 to carry out the first phase of the UNDP/GEF Project "Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin" known in short as the Danube Regional Project (DRP). Although the initial Project Brief had been prepared in September 2000 with a total budget of 15 million USD, was endorsed by all 11 requesting countries and cleared by GEFSEC, due to funding constraints, the DRP was split into two parts (phases) to be funded by two separate tranches. Nevertheless, the overall development objective as well as the immediate objective remained (and still remain) the same for both phases of the DRP.

Rationale for Receiving the Tranche 2 Funding

Because of the decision to split the DRP into 2 Phases, it is critical that the 2nd tranche of funding be made available in time to assure continuity between the two phases. Phase 1 of the DRP began officially in December 2001 and will be concluded by November 2003. As of February 2003, 16 of 20 components of Phase 1 are under implementation with the remaining 4 in the process of being contracted. All Phase 1 activities should be concluded by Oct. 2003. In this context, Phase 1 was designed as the preparatory phase to prepare concepts, methodologies, policies, capacity building etc. that will be implemented in Phase 2. Therefore, to assure full project implementation and to achieve the ultimate goals of the Danube Regional Project in its entirety (both Phases), this Project Brief for Phase 2 of the DRP is being submitted for the remaining funding (2nd tranche).

Progress in the Implementation of Phase 1 of the DRP

The first year of implementation of the UNDP/GEF first phase (Dec. 2001-Nov. 2003) has been assessed as "highly satisfactory" in the latest APR/PIR Review (Feb. 2003) involving key stakeholders of the DRP (see Annex 14 for the full APR/PIR.) The DRP implementation is on target to deliver the expected results of Phase 1. As an indication, Annex 15 contains a table developed to demonstrate progress and results expected by the end of Phase 1. This table is based on the Objectives/Outputs/Success Criteria table that formed part of the original Framework Brief – GEF Strategic Partnership on the Danube/Black Sea Basin.

The outputs of these current Phase 1 activities will set the basis for full implementation in Phase 2 to achieve the desired results of the DRP. Policies (agriculture, industry, wetland management etc.) economic instruments, river basin management planning tools (related to WFD,) pilot activities etc. are currently being prepared that will be operationalized in Phase 2. Concepts for improving ICPDR systems (water quality, accident prevention and warning, emissions, etc.) are being developed and the information system (DANUBIS) is being enhanced, whereas training needs are being assessed, prioritized and then programmes developed as the basis for specific activities for improvement in Phase 2. Public participation mechanisms are being developed or strengthened (Danube Environmental Forum), activities at the grassroots level for pollution reduction are being prepared (Small Grants Programme) and public awareness activities are being organized (DRB Communications Strategy.) Finally, appropriate monitoring and evaluation systems are being designed and put in place such that progress can be measured by the end of Phase 2.

Project implementation thus far has produced some lessons learned that reflect project progress (for further information see section 4 of the APR/PIR in Annex 14). Excellent cooperation with the ICPDR and its structures has been achieved at its different levels, Permanent Secretariat, Expert Groups, national governments and their delegations etc. Commonly implemented activities are serving to improve administrative and technical capacities at the national level based on guidelines and requirements set by the ICPDR and the DRP. In this way, the DRP is playing a catalytic role for DRB countries to meet their commitments to the DRPC and increasingly the EU WFD thereby facilitating enhancement of "good governance" in some DRB countries.

The DRP has placed great effort to link global environmental issues to the EU Water Framework Directive. This is beneficial, as the EU WFD provides the legislative framework for resolving

transboundary pollution problems. By grounding project activities and results within EU WFD implementation, the DRP is helping to assure the sustainability of project results after 2006 (end of the project.)

A particular focus of the DRP has been given to enhancing public participation in environmental decision-making. An important lesson is the need to adopt public participation activities to specific levels of activity (regional, sub-basin, national, local etc.) The DRP is supporting various activities at different levels such as the Small Grants Programme (local, national and regional), public participation strategy for the ICPDR (beginning at the regional level) as well as the enhancement of the DEF which can support all levels of public participation.

Finally, given the great need for capacity building activities in the DRB, the DRP is supporting the development of a training needs assessment to help identify and then prioritize training needs. Preliminary results have indicated the need to focus training on improving the effectiveness of structures (e.g. the Expert Groups of the ICPDR) as well as on technical capacities (as originally intended.)

Issues to Be Considered for Tranche 2

The implementation of Phase 1 thus far has identified important challenges that must be considered in the implementation of Phase 2.

The DRP will continue to support the implementation of the EU WFD as it leads to the meeting of project objectives. An ongoing challenge for Phase 2 implementation will be to assure that non-EU Accession countries (Bosnia-Herzegovina, Croatia, Moldova, Serbia and Montenegro and Ukraine) can and will participate in implementing the EU WFD and in particular project related activities. The DRP will continue to work to strengthen these countries' abilities to participate on an equal basis within the regional framework.

Another real challenge for Phase 2 will be to focus on priorities for capacity building. There is a serious need and demand for capacity building activities in the DRB. Phase 2 will have to focus on the most central needs within the ICPDR, the DEF and other key stakeholders that will lead to meeting the overall project objectives.

The DRP will also have to work to ensure that Danube NGOs and NGO networks (DEF etc.) are strengthened in their capacities to take action and mobilize support for pollution reduction. This is essential for long-term environmental improvements and sustainability of cooperative efforts.

Short Description of the Project Brief

A. The original framework and text of the Project Brief-Tranche 2 (from May 2001)
Phase 2 of the DRP is an integral part of the whole DRP; the same analytical framework was used for the preparation of the Project Brief for both phases. Besides this new preface and the new annexes already mentioned, the original text of the project brief as developed and submitted in Sep. 2001 has been principally retained to assure authenticity as this brief was already endorsed then by all DRB countries. Revisions were therefore only made where necessary to reflect changing situations, lessons learned, new institutional arrangements etc. from Phase 1 implementation. Further, lessons learned (section V-1) developed in 2001 were kept, while new lessons learned from current implementation were also added (section V-2.)

B. In addition, one new component has been added to strengthen public participation by enhancing access to information. As public participation in environmental decision-making is a central objective of the DRP and is essential for assuring the long-term sustainability of this GEF supported intervention, this component has been included to this Project Brief (component 3.4) to strengthen mechanisms for the public to have greater access to information to be able to address priority sources of pollution. Two million USD is requested to support implementation of this component.

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List of Abbreviations

APC/EG	Accident Prevention and Control Expert Group
APR	Annual Project/Program Report
AQC	Analytical Quality Control
BAT	Best Available Technology
BEP	Best Environmental Practices
BOD	Biological Oxygen Demand
COD	Chemical Oxygen Demand
DBAM	Danube Basin Alarm Model
DEF	Danube Environmental Forum
DEPA	Danish Environmental Protection Agency
DANUBIS	Danube Information System
DPRP	Danube Pollution Reduction Program
DRB	Danube River Basin
DRBM/EG	Danube River Basin Management Expert Group
DRP	Danube Regional Project
DRPC	Danube River Protection Convention
DWQM	Danube Water Quality Model
€	Euro
ECO/EG	Ecology Expert Group
EMIS/EG	Emission Expert Group
EPDRB	Environmental Program for the Danube River Basin
GEF	Global Environment Facility
GDP	Gross Domestic Product
GPA	Global Programme of Action
IAA	Implementing Agency Agreement
ICPDR	International Commission for the Protection of the Danube River
ICPBS	International Commission for the Protection of the Black Sea
IFI	International Financing Institution
IW	International Waters
JAP	Joint Action Program
MLIM/EG	Monitoring Laboratory and Information Management Expert Group
MONERIS	Modeling Nutrient Emission in River System
M&E	Monitoring and Evaluation
MSP	Medium Sized Project
NGOs	Non Government Organisations
PIR	Project Implementation Review
PRP	Pollution Reduction Program
REC	Regional Environmental Center
S/EG	Strategic Expert Group
SAP	Strategic Action Plan
SIA	Significant Impact Area
STAP	Scientific and Technical Advisory Panel
TAR	Transboundary Analysis Report
UNDP	United Nations Development Program
UNIDO-TEST	United Nations Industrial Development Office - Transfer of Environmentally Sound Technology to Reduce Transboundary Pollution in the Danube River Basin
UNOPS	United Nations Office for Project Services
USAID	United State Agency for International Development
USD	United States Dollar
WPPCM	Water Pollution Prevention and Control Model

I Background Information

I - 1 Context of the Danube Regional Project

In the frame of the Environmental Program for the Danube River Basin (EPDRB) international support was provided to facilitate the development and the implementation of the Danube River Protection Convention (DRPC). Since 1992 the European Community has supported, in particular through its Phare and Tacis programs and the UNDP/GEF, in particular through its Pollution Reduction Program (June 1997 to June 1999), the efforts of the Danube countries and of the Interim Commission for the Protection of the Danube River to develop the necessary mechanisms for effective implementation of the Convention. These mechanisms relate in particular to the development of a regional Strategic Action Plan (SAP) based on national contributions, the elaboration of a Transboundary Analysis to define causes and effects of transboundary pollution within the Danube River Basin and on the Black Sea. In the frame of the Danube Pollution Reduction Program, based on the results of the Transboundary Analysis, an investment portfolio has been developed with particular attention to nutrient reduction. All the measures, projects and programs proposed to reduce emissions from both point and non-point sources of pollution will improve water quality, considering a reduction of 50 % in Chemical Oxygen Demand (COD) emissions and 70 % in Biological Oxygen Demand (BOD) emissions and other toxic elements and thus reduce transboundary effects within the Danube River Basin. Once implemented, these measures will further substantially contribute to reducing nutrient transport (Phosphorus by 27 % and Nitrogen by 14 %) to the Black Sea to improve, over time, environmental status indicators of Black Sea ecosystems of the western shelf.

The International Commission for the Protection of the Danube River Basin (ICPDR) developed a first Joint Action Programme (JAP) for the years 2001 - 2005, which was adopted at the ICPDR Plenary Session in November 2000. The JAP deals i.a. with pollution from point and non-point sources, wetland and floodplain restoration, priority substances, water quality standards, prevention of accidental pollution, floods and river basin management.

In order to ensure efficient implementation of the Common Platform for Development of National Policies and Actions for Pollution Reduction under the DRPC (Common Platform), the Pollution Reduction Program and the JAP and to reinforce the appropriate development and application of policies, strategies and legislation for transboundary pollution reduction at the national level, the current phase of GEF assistance is complementing the activities of the ICPDR and the Black Sea PIU.

The new GEF assistance is within the frame of the Danube/Black Sea Basin Strategic Partnership (Annex 9) for the Danube and the Black Sea Basin. The Danube–Black Sea program is composed of three complementary parts:

(i) a series of country-related investment projects executed through the World Bank Investment Fund for Nutrient Reduction with GEF financial support;

(ii) two Regional Projects for the Danube River Basin and the Black Sea respectively which are subdivided into two Phases (December 2001- November 2003 and December 2003-November 2006);

(iii) other GEF and donor interventions in the basin targeting reduction of nutrients and toxic pollutants.

The GEF regional Danube/Black Sea Basin Strategic Partnership is providing assistance to the ICPDR and the Black Sea PIU to reinforce their activities in terms of policy/legislative reforms and enforcement of environmental regulations (with particular attention to the reduction of nutrients and toxic substances). The regional projects, in their respective sphere of intervention and jointly, shall also assure a coherent and coordinated approach and global significance of policy and legislative measures introduced at the national level of the participating countries. Further, the GEF regional components of the Danube/Black Sea Basin Strategic Partnership shall facilitate project implementation in providing a framework for dissemination and replication of successful demonstration that will be developed through the

implementation of investment projects through the World Bank-GEF Investment Fund for Nutrient Reduction.

In this context, the Danube Regional Project (DRP), which has been split in two implementation Phases, has to be seen as an integral part of the Danube/Black Sea Basin Strategic Partnership and a logical continuation of the GEF support for capacity building provided for a period of five years to the countries of the DRB.

The 2nd Phase of the Project, December 2003 – November 2006, is to set up institutional and legal instruments at the national and regional level to assure nutrient reduction and sustainable management of water bodies and ecological resources, building up adequate monitoring and information systems, involving all stakeholders. To reach these goals and to secure the implementation and consolidation of those basin-wide capacity-building activities, the Project has to build up on the results being achieved during the 1st Phase of the Project (December 2001 – November 2003). For the reason of continuity and utmost utilization of available expertise, the Danube Regional Project has to take into account and build on the existing mechanisms and structures, including:

- ⇒ the Common Platform (revised SAP), focusing on policies and strategies for water quality control and pollution reduction with particular attention to transboundary issues and reduction of nutrient transport to the Black Sea; regional policies and strategies have to be coordinated with the development of national policies and legislation and implemented through national investment programs;
- ⇒ the Transboundary Analysis Report (TAR) which identifies causes and effects of pollution with particular attention to transboundary issues and nutrient transport to the Black Sea; the TAR defines priorities for control and management strategies at the regional and national levels;
- ⇒ the Danube Pollution Reduction Program (DPRP), which, as part of the actual investment program of the ICPDR. It is the operational basis for the promotion and monitoring of pollution reduction measures in the DRB. A total of 421 projects for 5.66 billion USD, primarily addressing hot spots have been identified for municipal, industrial and agricultural projects which, once implemented, would decrease phosphorus and nitrogen loads to the Danube and downstream to the Black Sea by 27 and 14 % respectively;
- ⇒ the ICPDR, its Permanent Secretariat and its Expert Groups are responsible for the implementation of the DRPC with particular attention to emission control (EMIS/EG), monitoring of water quality (MLIM/EG), warning and prevention of accidental pollution (APC/EG), river basin management and implementation of EU Water Framework Directive (RMB/EG), ecological status (ECO/EG) and strategic/administrative issues (S/EG). The Danube Regional Project shall make use of these structures and instruments to pursue its objectives and organize its activities;
- ⇒ the Joint Action Programme 2001-2005, prepared by the EMIS EG and approved by the ICPDR at the Plenary Session in November 2000. The projects and strategic measures contained in the Joint Action Programme are in most cases coherent with the projects in the Five Year Nutrient Reduction Action Plan, where the total amount of investment for point sources reduction is 4.4 billion € out of which 3.54 billion € are earmarked as national contributions.
- ⇒ The Danube River Basin Management Planning process in support of EU Water Framework Directive implementation for the DRB. The EU as well as ICPDR member countries have agreed that the ICPDR is responsible for coordinating the development of the DRB Management Plan (until 2009) as well as its implementation. The ICPDR RBM EG is responsible for coordinating the technical work amongst the 13 participating countries and according to the implementation time frame as set by the EU.
- ⇒ DABLAS Task Force, being coordinated by the EU, in order to identify, prioritize and then facilitate funding for priority wastewater treatment facilities needed in the Danube and Black Sea Basins in order for pollution reduction including nutrients.

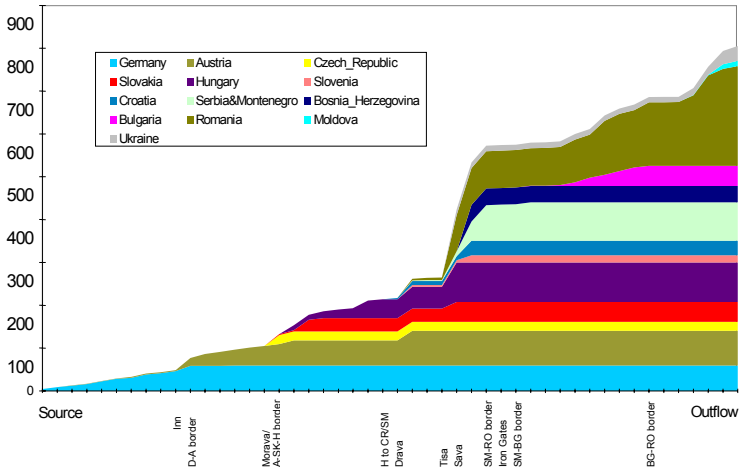
I - 2 The Danube River Basin

The Danube River is with a length of 2 780 km the second largest river in Europe and drains an area of 817 000 square km. This includes: all of Hungary, nearly all parts of Austria, Romania, Slovenia, Slovakia and Serbia & Montenegro, significant parts of Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Moldova and small parts of Germany and Ukraine. The Danube River discharges into the Black Sea through a delta, which is the second largest natural wetland in Europe.

The catchment profile along the Danube is presented in the attached figure.

The Basin, with a total of about 817 000 km² is characterized by an aquatic ecosystem with numerous important wetlands and floodplains. It is of high environmental as well as economic and social value. It supports drinking water supply, agriculture, industry, fishing, tourism and recreation, power generation, navigation, etc. A large number of dams, dikes, navigation locks and other hydraulic structures have been built throughout the region. (Annex 7 - Maps: Major Hydraulic Structures in the Danube River Basin).

he catchment profile along the Danube (in 1000 km2) subdivided over the 13 principal Danube countries



Utilizing water resources for important economic activities and the release of waste water without adequate treatment has resulted in changes in the hydrological systems. Problems of water quality and quantity have been created, including significant environmental damage, with resulting impairment of public health and quality of life.

Central and eastern European countries in particular, during the period of centralized planning system, failed to develop adequate environmental protection policies and subsequent measures to fully respond to water pollution and degradation of river ecosystems. The economic situation of the countries in transition, most of which are accession countries to the European Union, does not allow them to fully respond to the needs for environmental protection and the implementation of pollution control measures.

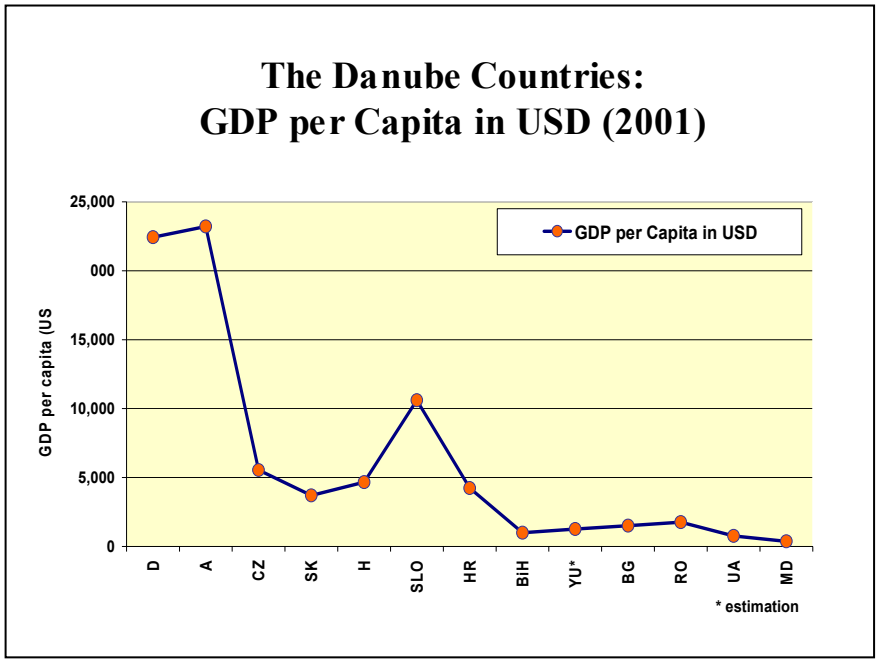
Appropriate water management concerns must be better integrated into municipal, industrial and agricultural policies and legislation to assure sustainable human development and promotion of economic activities. The Danube/Black Sea Basin Programmatic Approach shall assist countries in transition to respond to the regional and global environmental concerns with particular attention to nutrient reduction and the elimination of toxic substances in the water bodies.

I - 3 Political, Demographic and Economic Issues

The present population of the Danube River Basin is about 83 million inhabitants (16 % of the population in Europe). Nearly 57 % of this population lives in increasingly growing urban areas. The share of the population connected to public water supply varies from 29% in Moldova to 98 % in Germany, yielding an average of 74%. The share of population branched to public sewer system varies from 14% in Moldova to 89% in Germany – an average of 52%. Based on the national projection figures, the population of the Danube River Basin can be expected to remain at its present level by the year 2020.

The analysis of economic disparities shows a clear trend of a west – east decline of the GDP from the upstream countries such as Germany and Austria, with about 23,000 USD per capita and year (in 2001), to the downstream countries among which Ukraine accounts for less than 1,000 USD per capita and year.

The middle and downstream Danube countries in transition are facing serious economic and financial problems in responding to the objectives of the Danube River Protection Convention and implementing measures for pollution reduction and for environmental protection as required for the accession to the European Union. This analysis also shows the need to assist the countries in transition and makes evident the responsibilities of the international community to respond to the regional and global concerns of environmental protection.



In general terms, the 13 DRB countries can be categorized and characterized as follows:

(i) Germany and Austria

These two countries are members of the European Union and are located at the upper part of the DRB. Compared to all other DRB countries, Germany and Austria have significantly higher economic development levels, represented by a per capita income of about 23 000 USD per annum. In terms of pollution reduction (COD, BOD, N and P) they have achieved high standards of emission reduction and water pollution control. From 1990 to 1999 both countries have invested important amounts for the installation of third stages and for the upgrading of municipal wastewater treatment plants.

In 1997 and 1998 (2 years) Germany invested more then 2.4 billion USD for pollution reduction measures to respond to EU Water Directives and in particular the Nitrate Directive. Current investment in the water sector in the German part of the Danube River Basin is at the level of about 1.5 billion USD per year of which 1.2 billion USD is spent for communal wastewater treatment facilities (including 3rd stage for nutrient removal). From 1993 to 1999 Austria invested about 780 million USD per year for municipal wastewater treatment including nutrient removal facilities.

Concerning the ongoing projects indicated in the Nutrient Reduction Plan, further investments of 234 million USD for Germany and 264 million USD for Austria are foreseen for the period from 2000 to 2005.

Austria and Germany together hold around 17% of territory and 21 % of the population of the Danube watershed. In terms of water flow of the Danube to the Black Sea Austria alone contributes more than 20%. Based on the DWQM, Germany and Austria contribute to nutrient loads reaching the Black Sea by 26.2% of Nitrogen and 15.3% of Phosphorus. Apart from the wastewater purification programme, Austria is implementing a large program for environmentally friendly agriculture named ÖPUL. Essentially it is aiming at extensive agricultural practices and reduction of nutrients load. Since 1995 this program is running comprising around 90% of Austria's agricultural area and backed yearly by financial means in the order of 650 million €. In spite of these efforts in the agricultural sector neither country has yet met the European emission standards (EU Nitrate Directive). However, one must bear in mind that changes in agricultural practices and land management will – due to delay in runoff - take five or more years before producing obvious effects in terms of nutrient reduction.

(ii) Czech Republic, Slovakia, Hungary, Slovenia and Croatia

These countries are located in the central part of the DRB. They have to a great extent overcome the former central state planning systems and have reached medium economic development levels reflected in their annual GDP of between USD 4,000 and USD 9,000 per capita. The economic transition process has caused significant reduction of industrial and agricultural production, thus temporarily reducing production-related pollution loads. This has created an opportunity to establish and integrate environmental objectives into industrial and agricultural policies and legislation in line with EU guidelines. All of these countries, with the exception of Croatia, are in the process of accession to the EU and are scheduled to officially join in 2004. Croatia is interested in joining the EU as soon as possible and hopes to join the second tier group (including Bulgaria and Romania) which is currently looking towards 2007 for EU entry. The accession countries are receiving special financial and technical support from the European Commission (ISPA, Phare and Sapard funds) to help them develop needed infrastructure and meet environmental standards. The present Regional Project (in its two Phases) is assisting these countries to develop adequate policies and legislation for emission control in line with EU standards and regulations and with particular attention to nutrient reduction.

(iii) Serbia and Montenegro and Bosnia and Herzegovina

These two countries, also located in the central Danube River Basin, are still in a challenging phase, working to re-organize their political, legal, administrative and socio-economic structures in order to comply with the requirements of the commencing process of economic liberalization and privatization as well as of international normalization. With annual per-capita GDP of USD 1,100 (BiH) and USD 1,500 (Serbia & Montenegro), both countries are presently well below their pre-war levels.

(iv) Romania and Bulgaria

Romania and Bulgaria are both located in the lower Danube River Basin and they are also both Black Sea countries. They are in this sense, both polluters and victims of pollution to the Black Sea. Both countries are still in a challenging period of political, social and economic transition. Romania and Bulgaria are both in the process of EU Accession and have clear priorities in meeting the requirements for potential entry in 2007.

(v) Moldova and Ukraine

These two countries are also located in the lower Danube River Basin. Ukraine is a Black Sea country that both contributes to Black Sea pollution as well as suffers from the degradation of Black Sea ecosystems. These countries are both polluters and victims of pollution to the Black Sea. Moldova and the Ukraine face important economic problems and are both in phases of political and social transition. Whereas environmental concerns are of high importance, the financial means for investments are very limited. Particularly critical is also the fact, that their legal and administrative framework is still to a certain extent determined by the former central planning structures and therefore are not yet in compliance with the requirements of the process of economic liberalization and privatization.

It is obvious from this broad description of the DRB countries that there is a clear distinction in terms of political, administrative and economic capability from the wealthy countries in the upper DRB, the mid-income countries in the central DRB, down to the poorer countries in the lower part of the DRB.

I - 4 Accidental Pollution in the Danube and the Tisza Sub-River Basin

Since the DRPC entered into force, first concerns about contamination of ground and surface waters were raised during the NATO intervention against Yugoslavia from March to June 1999. The bombing and destruction of petrochemical plants and refineries led to contamination of channels and tributaries emptying into the Danube River. Sampling and analysis have shown high levels of contamination with

heavy metals, in particular mercury, oil and petroleum products, volatile organic substances, PCBs, PAHs, etc. However, one must bear in mind that the accumulation of toxic substances is not the effect of the recent bombing of industrial installations only but also the result of years of inefficient treatment and careless handling of wastes from industrial and mining activities.

In the beginning of the year 2000 two accidents occurred with disastrous environmental effects in the upper Tisza Sub-River Basin where mining activities are carried out. Waste water containing cyanide and heavy metals was accidentally discharged into receiving waters. Ecosystems where affected and large fish kills of several hundred tons were reported. Drinking water supply for urban centers at the riverbanks and fishing activities had to be suspended. Important economic losses were reported in tourism and fisheries. The effects of the cyanide wave were reported over a stretch of 900 to 1000 km from the Tisza River to the Danube and dangerous cyanide concentrations were still measured even downstream of the Iron Gate dam.

In January 2001 a new pollution accident was reported from the upper Siret Sub-River Basin where waste water containing cyanide was leaking from a chemical factory. This accident caused tons of killed fish and transboundary pollution and dozens of people, in particular children, were hospitalized after eating contaminated fish.

There are actually serious concerns over the possible accumulation of toxic substances in the sediments and biota of the Iron Gate reservoirs. Preventive management programs have to be developed and implemented in order to gradually clean up the sediments and assure the rehabilitation of ecosystems in the central and lower part of the Danube River basin.

I - 5 Institutional and Legal Mechanisms and Investment Programs for Nutrient Reduction in the Danube Countries

In the frame of the project preparation (PDF-Block B activities), specific subjects concerning the institutional, legal and policy frame as well as national investment programs for nutrient reduction have been studied and analyzed.

(i) Inter –ministerial coordination mechanisms

In the frame of the PDF-Block B activities, inter-ministerial mechanisms at the national level and concepts of cooperation for pollution reduction, in particular nutrient reduction, have been analyzed. The diversity of views and proposals for the implementation of EU Directives in the frame of the accession process create an encouraging environment for the countries to create new inter-ministerial mechanisms or to improve the existing structures with nutrient reduction and control responsibilities and the major demand, in particular created by the EU WFD. Based on the finding of the national contributions, the Danube countries can be classified in three groups.

The first group is made up of EU member countries, Germany and Austria, in which the existing national inter-ministerial structures allow an effective performance of nutrient reduction and control tasks. In Germany, the inter-ministerial cooperation takes place on both federal and state levels, covering legislative procedures, implementation of EU-directives, and development of minimum requirements for point sources for municipalities as well as for industrial branches. In Austria, the Ministry of Agriculture, Forestry, Environment and Water Management provides the necessary structure to adequately implement nutrient control and reduction measures.

The second group, made up of the Czech Republic, Hungary, Romania and Bulgaria includes countries where specific mechanisms or inter-ministerial structures for nutrient reduction do not yet exist. However, there are several relevant national inter-ministerial bodies with responsibilities for water pollution abatement and environmental protection. Most of these structures also deal with diffuse sources of pollution, the implementation of pollution reduction measures or approval of new investments in the water sector.

Finally, in the remaining Danube countries, the inter-ministerial coordination of nutrient reduction and control issues do not yet represent a high priority for the policy makers.

The Danube countries believe that cooperation between governments, local communities and Non-Governmental Organizations (NGOs) in relation to nutrient reduction is very important. Nutrient reduction issues are included directly or indirectly in the mandate and the responsibilities of the local authorities, farm enterprises, industrial plants and environmental NGOs. In the frame of river basin organizations the majority of the countries set good examples of cooperation between the government, inter-ministerial bodies, local communities and NGOs.

The activities of the PDF-Block B investigation raised awareness and provided important legitimacy to the concept of inter-ministerial mechanisms for nutrient reduction and helped move it into the mainstream of policy debate for its implementation.

The DRP in Phase 1 is evaluating existing national inter-ministerial coordinating mechanisms, proposing adequate structures and assisting governments in improving these mechanisms to assure effective co-ordination with activities related to EU WFD and other projects development. The forthcoming Phase 2 of the Danube Regional Project will build up on the achievements of Phase 1 and will reinforce national initiatives and contribute towards the setting up of adequate nutrient reduction mechanisms at the national and regional levels.

(ii) Policies and legislation relating to nutrient control and reduction

After a critical period of transition, all DRB countries have in the meantime developed a comprehensive hierarchic system of short, medium and long-term environmental policy objectives, strategies and principles which usually reflect the key country-specific environmental problems and the sector priorities on national and regional levels.

Despite the diversity of problems, interests and priorities across the DRB, the Danube countries share certain values and principles relating to the environment, conservation of natural resources and nutrient control and reduction. The most essential and commonly accepted principles are:

- the precautionary principle;
- best available technology (BAT)
- best environmental practice (BEP);
- control of pollution at the source;
- the "polluter pays" principle and the related "user pays" principle;
- the principle of integrated approach (e.g. River Basin Management approach) particularly as outlined in the EU Water Framework Directive;
- the principle of shared responsibilities, respectively the principle of subsidiarity;
- the implementation of EU Directive 76/464/EEC on pollution caused by certain dangerous substances.

None of the DRB countries currently has an explicitly formulated nutrient reduction program. Measures and activities with relevance to nutrient reduction are usually sub-components of or are substantially incorporated in other programs.

While Germany and Austria have legislation in compliance with “highest environmental standards” on nutrients (e.g. EU Nitrate Directive), they have not yet fully implemented / enforced these legislation. The adequacy of the legal framework for sound environmental management of water resources of the other countries has to be viewed against the political, economic, administrative and social changes that have taken place in the particular DRB countries during the previous years of transition.

Thus, the relevant legislation is in most DRB countries currently undergoing substantial reform and modernization. Given the complexity of the task, the reform can be expected to take several years before the relevant legislation has reached an acceptable level of compliance with international requirements.

Except for the two EC member states, Germany and Austria, all other DRB countries consider the harmonization of national environment and water-related legislation with EU legislation as the most essential prerequisite for long-term sustainable nutrient control and reduction in their countries. In EU accession countries, this harmonization is incorporated in an ongoing programs and considered as a short-term, respectively medium term task. However, for the final implementation of the Urban Waste Water Treatment Directive, an adjustment period of approximately 10 to 15 years is considered to be necessary.

In other countries - Moldova, Ukraine and the war-impacted countries Croatia, Bosnia-Herzegovina and Serbia and Montenegro - the status of the water sector legislation is still unsatisfactory.

From the point of view of nutrients, the most essential issue is the substantial transposition of:

- the new Directive 2000/60/EC of 22 December 2000 i.e. the Water Framework Directive (EU WFD) concerning water policy which aims at a good status for all surface and groundwater within (often transboundary) river basin districts (RBD). By December 2009, river basin management plans must be prepared for each RBD; already by December 2012, all polluting discharges must be controlled under a combined approach of best available techniques and emission limit values, as well as by best environmental practice for diffuse pollution;
- the Council Directive 91/271/EEC of May 1991 concerning urban waste-water treatment;
- the Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.

Regarding the particular issue of control, respectively the out-phasing of phosphate-containing detergents, the current situation in the particular DRB countries indicates that there is a substantial potential for phosphorus reduction in most DRB countries, therefore consultations with industry and other stakeholders begun in Phase should be followed up on in Phase 2 with the goal of phasing out the use of phosphates in detergents.

(iii) Nutrient reduction programs 2000 – 2005 and related investments

Within the frame of further development of Five Year Nutrient Reduction Action Plan, both structural/investment and legal/policy reforms projects that address nutrient reduction are being introduced.

(a) Point Source Projects and anticipated nutrient reduction

Within the elaboration of the PDF-B project all 13 DRB countries have provided draft national lists of priority projects that are supposed to be ready for implementation in the coming 5-year period and can be considered as a reasonable basis for the elaboration of comprehensive Nutrient Reduction Action Plans as part of the ICPDR Joint Action Program.

According to the available data, the total investment required for the 245 priority point source projects for all 13 DRB countries amounts to about € 4,404 million.

The structure of the identified investment requirements by sector is as follows:

	Municipal	**Industrial**	**Agricultural**	**Wetlands**	**Total**
No of Projects	157	44	21	23	245
Million €	3,702	267	113	323	4,404
(%)-Structure	84%	6%	3%	7%	100

The structure of the identified investment requirements by countries is as follows:

	GER	A	CZ	SK	HUN	SLO	CRO	B&H	SM	BUL	RO	MOL	UA	TOT
No of Proj.	11	4	12	20	24	24	11	12	40	21	25	31	10	245
Mill. ε	231	264	147	118	687	384	433	176	785	125	493	493	67	4,404
(%)	5	6	3	3	16	9	10	4	18	3	11	11	1	100

The anticipated composition of the funding of the identified priority projects across the DRB countries is as follows:

Funding component	Million ε	(%) – Structure
National funding contribution	1,716	39 (%)
International loans:	1,163	26 (%)
International grants:	663	15 (%)
Not secured funding components:	862	20 (%)
Total:	4,404	100 (%)

According to the available data provided by the national reports, total pollution reduction as a result of the implementation of the proposed priority point source projects including waste water from urban areas, which are not connected to WWTP, is anticipated to be in the following ranges:

	Municipal	Industrial	Agricultural	Wetlands	Total
No of Projects	157	44	21	23	245
N (t/y)	33 300	3 400	6 700	15 100	58 500
P (t/y)	5 500	3 700	1 100	1 800	12 100
BOD (t/y)	221 000	39 700	9 500	5 900	276 100
COD (t/y)	398 900	78 700	15 000	32 400	525 000

(b) Nutrient reduction from agricultural non point sources of pollution

Based on the available data, the assessment of the anticipated nutrients reduction from agricultural non point sources of pollution shows values ranging between 10 and 25 % for nitrogen and between 3 and 25 % for phosphorus.

To ensure significant nutrient loads reduction from diffuse sources of pollution, the Danube countries have identified measures that primarily address:

(i) policy and legislation-related actions: the improvement of national policies and legislation regarding the utilization of fertilizers and livestock waste and approximation of national legislation to relevant EU legislation and standards;

(ii) institutional strengthening and capacity building: the elaboration and enforcement of guidance on the application of the agro-environmental schemes and best environmental practice;

(iii) raising public awareness and strengthening public participation in nutrient reduction initiatives: the development of pilot projects for the implementation of alternative methods.

The estimates of the nitrogen and phosphorus reduction for point sources and non point sources as presented in the national contributions are summarized below:

Country	Nutrient loads (DWQM 1994/98)		Anticipated national emission reductions				Expected national load reduction	
			Point Sources		Non Point Sources*			
	N (t/y)	P (t/y)	N (%)	P (%)	N (%)	P (%)	N (t/y)	P (t/y)
Germany	68,000	3,700	6.0	2.0	10.0	3.0	10,891	185
Austria	77,000	3,800	5.1	10.6	10.0	3.0	11,650	518
Czech Republic	15,000	1,100	7.3	5.6	10.0	3.0	2,591	95
Slovakia	30,000	1,700	8.6	8.6	15.0	10.0	7,074	318
Hungary	31,000	3,800	21.6	40.1	15.0	10.0	11,358	1,902
Slovenia	20,000	1,300	26.2	62.6	15.0	10.0	8,233	944
Croatia	23,000	2,200	6.6	10.9	15.0	10.0	4,959	459
Bosnia-Herzegovina	36,000	2,200	13.1	38.8	10.0	10.0	8,300	1,073
Serbia & Montenegro	72,000	7,000	9.4	69.5	10.0	10.0	13,993	5,563
Bulgaria	23,000	4,000	11.7	15.0	10.0	10.0	4,983	999
Romania	121,000	12,700	9.8	12.5	10.0	10.0	23,960	2,861
Moldova	8,000	1,400	86.3	64.6	5.0	5.0	7,298	975
Ukraine	28,000	4,000	1.7	1.6	10.0	5.0	3,286	265
Total	552,000	48,900	10.3	23.8	10.9	8.2	118,576	16,156

* Percentage for expected reduction of nutrient emissions from non-point sources has been estimated, taking into account emission reduction to be expected following the implementation and compliance with new policies and legislation in line with EU Directives.

The results in the table indicate that with the implementation of structural (projects) and non-structural measures (policies and legislation), the total annual nutrient reduction will be about 119,000 tons for nitrogen (22%) and 16,000 tons for phosphorus (33%). It can be further assumed that about half of the nitrogen reduction will come from the rehabilitation of point sources (waste water treatment) and the other part from nutrient reduction from diffuse sources, in particular from change of agricultural practices. The GEF Regional Project (Phase 2) will continue to provide the necessary support to the ICPDR and the participating countries to realize these goals and to contribute essentially to achieving the goal of holding the Nitrogen and Phosphorus loads to the Black Sea at the 1997 level respectively further reducing them to meet the objectives of the Memorandum of Understanding between the ICPDR and ICPBS.

(c) Priority Municipal Projects

In 2001 the DABLAS Task Force was formed to implement the declaration on "Protection of Water and Water related ecosystems in the wider Black Sea Region" and to provide a platform for co-operation and to facilitate financial arrangements for the implementation of projects for pollution reduction and rehabilitation of ecosystems in the wider Black Sea region.

In the Danube region, the selection of priority projects at a regional scale was carried out by the ICPDR. The revision of lists of national projects of the Joint Action Programme and selection of municipal priority projects has shown that among the 158 projects, 45 are fully funded with a total of 622 mil. EUR. The investment need for the remaining 113 projects is 2,567 mil. EUR, of which 2,121 mil. EUR are not yet secured.

The projects differ in size from >1,000,000 population equivalent (Belgrade, Bucharest, Budapest, Sarajevo, Zagreb) to ca. 10,000 PE. Project preparedness is also highly variable, ranging from projects that are missing <10% of the total investment demand, to projects that have outdated or non-existent plans and no funding secured.

Summary of Municipal Priority Projects

Country	Projects		Funding (mil. EUR)			PE of WWTP's 158 proj.	Pollution Reduction (tons/a)			
	Total	Fully Financed	Total 158 pr.	Secured 113 pr.	Not Secured 113 pr.		BOD	COD	Total N	Total P
Bosnia & Herzeg.	6	0	145.2	0.6	144.6	1,680,000	15,190	26,559	3,727	593
Bulgaria	26	0	203.2	0	203.2	1,998,193	18,681	27,822	1,936	396
Croatia	15	0	217.0	0	217.0	2,576,800	7,198	15,302	4,820	983
Czech Republic	18	14	178.9	0	22.8	1,431,520	170	106	872	56
Hungary	17	9	879.7	105.5	631.8	4,964,765	34,792	66,198	6,001	1,447
Moldova	12	0	32.4	0.9	31.3	778,000	604	438	543	11
Romania	18	0	674.5	168.8	505.7	5,708,000	9,495	14,418	3.412	744
Serbia & Montenegro	7	0	350.1	89.7	260.4	3,080,000	71,574	54,223	7,050	1,749
Slovak Republic	15	7	164.3	80.2	42.5	1,688,780	4,832	7,096	1,748	132
Slovenia	16	15	300.8	0	18.1	1,022,100	25,755	43,261	4,383	723
Ukraine	8	0	43.5	0.4	43.1	1,278,400	1,218	1,968	914	216
Totals	**158**	**45**	**3,189**	**446**	**2,121**	**26,206,558**	**189,509**	**257,397**	**35,406**	**7,050**

I - 6 Mechanisms for Regional Cooperation for the Protection of Water and Ecological Resources in the Danube River Basin

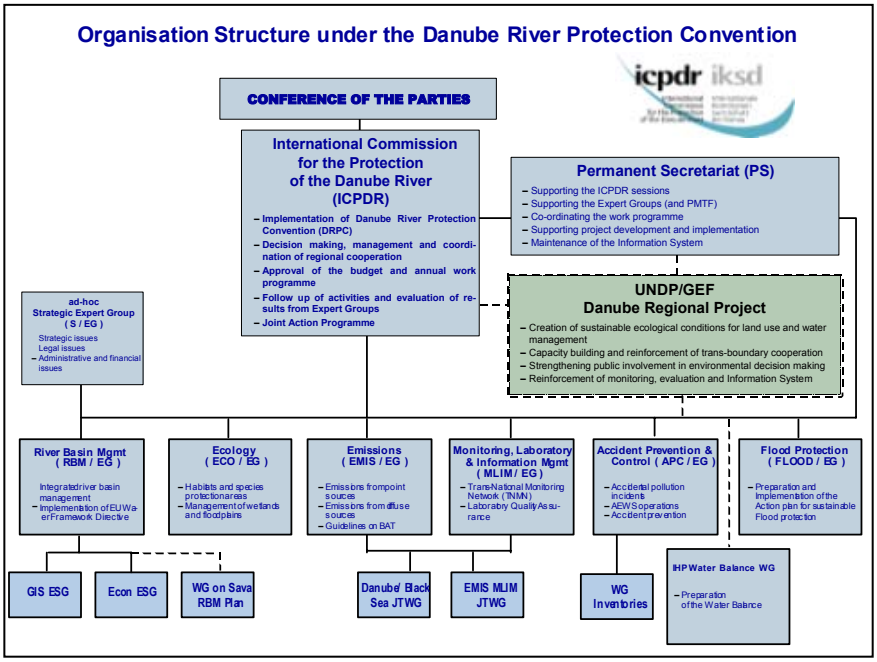
(i) The Danube River Protection Convention

The Danube River Protection Convention is a legally binding instrument, which provides a substantial framework and a legal basis for cooperation between the contracting parties, including enforcement. The main objective is the protection and sustainable use of ground and surface waters and ecological resources, directed at basin-wide and sub-basin-wide cooperation with transboundary relevance. Joint activities and actions are focused on coordination and enhancement of policies and strategies, while the implementation of measures lies mainly with the executive tools at the national level. The Strategic Action Plan provides guidance concerning policies and strategies in developing and supporting the implementation measures for pollution reduction and sustainable management of water resources enhancing the enforcement of the Danube River Protection Convention.

Twelve of the 13 DRB countries eligible to join the Danube River Protection Convention (DRPC), which came into force in October 1998, have already ratified it, together with the European Commission.

(ii) The International Commission for the Protection of the Danube River (ICPDR)

Recognizing individually and responding in common to the obligations of the DRPC, the Danube countries have established the International Commission for the Protection of the Danube River to strengthen regional cooperation. It is the institutional frame not only for pollution control and the protection of water bodies but it also sets a common platform for sustainable use of ecological resources and coherent and integrated river basin management. The Commission has created several Expert Groups to strengthen the proactive participation of all Contracting Parties and associated countries in the design and implementation of joint measures for pollution reduction, including nutrients, and water management.



I - 7 Cooperation between the ICPDR and the International Commission for the Protection of the Black Sea (ICPBS)

(i) Findings of the Joint Ad-hoc Technical Working Group of the ICPDR and the ICPBS

In 1998, the ICPDR and the ICPBS established a joint Working Group, which analyzed the causes and the effects of eutrophication in the Black Sea. In its findings, the Working Group indicated that the loads entering the Black Sea from the Danube had fallen in recent years due to the collapse of the economy of many transition countries formerly attached to the Soviet Block, the measures undertaken to reduce nutrient discharges in the upper Danube countries, in particular Germany and Austria, and a decline in the use of phosphate in detergent.

The Working Group concluded that in spite of the evidence of recovery in the Black Sea ecosystems, there were still concerns that the nutrient discharges to the Black Sea – in line with the expected economic growth – were likely to rise again unless action was taken to implement nutrient discharge control measures as part of economic development strategies.

The Working Group went on to define the possible objectives and strategies, which are presently included in the Memorandum of Understanding between the ICPDR and the ICPBS, as follows:

- ⇒ the long-term goal is defined as a recovery of the Black Sea ecosystems to conditions similar to those in 1960;
- ⇒ as a mid-term goal, measures should be taken to prevent discharges of nutrients and hazardous substances from exceeding the levels of 1997;
- ⇒ inputs of nutrients and hazardous substances should be assessed, monitoring and sampling procedures should be determined, and the results should be reported.

Based on these results in order to facilitate and support the implementation of the Memorandum of Understanding within the Phase 1 of DRP the Joint Danube/Black Sea Technical Working Group has been

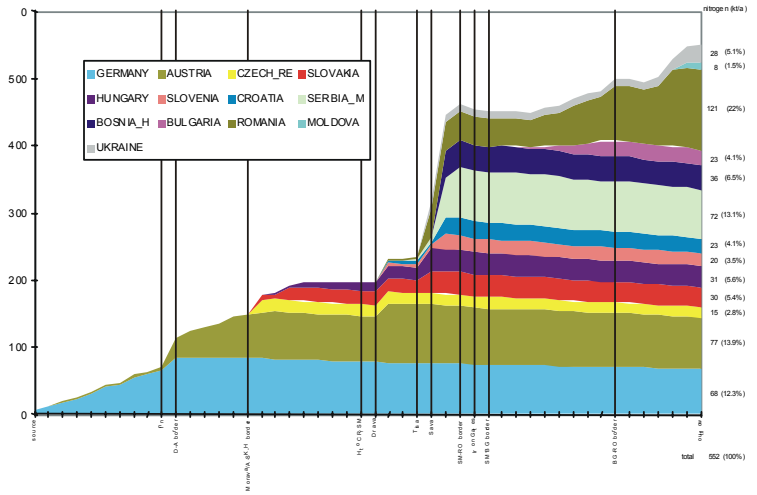
revitalized. Both Commissions approved a new TOR and Work Program for the Group, focused on the development of ecological status indicators for the Black Sea, on the development of a regional monitoring program for the Black Sea and on updating of the assessment on point and non-point sources of pollution and the ecological status of the Black Sea, including eutrophication (cause-effect analysis).

(ii) Analysis of Point Sources and Non-Point Sources of Pollution with Particular Attention to Nutrient Transport to the Black Sea

In the frame of the Pollution Reduction Program, over 500 hot spots were identified for the municipal, industrial and agricultural sectors. The geographical distribution of hot spots in the Danube River Basin indicates a clear concentration of municipal and agricultural hot spots in the upper Drava and Sava Sub-river Basins, in the Lower Tisza and around Belgrade and in the central part of Bosnia-Herzegovina. In the Carpathian Mountains of the upper Tisza and Prut Sub-river Basins, important mining and industrial hot spots have been identified, from which recent accidents - the cyanide spill of Baia Mare and the sludge containing heavy metals from Baia Borsa - have been reported. (Annex 7 – Maps: Distribution of Hot Spots in the Danube Sub-River Basins).

Applying the Danube Water Quality Model (DWQM), the total nutrient transport from point and non-point sources, to the Black Sea was analyzed, indicating a total of 552 kilotons of nitrogen and 48.9 kilotons of phosphorus reaching annually the Black Sea. Studies undertaken in the frame of the Danube Environmental Program suggest that about half of the nutrient discharged internally in the basin come from agriculture (diffuse sources of pollution), slightly more than one quarter from domestic sources, an additional larger share comes from industry and the remainder from "background" sources.

Annual Nitrogen Load in the Danube (in kt/y), by countries of origin, with a high estimate for the in stream denitrification (= removal rate)



II Project Objectives

The long-term development objective of the Danube Regional Project is to contribute to sustainable human development in the DRB through reinforcing the capacities of the participating countries in developing effective mechanisms for regional cooperation and coordination in order to ensure protection of international waters, sustainable management of natural resources and biodiversity.

In this context, the GEF Regional Project should support the ICPDR, its structures and the participating countries in order to ensure an integrated and coherent implementation of the Strategic Action Plan 1994 (SAP 1994), the Common Platform and the forthcoming JAP and the related investment programs in line with the objectives of the DRPC.

The overall objective of the Danube Regional Project is to complement the activities of the ICPDR required to provide a regional approach and global significance to the development of national policies and legislation and the definition of priority actions for nutrient reduction and pollution control with particular attention to achieving sustainable transboundary ecological effects within the DRB and the Black Sea area.

The specific objective of Phase 2 of the Project, December 2003 –November 2006, is to set up institutional and legal instruments at the national and regional level to assure nutrient reduction and sustainable management of water bodies and ecological resources, involving all stakeholders and building up adequate monitoring and information systems. To reach these goals and to secure the implementation and consolidation of those basin-wide capacity-building activities, the Project has to build up on the results achieved during the 1st Phase of the Project (December 2001 – November 2003). During Phase 2, altogether 20 project components with 79 activities will be carried out.

Taking into account the basic orientations of the Danube/Black Sea Basin Programmatic Approach, the Danube Regional Project shall reinforce the implementation of the Danube River Protection Convention in providing a framework for coordination, dissemination and replication of successful demonstration that will be developed through investment projects (World Bank-GEF Strategic Partnership, EBRD, EU programmes for accession countries etc.).

The following immediate objectives are designed to respond to the overall development objective:

1) OBJECTIVE : Creation of sustainable ecological conditions for land use and water management

Output : Nutrient reduction policies and legal instruments and measures for exacting compliance are developed and implemented in all Danube River Basin countries with particular attention to the EU Water Framework Directive, integrated river basin management, best agricultural and industrial practices, appropriate land use and wetland management and economic instruments.

Approach : Supporting the ICPDR and the DRB countries in introducing and applying appropriate policies, institutional and legal instruments in line with relevant EU directives to improve water management and water quality control with particular attention to toxic substances and nutrient reduction (e.g. agricultural, industrial, and municipal policy and legislative reforms, wetlands management) and in developing mechanisms for exacting compliance with policies and legislation.

Assuring policy coherence to the guidelines of the Global Program of Action on Control of Land Based Sources of Pollution, with particular emphasis on the strategic goals regarding mitigation of transboundary effects and rehabilitation of the Black Sea.

2) OBJECTIVE : Capacity building and reinforcement of transboundary cooperation for the improvement of water quality and environmental standards in the DRB

Output **:** Institutional and organizational mechanisms for transboundary cooperation in pollution control and nutrient reduction are developed and mechanism for improved water quality monitoring, emission

control, emergency warning and accidental prevention and information management are fully operational at the regional and national level.

Approach **:** Supporting the ICPDR and its Expert Groups to improve their institutional, administrative and technical capacities to assure basin wide harmonization of water quality regulatory standards including specific provisions for nutrient reduction; to further develop specific regional information system and mechanisms for transboundary pollution monitoring and evaluation considering EU regulations (WFD) and GEF IW M&E indicators (process, stress reduction, environmental status). In this context, the Joint Danube/Black Sea Working Group will be revitalized to assure follow-up of the implementation the Memorandum of Understanding elaborated by the two Commissions. At the national level, Inter-ministerial Committees, involving all technical, administrative and financial departments shall assure adequate coordination and implementation of policies, legislation and projects for nutrient reduction and pollution control. Organizing workshops and training courses on institutional, administrative, technological and economic issues for individuals and participants from ministries, public authorities and private institutions with responsibilities related to the use, control and impacts of nutrients in the DRB, respectively their effects on the Black Sea.

A mid-term stocktaking meeting shall be organized to ensure coordination of the Danube Regional Project with the Black Sea Regional Project and the World Bank Investment Fund.

3) OBJECTIVE : Strengthening of public involvement in environmental decision making and reinforcement of community actions for pollution reduction and protection of ecosystems

Output **:** Community based projects for nutrient reduction (Small Grants Program) are implemented in all DRB countries and public concern and response to ecological issues has increased due to the organization of awareness raising campaigns and the regular publishing of basin-wide and national information material; the DEF Secretariat is efficiently operating using its own resources and supports national NGOs in the Danube River Basin.

Approach : Continuing support to NGOs in professional, institutional, administrative and funding issues to boost their capacities and to develop at the end of the Project sustainable mechanisms for active participation in transboundary pollution control with particular attention to nutrients and certain toxic substances. In this context, NGO activities will be reinforced through the implementation of a Small Grants Program ("applied" awareness raising) providing financial support for community based nutrient reduction projects identified during Phase 1. Concepts for awareness raising campaigns and information of the public prepared also in Phase 1 of the Project shall now be implemented and cooperation with mass media shall be reinforced.

4) OBJECTIVE : Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances

Output **:** A Danube Basin wide system for monitoring and evaluation of environmental impacts is operational, using indicators for process, stress reduction and environmental status in line with EU and international reporting requirements, allowing at the same time follow-up and evaluation of project implementation results; special observations on nutrient removal from wetlands and accumulation of heavy metals and other pollutants in sediments are available and economic instruments (pollution trading) are analyzed.

Approach **:** Supporting the development and upgrading of monitoring and information systems, which are of significant importance for transboundary cooperation in water quality and water management and of common interest for the Danube and the Black Sea countries. Particular attention will be given to the development and use of indicators (process, stress reduction and environmental status indicators) and monitoring of project implementation activities. For this purpose special methodologies will be developed for assessment of sediments (heavy metals, toxic substances) and nutrient removal capacities of wetlands. Also economic mechanisms analyzed in Phase 1 of the Project will be disseminated.

III Project description

The compilation of immediate objectives indicates the broad spectrum of 20 project components and 79 activities to be dealt with in the framework of the proposed Phase 2 of the Danube Regional Project in order to fulfill its role as an integral part of the proposed Danube/Black Sea Basin Strategic Partnership.

In line with the immediate objectives, the particular 20 project components of the proposed Phase 2 of the Danube Regional Project are grouped as follows:

1. Creation of sustainable ecological conditions for land use and water management;
2. Capacity building and reinforcement of transboundary cooperation for the improvement of water quality and environmental standards in the Danube River Basin;
3. Strengthening of public involvement in environmental decision making awareness and reinforcement of community actions for pollution reduction and protection of ecosystems;
4. Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances.

1. Creation of sustainable ecological conditions for land use and water management

In most central and downstream DRB countries, the development of water-related policies and legal instruments are still in the phase of preparation and it is obvious that there are significant deficiencies in the existing policy framework. Most of these countries are in the EU accession process and have to adjust their legal frame to meet the EU directives and regulations and assure compliance. For issues that are of common interest for the DRB countries and of special importance for water quality and water resource management, particularly related to nutrients, eight project components have been identified to be carried out in the frame of the present Regional Project.

1.1 Development and implementation of policy guidelines for river basin and water resources management

Considering the DRPC´s mandate to assure sustainable water management in the DRB and taking into account the central role of the river basin management in implementing the new EU Water Framework Directive, there is a substantial need to facilitate the development of river basin management plans in the Danube River Basin and in its sub-basin areas. These river basin management plans will have to deal with nutrient reduction from point- and non-point sources.

This project output will assist the DRB countries in the development of common tools and in implementation of common approaches, methodologies and guidelines for sub-basin management plans. The project will assist in the implementation of EU Water Framework Directive in DRB in order to implement a basin wide concept of River Basin management.

To assure efficient implementation of the EU Water Framework Directive and a coherent approach to River Basin Management, the ICPDR has set up a specialized Expert Group to develop guidelines for the elaboration of the River Basin Management Plans, their implementation and the development of institutional and legal mechanisms.

During the Phase 1 of the Danube Project concepts and analytical material are being prepared, which later during Phase 2 of the Project will be implemented in form of national contributions, pilot projects and workshops on river basin management and implementation of the EU WFD.

The activities of the EG shall be supported by international expertise in order to develop standardized methodologies and guidelines for sub-river basin management plans and a methodology for the aggregation of the sub-river basin management plans to a basin wide management concept. This should take into consideration EU-WFD and GEF IW strategies to develop guidelines for particular sub-river basins to reinforce transboundary cooperation.

The main activities to be supported and carried out in Phase 2 in cooperation with the RBM Expert Group can be summarized as follows:

- Implementing common approaches and methodologies for pressure and impact analysis (at the national level) (*follow-up from Phase 1*);
- Applying the EU Guidelines for economic analysis and arrive at an comparative analysis for the Danube River Basin (*follow-up from Phase 1*);
- Developing RBM tools (mapping, GIS, remote sensing, etc.) and related data management *(follow-up from Phase 1)*
- Development of typology of surface waters and the relevant reference conditions and implementation of ecological classification systems (*follow-up from Phase 1*);
- Developing RBM Plan in a pilot project (Sava River Basin) and applying in test areas common approaches, methodologies, standards and guidelines, providing feedback to the RMB EG and to the European Commission Working Groups for the implementation of the WFD (*follow-up of Phase 1*);
- Assisting Danube River Basin countries in developing strategies to come in compliance with the EU WFD, and in preparing the program of measures;
- Assisting ICPDR in further development of the Danube River Basin Management Plan in line with the requirements of the EU WFD;
- Organizing workshops and training courses in order to produce the River Basin Management Plan and to strengthen basin-wide cooperation (*follow-up from Phase 1*).

1.2 Reduction of nutrients and other harmful substances from agricultural point and non-point sources through agricultural policy changes

According to the Transboundary Analysis (1999), it is assumed that about half of nutrients discharged in the Danube Basin to the fine web of the river network come from agricultural non-point sources of pollution. For the necessary nutrient pollution reduction from agricultural sources combination of different policy measures is needed.

The Project Output 1.2 focuses on assisting the Danube River Basin (DRB) countries in designing new agricultural point and non-point source pollution control policies and legislation towards sustainable land use and agricultural practices ("sustainable agriculture") as well as compliance and enforcement plans in line with the existing and emerging (driven by EU accession process) national legislation.

In Phase 1 of the Danube Regional Project (DRP), a first analysis is based on a revised “hot spot” inventory of point and non-point sources of pollution from agriculture, taking into account the findings and recommendations of the field-based demonstration programs conducted in Central and Eastern European countries with the support of the EU and GEF.

The project will update the information on the use of agrochemicals and identify specific policy and legal measures to assist the participating countries in meeting their obligations to reduce agricultural point and non-point source pollution.

For EU accession countries, specific programs will be developed that will assist them in meeting their obligations under the EU Water Framework Directive, as well as the requirements of the Nitrate Directive (91/676/EEC).

In Phase 2 of the Project policy and legal recommendations will be worked out for DRB governments to reinforce the introduction of “best agricultural practice” and to optimize the use of agrochemicals.

The main focus of this assistance is to identify for each DRB country the main administrative, institutional and funding deficiencies and to develop priority reform measures for policies which are expected to best support the integration of environmental concerns into farm management (“best agricultural practices”), including improvements in the handling of manure and sludge from livestock operations, minimization of

use of chemical fertilizers and pesticides, promotion of improved tillage methods, management of restored wetlands and creation of buffer zones as well as farmer education and outreach activities.

For this purpose, the following actions should be considered in Phase 2:

- Reviewing the relevant legislation, existing policy programs and actual state of enforcement in the DRB and formulating recommendations for the application of best agricultural practices *(follow-up from Phase 1)*;
- Reviewing the inventory on important agrochemicals (nutrients etc.) and formulating recommendations for their appropriate use to assure reduction of environmental impact *(follow-up from Phase 1);*
- Introducing or, where existing, further developing concepts for the application of best agricultural practices in all DRB countries, by taking into account country-specific traditional, social and economic issues, and the ECE recommendations *(follow-up from Phase 1)*;
- Discussing the new concepts for best agricultural practices with and disseminate results to governments, farming communities and NGOs in the basin.

1.3 Development of pilot projects on reduction of nutrients and other harmful substances from agricultural point and non-point sources

This pilot project component has to be considered as complementary to the above-described policy component, it is particularly focusing on adequate handling of manure and on the practical introduction of organic farming methods. Agricultural point sources (e.g. large pig farms), including inappropriate handling of manure, are estimated to supply 2.5% and 6.8 %, respectively, of the nitrogen and phosphorus reaching the Danube River Basin.

Through the Project Output 1.3 the DRP will assist the DRB countries (especially in the lower Danube basin) with the development of low-input agriculture and with pilot programs for agricultural pollution reduction, in line with existing and emerging (driven by EU accession process) national environmental legislation.

It will help to introduce new relationships among national governments, local governments, agricultural community and general public (different land-users) in order to improve management practices in agriculture and to reduce nutrient loads.

Specific needs to improve agricultural practices and relevant sites for demonstration activities on manure handling should be identified in practical concepts for each DRB country. Focus countries for pilot projects (training and institutional development of best agricultural practice) should be Ukraine, Moldova, Romania, Bulgaria, Serbia & Montenegro and Bosnia & Herzegovina.

Based on the analysis of agricultural “hot spots” and taking into account national concepts developed in Phase 1, for practically introducing respectively expanding best agricultural practices in each DRB country, Phase 2 will focus on the implementation of the prioritized pilot projects in particular in Ukraine, Moldova, Romania, Bulgaria, Serbia & Montenegro and Bosnia & Herzegovina but will also strengthen already existing initiatives in other DRB countries. It will provide demonstration and training to local farmers on best manure handling and best agricultural practices, as well as stimulate the institutional development of low input farming. In a concluding regional workshop, the experiences gained at local and national level should be assessed and conclusions shared.

The following steps should lead to an efficient implementation of this project component in Phase 2:

- Preparing and implementing for the central and lower DRB countries typical pilot projects (especially in UA, MD, RO, BG, S-M and B-H) to train and support farmers in the application of best agricultural practice (followed up from Phase 2);
- Organizing a series of training and demonstration workshops to disseminate the results of the pilot projects.

1.4 Policy development for wetlands rehabilitation under the aspect of appropriate land use

In the case of conflicting possibilities for land use, priorities were in the past usually set on extension and intensification of human settlement and economic activities, with the consequence that ecologically sensitive areas/wetlands were steadily impacted in their function or completely disappeared.

The present project component shall address effects of transboundary pollution with particular attention to nutrients and toxic substances in relation to typical situations of inappropriate land use resulting from municipal settlement, agricultural activities, deforestation, hydraulic structures and their impact on ecologically sensitive areas and wetlands. While targeting action at a high policy level, the output also is directed towards demonstrating pragmatic implementation of appropriate land use management on the ground in pilot activities. In Phase 1, based on case studies in the DRB, standardized concepts are being developed for the rehabilitation of sensitive areas/wetlands, and for an integrated land use. In Phase 2, these concepts and methodological approaches shall be discussed and required policy, legal and institutional reforms shall be applied in the case study areas as models for integrated land use in the DRB. Further, the reform models shall also be proposed to Governments and land development organizations for adaptation of policies and practical implementation.

The main tasks of the proposed activity in Phase 2 can be summarized as follows:

- Developing alternative concepts and strategies for achieving integrated land use and management in chosen wetland areas, including required actions and measures (regulatory and legal issues, economic fines and incentives, compensation payments, etc) (*follow-up from Phase 1);*
- Securing governmental commitments to implement the newly proposed concepts for integrated land use in the selected case study areas;
- Disseminating project results in the Danube river basin.

1.5 Industrial reform and development of policies and legislation for application of BAT (best available techniques including cleaner technologies) towards reduction of nutrients (N and P) and dangerous substances

Industrial reform is one of the most urgent and critical issues in most central and lower DRB countries. Considering that industrial production in transition countries is actually very low, it is not surprising that industry generates only respectively 5 and 8 % of nitrogen and phosphorus that enter the Danube River Basin.

Taking into account the expected revitalization of industries, it is necessary to focus on industrial policies and on a review of legislation in order to ensure that environmental considerations are adequately taken into account and that mechanisms for compliance are put in place.

The project should also address the problem of industrial nutrient “hot spots” in relation to Significant Impact Areas (SIA) as identified in the Transboundary Analysis, to determine transboundary nutrients and toxics pollution from particular industries and identify possible solutions (BAT - best available techniques including cleaner technologies, treatment process, etc.) to reduce the emissions. In this context, the project output will assist the DRB countries in the development of new industrial nutrient/toxics pollution control policies and legislation in line with existing and emerging (driven by the EU accession process) national legislation. While Phase 1 of the Project is focusing on the identification of gaps and opportunities for reforms and measures, Phase 2 will now develop pilot applications of BAT concepts in selected countries.

The subject of this component is closely related to the work of the EMIS/EG, therefore the project component should closely cooperate with the UNIDO/GEF-TEST MSP to ensure that interventions at the policy/legislative and at the technical (demonstration) levels are complementary.

The following steps should lead in Phase 2 to an efficient implementation of this project component:

- Identifying industrial hot spots having a significant impact on water resources (abstraction, thermal pollution) and water quality; define SIA of industrial pollution (analyze cause-effect relationship) (*followed up from Phase 1*);

- Comparing and identifying gaps between relevant EU and national legislation and follow up Government measures for compliance (*followed up from Phase 1*);
- Developing necessary complementing policy and legal measures for the introduction of BAT (taking into account regulatory and legal issues, awareness raising, financial fines and incentives, etc) (*followed up from Phase 1*);
- Developing appropriate implementation concepts for a step-by-step introduction of BAT in industrial sectors;
- Organizing workshops with participants from relevant ministries, industrial managers, banking institutions, introducing information on best available technologies, financial support, etc. (*followed up from Phase 1*).

1.6 Policy reform and legislation measures for the development of cost-covering concepts for water and waste water tariffs, focusing on nutrient reduction and control of dangerous substances

The funding of water sector-related investments and the cost coverage for the operation of WWTP in the DRB countries largely depends on economically and socially acceptable water and waste water tariffs. Policy and legislative measures shall be developed for interested DRB countries to assure the introduction of economically and socially acceptable tariffs. This project component shall help to improve the investment possibilities for reduction of nutrients and toxic substances.

Water and wastewater service tariffs have the potential to improve both water resource management generally and protection of water bodies from nutrification and hazardous substances. They may be able to make a substantial contribution towards increasing internal funds and releasing public budgets and thereby facilitate the provision of baseline contributions for new investment projects in transboundary nutrient reduction and pollution control. The realization of this potential depends on both a clear understanding of economic instruments in general and a recognition of specific institutional, technical, and financial conditions that apply in a given locality, basin, or country.

Phase 1 of the Project is being focused on assessment of presently existing tariffs for water and waste-water services for reducing polluting effluents and on development of concepts for these economic tools. Phase 2 will prepare and suggest guidelines for their introduction and set the basis for implementation with national stakeholders. Phase 2 will develop and discuss with stakeholders respective economic mechanisms and tariff models taking into social and economic conditions of Danube countries or groups of countries.

Based on the results of the assessment of Water and Waste Water Tariffs, the following actions shall be considered in Phase 2:

- Developing proposals for policy reforms and legislative measures required for the establishment of cost - covering tariff models in line with the WFD and proposing recommendations for phased implementation of tariff reforms;
- Organizing national workshops with participants from relevant ministries, municipalities and the private sector (NGOs) on the introduction of economically and socially acceptable water and waste water tariffs.

1.7 Implementation of effective systems of water pollution charges, fines and incentives, focusing on nutrients and dangerous substances

Most DRB countries are not currently applying an effective system of fines for water pollution and respective incentives in comparison to industrialized Western European countries. The basic idea is, therefore, to assist the interested DRB countries to develop an effective system of fines and incentives to promote rational utilization of water resources and to prevent or reduce effects of environmental pollution, specifically nutrients and certain toxics. Within the broad framework of fines and incentives particular attention should be given on discharges of nutrients and toxic pollutants with significant transboundary effects.

The development and implementation of new effective system of waste-water charges, fines and incentives in the EU accession countries shall take into account the implementation plans for all water quality protection Directives and the policies and strategies that have been developed to reach the full compliance with EU legislation.

Phase 1 of the Project is focusing on assessment of presently existing tariffs for water and waste-water services and charges, fees, and incentives for reducing polluting effluents and on development of concepts for these economic tools. Phase 2 will prepare and suggest guidelines for their introduction and set the basis for implementation with national stakeholders.

Phase 2 will now prepare and discuss guidelines for the most appropriate charges, fines and incentives.

The main tasks of the proposed component in Phase 2 can be summarized as follows:

- Developing appropriate concepts for the introduction of balanced and effective systems of water pollution charges, fines and incentives in the particular DRB countries;
- Organizing workshops on the application of appropriate water pollution charges, fines and incentives, with participants from relevant ministries, municipalities and the private sector.

1.8 Recommendations for the reduction of phosphorus in detergents

The EU policies and legislation do not provide for phosphate detergents phase-out plans. The present situation in the EU countries is based on voluntary arrangements set by the industry. Whereas Phase 1 of the Project is assessing the country-specific situation including the reduction barriers and develop proposals for accomplishing a voluntary agreement between ICPDR and the Detergent Industry.

Phase 2 will now periodically check the implementation of recommendations.

The basic idea of this project component in Phase 2 is to:

- Organizing two workshops *(followed up from Phase 1);*
- Monitoring and evaluating results at the national level.

The country-specific recommendations and implementation schedules should mostly be based on the experiences from Western European countries and should take into account the institutional and especially the economic capability of the particular DRB countries.

2. Capacity building and reinforcement of transboundary cooperation for the improvement of water quality and environmental standards in the Danube River Basin

One of the essential and positive results of the previous GEF Pollution Reduction Programme was the successful support provided for institutional strengthening and capacity building of government, local administration and the private sector (NGOs) in the participating DRB countries.

In order to ensure efficient implementation of the ICPDR policies and related Investment Program defined under the DRPC, it is recommended that national capacities of the central and the sub-ordinate national level should be reinforced. In this context, exchange of information, reinforcement of environment research and standardization of methods and parameters are essential to strengthen regional cooperation and joint decision making in implementing the SAP.

The respective project components defined in the frame of the present Regional Project (Phases 1 and 2) are primarily designed to support the ICPDR in establishing an appropriate Management and Information System, and in establishing appropriate indicators for evaluation and monitoring of program and project implementation (process, status and stress reduction). Secondly, the Expert Groups established under the ICPDR should be supported in carrying out the particular tasks and activities clearly dealing with nutrient reduction and transboundary issues, which might not be adequately covered without GEF assistance.

At the national level "Inter-ministerial Committees", which have been set up during the 1st Phase of the Project involving all technical, financial and administrative departments, will assure adequate coordination and implementation of policies, legislation and projects for nutrient reduction and pollution control.

2.1 Setting up of "Inter-ministerial Committees" for development, implementation and follow-up of national policies legislation and projects for nutrient reduction and pollution control

This project component is being finalized in the 1st phase of the project

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

This project output will assist DRB countries to develop, upgrade and reinforce capacities of tools for emission control and monitoring of water quality, laboratory and information management.

The models and applications supported mostly with data from the TNMN and Emission Inventory are essential tools for a profound assessment of environmental stress and impact, in particular transboundary nutrient and toxic pollutant flows as well as an assessment of the expected effects of nutrient and other pollution reduction measures. The present nutrient reduction plans can be adjusted and the implementation of policy measures can be focused on specific areas or sectors.

To assure the coherence and viability of data collection in all Danube countries, it would be necessary to provide training and additional laboratory and monitoring tools, including development of SOPs and preparation of reference materials. Particular attention should be given to those countries that still need to be brought to the same operational level (Ukraine, Moldova) and are not yet integrated in the MLIM and EMIS systems (Bosnia-Herzegovina, Serbia & Montenegro).

Phase 1 of the Project is preparing for the upgrading of existing operational tools, while Phase 2 will secure their effective application and the DRB-wide data availability.

In this project component, particular attention should be given to the results of the Joint Danube Survey (JDS), which was carried in 2001-2002 and provided comparable biological and chemical characteristic data along the Danube in the main river bed as well as in the major tributaries. In addition to the comparable data sets the JDS was the most comprehensive survey covering wide range of chemical pollutants, aquatic flora and fauna and biological indicators. It also provided the appropriate data and information necessary for the ecological and chemical surface water status characterization in line with the EU Water Framework Directive.

Further assistance is proposed in Phase 2 to strengthen other activities in the MLIM/EG and the EMIS/EG, with particular attention to the following nutrient/pollution reduction and transboundary issues:

- Harmonizing water quality standards (finalize classification schemes) and quality assurance for nutrients and toxic substances (*follow-up from Phase 1*);
- Further development of databases for EMIS / MLIM in order to assess environmental stress and impacts (*follow-up from Phase 1*);
- Optimizing TNMN 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 strengthening of operational tools for monitoring, laboratory and information management and for emission analysis from point and non-point sources of pollution *(follow-up from Phase 1)*

In this context, consultation and working meetings of the Expert Groups for specific issues should be arranged in cooperation with international consultants specialized in the respective field of work..

2.3 Improvement of procedures and tools for accidental emergency response with particular attention to transboundary emergency situations

The accidental pollution of the Tisza and the Siret rivers from mining and industrial (chemical plant) activities in 2000 and the effects of NATO intervention in Yugoslavia in late nineties, the bombing of petrochemical and other industrial complexes in the Danube River Basin, led to a contamination of ground water and rivers with toxic substances (PCBs, PAHs, cyanide, etc.), the accumulation of heavy metals in sediments and to a destruction of ecosystems (fish kill). Hence, urgent support is needed to improve preventive and emergency response measures.

The subject of this project component is to support development activities for accident emergency warning and prevention of accidental pollution. The experience from the accidental pollution events indicates that the basically established APC/EG needs substantial improvement before it can become a satisfactory tool for adequate management of transboundary contamination from catastrophic events. During Phase 1 of the Project, the operational bases of the alarm system are being upgraded and preventive policy measures recommended. During Phase 2, the practical application of the alarm system will be further extended in the DRB.

In this context, technical assistance and reinforcement of operational conditions are required in Phase 2 for:

- Reinforcing operational conditions in the national alert centers (PIACs) and geographical extension of the AEWS in Bosnia-Herzegovina and Serbia & Montenegro1) *(follow-up from Phase 1)*;
- Support to completing and prioritisation of the Inventory of old contaminated sites in potentially flooded areas in the Danube River Basin *(follow-up from Phase 1);*
- Support to upgrade of the ARS Inventory providing the detailed analysis, distribution on sub-basin and industry branches and implementation of the check-lists *(follow-up from Phase 1)*;
- Maintaining and calibrating of the Danube Basin Alarm Model (DBAM), to predict the propagation of the accidental pollution and evaluate temporal, spatial and magnitude characteristics in the Danube river system and to the Black Sea *(follow-up from Phase 1)*;
- Organization of workshops to reinforce cooperation in accident and emergency/warning and development of preventive measures *(follow-up from Phase 1)*.

2.4 Support for reinforcement of ICPDR Information and Monitoring System (DANUBIS)

The Danube Information System (DANUBIS) has been developed with the financial support from the Austrian Government (computer equipment and software) and from the Austrian Environmental Trust Fund, administered by UNOPS (concept and development of the Information System). The system is presently installed at the Permanent Secretariat of the ICPDR (Vienna International Center) and fully operational.

Further professional/technical and financial support is needed for the build-up and extension of DANUBIS to assure adequate administration of the information and reporting obligations under the DRPC. A new interactive web-site is to be adapted ensuring a smooth flow of textual and geographic information between the national level and the central unit at the ICPDR Secretariat. It will facilitate permanent monitoring and exchange of information on pollution control and nutrient reduction measures and to disseminate information to the public on policy and legal matters related to nutrient reduction: GEF nutrient reduction policies, relevant EU guidelines and directives, other information from international initiatives/conventions concerning land based sources of pollution, agricultural practices, fertilizer application, phosphate free detergents, etc.

[1] The Serbia and Montenegro is situated in an extremely important geographical position in the center of the Danube River Basin where the most important tributaries, Tisza, Sava and Drava are joining the Danube. During the accidental pollution the AEWS has also informed Serbia and Montenegro (former FR of Yugoslavia) and cooperated with its technical staff to monitor the effects of accidental pollution. The UNEP Balkan Task Force and the EU-Baia Mare Task Force have closely cooperated with Yugoslavian authorities in the assessment of accidental pollution and the design of emergency measures.

While during Phase 1 of the Project, the DANUBIS website extension became fully operational; in Phase 2 the interactive website will be further developed with particular attention to permanent updating and basin wide maintenance of the system.

This would require in Phase 2:

- Further development of ICPDR Information System and ensure that it is used by its expert groups and other operational bodies *(follow-up from Phase 1);*
- Reinforcement of the DANUBIS through the implementation of an interactive web-site to integrate further textual, numerical and digital mapping information and to fulfill all requirements of the work of the nutrient reduction program, respectively the work of the ICPDR and the GEF Project (communication, monitoring, public information, etc.) *(follow-up from Phase 1);*
- Launching training at the national level and organize a series of workshops in order to train and assist future users in the best use of the tools made available by the system *(follow-up from Phase 1)*.

It should be noted that the ICPDR assure regular maintenance and up-dating of the information with particular attention the Data Base developed within the frame of the previous GEF project (Danube Pollution Reduction Program).

2.5 Implementation of the Memorandum of Understanding between the ICPDR and the ICPBS relating to discharges of nutrients and hazardous substances to the Black Sea

This component implies assisting the ICPBS and the ICPDR in further implementing the Memorandum of Understanding (MoU), identifying appropriate modalities for the implementation and developing of a monitoring system for commonly agreed process, stress reduction and environmental status indicators for the Black Sea. Further, coordination of activities of the DRP, the BSERP and the World Bank IF will be enhanced by a mid-term Danube-Black Sea Stock-taking meeting early in Phase 2.

During Phase 1 of the Project, a joint working program was worked out and approved, during Phase 2 the work program and in particular the monitoring and evaluation systems will be implemented and follow up actions defined.

The main tasks for the implementation of the MoU in Phase 2 can be summarized as follows:

- Develop joint work program for MOU implementation (followed up from Phase 1)
- Define and agree on status indicators to monitor nutrient transport from the Danube and the change of ecosystems in the Black Sea (followed up from Phase 1)
- Define and establish reporting procedures *(followed up from Phase 1)*
- Re-establish and organize regular meetings of the Joint Danube-Black Sea WG to evaluate progress of nutrient reduction and recovery of the Black Sea ecosystems(*followed up from Phase 1*).
- Facilitate coordination of the Danube Regional Project with the Black Sea Regional Project and the World Bank Investment Fund.

2.6 Training and consultation workshops for resource management and pollution control with particular attention to nutrient reduction and transboundary issues

In order to assure sustainability of appropriate resource management and pollution control and to assure the same level of understanding throughout the Danube River Basin, it is necessary to provide training. Training is needed both to increase technical skills for pollution reduction and in particular for the implementation of the EU Water Framework Directive as well as to further develop the effectiveness of key institutions (ICPDR etc.) This could include the fields of environmental analysis and planning, management and impact assessment for nutrient reduction and control of toxic substances through workshops, consultation meetings and study tours for participants from government, local administration, NGOs and other stakeholder from the private sector (professional associations, opinion leaders, etc.). Besides this, additional materials and equipment should be supplied and technical assistance should be provided where necessary. During Phase 1 of the Project, a needs assessment is being conducted, the

various training programs are being prioritized and then worked out and trainers are being trained, whereas during Phase 2 training programmes will be implemented and evaluated.

Besides the workshops on policy development and legislation to be organized in the frame of each of the above-described project components, training courses may be provided in the following areas:

- Improving the Effectiveness and Efficiency of Transboundary Institutions (e.g. ICPDR, DEF etc.)
- Enhancing capacities to carry out appropriate public participation processes, multi-stakeholder forums, etc.
- Policy development and legal frame for transboundary cooperation in nutrient reduction and control of toxic substances *(follow-up from Phase 1)*;
- Technical and legal issues of river basin planning and transboundary water resources management related to the new EU Water Framework Directive with a view to ensuring effective nutrient reduction *(follow-up from Phase 1)*;
- Technical and legal issues (land reclamation) of wetland restoration and management to assure nutrient removal *(follow-up from Phase 1)*;
- Innovative technologies for municipal and industrial waste water treatment; using best available technology *(follow-up from Phase 1)*;
- Technical and legal issues of management and control of use of fertilizers and manure *(follow-up from Phase 1)*;
- Preparation of documents for nutrient reduction projects with international co-funding and application of GEF criteria concerning incremental cost calculation, considering the experiences from the World Bank IF supported projects *(follow-up from Phase 1)*;
- Monitoring and evaluation of results of training, capacity building and replicability *(follow-up from Phase 1)*.

The last training course should also focus on methodology and standards for economic and financial analysis of bankable projects with international co-funding; and in particular on identification and documentation of nutrient reduction projects according to GEF requirements and guidelines regarding baseline / incremental cost, transboundary effects, etc.

The proposed training courses should be organized with the assistance of experienced international consultants in a series of three-to-five-days workshops and where appropriate, should also be run in the national languages at least once in each Project Phase (i.e. twice during the total project period of 5 years). Regional Workshops designed to reinforce transboundary cooperation should be attended by at least two or three participants from each DRB country. One essential task will be to prepare, prior to the workshops, adequate documents and case study materials for dissemination among the participants.

3 Strengthening of public involvement in environmental decision making and reinforcement of community actions for pollution reduction and protection of ecosystems

The overall focus of the components under Objective 3 is to increase public participation in environmental decision-making. Phase 2 of the Danube Regional Project will focus on implementing the awareness raising, community involvement and NGO institutional development support that has been planned and is being developed in Phase 1. In addition to those components that were originally planned for, an additional component is planned in order to improve public participation by better access to information for addressing priority sources of pollution. This new component (3.4) is based on the results and methodological approach developed during the UNDP/GEF Medium Sized Project "Building of Environmental Citizenship to Support Transboundary Pollution Reduction in the Danube."

All activities outlined in the previous chapter on institutional strengthening and capacity building contribute to awareness raising in a broader sense. The publication through the mass media and through ICPDR publications (Danube Watch etc.) of the results of ICPDR´s and its Expert Groups´ activities, in particular the results of workshops and consultation meetings, constitute an excellent opportunity to raise public awareness. These actions of awareness raising should primarily address representatives from central and local governments and from administration and - to a lesser extent - from the private sector.

The present GEF Danube Regional Project has a wide spectrum and geographical outreach for public participation activities which is central to the long term sustainability and effectiveness of Danube River Basin cooperation. The objective of the Danube Regional Project, with its components in support of Objective 3, is to enhance awareness raising in the civil society and the reinforcement of the participation of NGOs and other interested parties in water management and pollution reduction (nutrients and toxic substances) with particular attention to transboundary cooperation and river basin management. This can best be achieved through practical measures and the support of community-based activities for rational resources management, transboundary cooperation and pollution control with particular attention to nutrient reduction. Financial support should be provided to assist the implementation of community-based demonstration projects in various Danube River Basin countries (Small Grants Program).

Cooperation of the civil society and in particular of local NGOs is essential to achieving the objectives and goals of the ICPDR and the new Danube Regional Project. Particular attention will therefore be given to the reinforcement of the Danube Environmental Forum (DEF), which is the umbrella organization of the NGOs in the Danube River Basin as well as to increase DEF's capacities to take action for pollution reduction and control. Within the frame of the present project component, the support for awareness raising and public participation should be extended (i.e. make each project more relevant), and linked with the reinforcement of NGO activities and should focus on concrete demonstration measures of pollution control, nutrient reduction and transboundary cooperation.

In this context, the following project components have been identified as particularly important for achieving the objective:

3.1 Support for institutional development of NGOs and community involvement

This should come in the form of technical/professional assistance and financial support for the Danube Environmental Forum (DEF) and for national NGOs working on transboundary pollution issues and nutrient reduction. Phase 1 of the Project is providing the support to make the DEF network (Secretariat, national focal points, national members etc.) fully operational and to prepare programs for training and awareness raising (publications), as well as specific activities (public participation) which will be implemented during Phase 2 of the Project:

- Continuing support and development of the DEF network i.e. the DEF Secretariat for operation, communication and information management (which should be operating at the end of the Project period on a self-supported basis);
- Organizing consultation meetings and training workshops on nutrients and toxics issues;
- Publishing special NGO publications in national languages on nutrients and toxic substances;
- Organizing of training courses for the development of NGO activities and cooperation in national projects (nutrient reduction) and the processes of public participation in the frame of the WFD.

3.2 Applied awareness raising through community based “Small Grant Programme”

It is important and necessary to provide administrative, professional and financial support for the implementation of the GEF-Small Grants Programme (SGP).

During Phase 1 of the Project the Small Grants Programme is being prepared and individual project proposals and applications from NGOs have been received. These projects will be implemented during

Phase 2 with the financial support from the GEF Small Grants Programme taking into account the following steps:

- Implementing a region-wide granting program focusing on 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*);
- Implementing a national granting program at the local and national level in terms of 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*)

Based on previous experience, the responsibility for the design of the SGP and good performance, this project component will be implemented, with technical and policy guidance from the ICPDR, by the Regional Environmental Center (REC) in Hungary. Through its national offices, the REC will organize and follow-up the implementation of selected projects for nutrient reduction and awareness raising and provide at the end of the project an evaluation report concerning performance, replicability and environmental impact of measures.

3.3 Organization of public awareness-raising campaigns on nutrient reduction and control of toxic substances

The practical awareness and daily sensitivity of the general public on pollution problems and their transboundary impacts is still very low in most DRB countries. The many new local NGO small grants projects organized within this GEF Project frame (component 3.3.(i))can have a double impact and become more relevant for the public's opinion-making at national and regional scale if they will be complemented by public nation-wide campaigns. Therefore, the GEF Project aims at raising awareness on accidental pollution prevention and nutrient reduction in daily life through media activities and campaigning. During Phase 1 of the Project public awareness raising activities including campaigns are being identified and designed (within the DRB Communications Strategy that should provide cohesive guidance to future DRB public awareness and communication activities including communication structures and mechanisms) and periodicals and other information materials will be published. In Phase 2 these activities will be reinforced, public awareness campaigns will be organized, capacities for communication will be enhanced (including training of trainers) and periodicals (e.g. Danube Watch) and information materials will be published.

The Project will therefore focus on:

- Conceptualization and implementation of communication activities including public awareness raising campaigns on nutrient issues (as identified in the DRB Communications Strategy);
- Development and production of materials for public press and mass media on nutrients and toxics;
- Capacity building to support the communication structures and mechanisms within the ICPDR, national governments, NGOs and other key stakeholders;
- Support to the publication of scientific documents and regular papers or special issues on water management and pollution reduction with particular attention to nutrient issues and Black Sea recovery.

3.4 Enhancing Support of Public Participation in Addressing Priority Sources of Pollution ("hot spots") through Improved Access to Information in the Frame of the EU Water Framework Directive

An additional component in the frame of the Danube Regional Project will strengthen and enhance the GEF priority of community involvement and reinforce the capacities of the ICPDR to implement the elements on public participation in the EU WFD. The component, to be implemented in 2003-2006, would build national capacity in interested CEE Danube countries on implementation of public access to information on Danube pollution and thereby support public participation in decision making on hot spot

cleanup and prevention. It would focus on government officials and also include citizens, communities and NGOs, specifically including capacity building to enable changed attitudes and behavior as well concrete efforts to implement and facilitate access to information. Given their involvement in the pilot project that is the basis for this new component, Resources for the Future (RFF), New York University (NYU) and the Regional Environmental Center for Central and Eastern Europe (REC) are foreseen as cooperating partners.

The project component would develop specific solutions at the national and local levels and promote mutual learning at the river basin level and provide exposure to relevant experience in other countries in the region and elsewhere through targeted training and technical assistance. Specific activities and outputs consistent with effective implementation of the Aarhus Convention, the EU Water Framework Directive, other relevant EU legislation and national legislation will be developed in partnership with participating countries in the early months of the project, following a careful diagnostic process.

Joint activities will include:

- In-region plenary meetings including participants from all countries to set a harmonized approach, plan joint activities, and share experience;
- Joint capacity building workshops on issues of public access to information concerning water management and pollution control;
- Development of best practices methods and supporting written materials of potentially region-wide application;
- Examination, through research, written analyses and joint study tours, of options and models from EU, CEE countries and the United States, including both mature and developing systems for effective public involvement in water pollution reduction, hot spots control and identification of specific approaches for public access to information on pressure and impact analysis that can be adapted to the particular circumstances of participating countries.

Country-specific capacity building activities tailored to the needs of individual participating countries will include some or all of the following:

- Capacity building workshops for government officials and NGOs at national, regional and local levels, conducted in national languages;
- Development of specific legal, regulatory, policy, institutional and/or practical measures to increase public access to information and related public participation in hot spot control ; development of guidance manuals for public officials; citizen manuals; drafting or commenting on new legislation, regulations, institutional arrangements and/or policies;
- Technical assistance in response to country requests to help develop options for or to assist in crafting these measures;
- Field testing of proposed measures and approaches at specific hot spots through small pilot projects combined with local capacity building/training sessions and workshops.

Major outputs that will support increased public participation for hot spots control will include:

- Strengthened capacity of governmental officials to implement public involvement and of national NGOs to become more effectively involved in implementation of the EU WFD;
- Strengthened cooperation between government officials, NGOs and other stakeholders;
- Country-specific measures and practical arrangements supporting NGOs ,citizens and communities involvement in water resources management and pollution control, including the development of:
    - Regulatory and/or policy proposals other relevant instruments such as guidance documents, user manuals, and other aids that assure that government officials understand and can carry out their obligations under public access to information requirements;
    - Citizen guides on public access to information;

  - Improved mechanisms for passive and/or active dissemination of government-held information to members of the public, such as websites, information offices, and public docket rooms;
- Country-specific strategies for effectively implementing and sustaining public involvement over the long-term;
- Increased sustainability of the pollution reduction initiatives and results of the DRP generally.

4. Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances

The development and the upgrading the monitoring and information systems is of significant importance for transboundary cooperation in water quality and water management, and of common interest for the Danube and the Black Sea countries. Particular attention will be given to the development of indicators (process, stress reduction and environmental status indicators) to monitor progress of project implementation. For this purpose, special methodologies will be developed to assess sediments (heavy metals, toxic substances) and nutrient removal capacities of wetlands. Also economic mechanisms will be analyzed to encourage investments in nutrient reduction measures.

Within the frame of Phase 2 of the Project, the following activities will be carried out responding to specific issues regarding monitoring and evaluation and providing special knowledge on pollution in sediments, wetlands nutrient removal capacities and economic instruments for nutrient reduction:

4.1 Development of indicators for project monitoring and impact evaluation

To assure efficient monitoring and evaluation of project implementation, and to document project and program achievements, it is necessary - in line with EU and the existing international requirements - to establish an operational system of indicators (process, stress reduction and environmental status) under the ICPDR. The new EU Water Framework Directive criteria for the assessment of the ecological status of the rivers and for monitoring the achievement of good ecological status will have to be incorporated. Within Phase 1 of the Project, a Monitoring and Evaluation system is being designed and relevant process and impact indicators are being developed; theses mechanisms for control and evaluation will be established and made operational during Phase 2 of the Project.

The following tasks should therefore be carried out in Phase 2 under this component:

- Establishing a system for M&E in using specific indicators for process (legal and institutional frame), stress reduction (emissions, water abstractions and hydromorpological changes) and environmental status (water quality, ecological status and recovery of ecosystems) to demonstrate results of program (JAP) and project implementation and to evaluate environmental effects of implementation of policies and regulations (nutrient reduction) *(follow-up from Phase 1);*
- Development of indicators for project evaluation with particular attention to process indicators (DRPC+WFD) and GEF project evaluation *(follow-up from Phase 1)*;
- Assessing and reviewing the monitoring networks for surface waters and developing an approach to adapt the monitoring programmes to requirements of the WFD *(follow-up from Phase 1)*;
- Implementing ecological status assessment in line with requirements of EU WFD using specific bio-indicators to demonstrate effects of pollution /nutrient reduction in water-bodies and ecosystems *(follow-up from Phase 1)*;
- Preparing a manual on the use and application of monitoring and impact indicators.

4.2 Analysis of sediments in the Iron Gate reservoir and impact assessment of heavy metals and other dangerous substances on the Danube and the Black Sea ecosystems

In the frame of the UNEP-Habitat-Balkan Task Force/ICPDR Expert Mission to Yugoslavia in August 1999, a first sampling of sediments in the Iron Gate was carried out to analyze heavy metals and other toxic substances as a consequence of NATO air strikes on industrial and other targets in the Danube River Basin. The present project component should extend the first analysis and provide a complete coverage of the quality analysis of the sediments of the Iron Gate including toxic substances (heavy metals) and phosphorus. Based on the results of the analysis, adequate measures should be developed to undertake precautionary measures to prevent future deterioration of water quality in the Danube and negatives effects on the Black Sea ecosystems. This component is limited to the GEF Phase 2 Project.

This study should be carried out as a special activity of the MLIM/EG and should cover the following tasks:

- Collecting and reviewing the existing data and information on present situation (especially heavy metals, nutrients, silicates and other dangerous substances);
- Assessing the main types and quantities of dangerous substances;
- Assessing the potential environmental impacts on the Danube and the Black Sea;
- Forecasting development for a period of 20 years;
- Discussing possible precautionary and rehabilitation measures for the Danube and the Black Sea;
- Preparing recommendations for dealing with this problem in the forthcoming decade (measures to be included in the Joint Action Program of the ICPDR);
- Proposing further monitoring programs.

4.3 Monitoring and assessment of nutrient removal capacities of riverine wetlands

In the frame of the Pollution Reduction Program, the rehabilitation and management of about 600.000 hectares of wetlands and floodplains in the DRB have been proposed. In the World Bank-GEF Strategic Partnership, the restoration or creation of wetlands is one of the types of projects eligible for funding. It is generally recognized that the removal capacity varies considerably according to water flow, concentration, loads and natural conditions of the wetlands.

In the frame of the GEF Phase 1 and 2 of the Project, a quantified approach could be made for the DRB wetlands to better assess their removal capacities and the possibilities in wetland management to optimize such processes, while still giving priority to the ecological needs of these ecosystems. These results will considerably improve and disseminate world-wide the knowledge about nutrient removal through wetlands rehabilitation and would define the technical and economic parameters for efficient wetlands management while still considering other benefits (biodiversity, water purification etc.) and giving priority to the ecological needs of these ecosystems.

This proposed project component, which would support a larger GEF need in the frame of Targeted Research is being covered in Phase 1 preparatory tasks and will now in Phase 2 provide the actual removal observation programme and management guidance:

- Implementing the observation program to assess the annual removal capacity (tons of N and P and of other harmful substances per ha) for each category of wetland for a period of 20 years (3 years covered by the present project);
- Assessing the possibilities for a follow-up financing of the observation programme after 2006;
- Evaluating the aggregated removal capacities/potentials of nutrient & other harmful substances for the wetlands proposed for restoration (DPRP), taking into account the results of other investment and observation programs (including Danube Partnership, "Lower Danube Green Corridor");

- Developing optimized wetland management programs to assure ecologically acceptable nutrient removal in the Danube River Basin;
- Preparing the Danube Wetlands Restoration and Management Agreement with action plan for endorsement by DRB governments

4.4 Danube Basin study on pollution trading and corresponding economic instruments for nutrient reduction

This project component is being completed in the Phase 1

IV Sustainability and Participation

The Danube Regional Project (Phases 1 and 2) has to be seen as a logical continuation of the GEF assistance to the Danube Environmental Program. The Danube Pollution Reduction Program has established the necessary conditions for the ICPDR and for the DRB countries to assure efficient implementation of policies and measures for pollution reduction and resource management. The proposed Phase 2 of the Danube Regional Project can build on a very favorable framework for sustainability and participation already reinforced in Phase 1, and on the findings and recommendations of:

- the SAP 1994 as the agreed-upon policy document of the EPDRB focusing on policies and strategies for pollution control and resource management,
- the Common Platform for the Development of National Policies and Actions for Pollution Reduction under the DRPC, representing a summary of policies and actions developed in the frame of the Pollution Reduction Program,
- the Danube Pollution Reduction Program (DPRP) and the Inventory of Investment Projects (Database) providing the operational basis for promoting investments for pollution reduction measures
- results of the Danube-Black Sea Task Force (DABLAS) Working Group on Project Prioritization "Prioritisation of Municipal Investment Projects in the Danube River Basin", revising the lists of national projects of the ICPDR Joint Action Programme and selection of municipal priority projects.

Institutional capacities and arrangements: With its entry into force on 22 October 1998, the Danube River Protection Convention (DRPC), to which the ECE-Convention for the Protection and Use of Transboundary Waters (Helsinki Convention 1992) is the framework, became the overall legal instrument for cooperation and transboundary water management in the Danube River Basin. Since mid-1999 all bodies of the ICPDR, the Expert Groups and the ICPDR Permanent Secretariat have been fully operational. The primary objective of the Danube Regional Project is to support the ICPDR in order to achieve a well-balanced integrated implementation of the Common Platform, the PRP and the JAP. It is assured that there is a full developed and functioning institutional framework for project performance. Within the Phase 1 of the DRP the institutional framework of the ICPDR and all participating Danube countries have been further reinforced and appropriate arrangements in particular with ICPDR Expert Groups were developed. As the ICPDR is permanently sustained via financial contributions of the member states, the GEF intervention would further support and strengthen the ICPDR and its Expert Groups to improve technical and management capacities for the implementation of nutrient reduction measures identified in the Pollution Reduction Program.

The participation of the contracting parties including the European Community, and the cooperating country Bosnia-Herzegovina is assured in the DRB through the work of ICPDR-Standing Working Group and the through the Conference of Parties, which is the highest body for the implementation of the Danube River Protection Convention.

Government commitment: All countries in the DRB have actively participated in the frame of the elaboration of the Pollution Reduction Program and have provided all necessary information for the preparation of the present Project Brief (PDF-Block B activities) and thus demonstrated their interest in and commitment to pollution control, nutrient reduction and sustainable water management. Further, it should be noticed that central and downstream Danube countries are actually preparing for accession to the European Union and are therefore committed to applying the European water directives and guidelines for pollution reduction with particular attention to the EU Nitrate Directive, the Urban Waste Water Directive and the implementation of the new EU Water Framework Directive. Especially the EU WFD in the Phase1 of the DRP has already provided very good platform for mobilizing all national governments towards participation and coordination of their efforts within ICPDR.

Legal Frame: The Danube River Protection Convention is a legally binding instrument, which provides a solid framework and a legal basis for cooperation, including enforcement. The International Commission for the Protection of the Danube River (ICPDR) has been established according to the Danube River Protection Convention provision (Art.18) and has its seat in Vienna, Austria. The ICPDR and its bodies are responsible for the implementation of the Danube River Protection Convention.

Stakeholder participation: The development of NGOs and the re-establishment of the Danube Environmental Forum as an umbrella organization for all Danube NGOs was an essential contribution of the previous GEF assistance to assure public participation in the planning and plan implementation processes. Further, the previous GEF Small Grants Program has facilitated the implementation of community-based projects in the middle and lower Danube countries. Since the Danube Regional Project is in the 1st phase providing support for strengthening and reinforcement of the DEF capacities, it is assured that the existing structures of local NGOs and the DEF will play an important role in the implementation of the GEF Danube Regional Project and in the development and application of new policies and regulation to improve water quality and to assure rational use of resources.

V Lessons Learned

V - 1 Lessons Learned in Preparing the DRP

Key lessons learned in previous DRB project activities were determined in the process of preparing the overall Danube Regional Project in 2000-2001 and are included in this section.

Some important lessons have been learned from a range of GEF and other environmental planning projects in the Danube region, and especially from the GEF-supported Danube Pollution Reduction Program (DPRP), which was completed in June 1999. In the frame of this project, the Danube countries cooperating under the DRPC have achieved important results in terms of capacity building and institutional strengthening. The planning process in elaborating the Transboundary Analysis and in revising the SAP, which involved stakeholders from the local governments, scientific institutions and NGOs had created a high momentum in adopting GEF operational principles for the protection of international waters and ecosystems. Further, the interaction with other organization, in particular the EU Phare and Tacis, the World Bank, the EBRD, etc., and joint actions with the Black Sea Programme have set new standards for regional cooperation. These positive achievements will be consolidated in implementing the Danube / Black Sea Basin Strategic Partnership.

The first phase of the DPRP indicated how time consuming and difficult it is to set up institutional structures, information networks and to introduce new approaches of planning in countries that are in a continuous process of political and economic transition. Based on this experience, it is recommended that – wherever possible - the newly created institutional settings, networks and methodological tools should be reinforced through the Danube Regional Project. Special emphasis should be put on the maximum utilization of the participatory approach that is now fully understood and accepted by the participating countries.

In many transition countries, the policy and legal frame is presently being reviewed and adjusted, focusing in particular on unclear land ownership and uncontrolled resource management (forestry, mining, etc.), which lead to environmental degradation and damage. In many countries, compliance with environmental laws and regulations is not controlled and is consequently very low. This is partially due to structural and organizational weaknesses and more to budgetary limitations.

Inter-ministerial coordination is another common and serious problem for project implementation when coordinating structures are missing at national levels. The involvement and cooperation of all relevant governmental bodies, in particular the Ministry of Finance, Ministry of Agriculture, of Land Reform, of Foreign Affairs, etc. is essential in the early project preparation phase.

Another lesson learned is that project activities conducted by international expert teams without close integration and cooperation with experts from the relevant Danube countries are often not recognized. In the frame of the Environmental Program for the Danube River Basin (EU Phare) many project components have failed to be sufficiently coordinated with the ICPDR and its Expert Groups and thus did not respond to the expressed needs of the beneficiaries. It is therefore recommended that all project components should be carried out under the guidance of the ICPDR and in close cooperation with its expert bodies and that highly qualified national experts/consultants – available in all DRB countries – should be contracted.

A particular feature impacting basin-wide project activities is that of the disparities between the DRB countries, which have clearly different institutional, administrative and economic capabilities and are confronted with qualitatively different requirements. Particular attention should be paid on the one hand to the EU accession countries that have reached a high level of competence and organization and, on the other hand, to the central Danube Basin countries as Bosnia-Herzegovina and Serbia & Montenegro, which have been affected by the war and political instability.

In this context, IW: Learn, a distance education programme whose purpose is to improve the global management of transboundary water systems, will contribute to improve regional cooperation and capacity building. Following the experience gained in the DPRP, IW: LEARN should be connected to the Danube Information System (DANUBIS) and used as an interactive conference capacity across and within GEF international waters projects for sharing information and learning related to nutrient reduction and river basin and coastal zones management. Training courses started during the DPRP will be revitalized and continued to enhance technical knowledge for water managers in nutrient reduction and sustainable management of water resources and ecosystems in the Danube River Basin.

V - 2 Lessons Learned During Implementation of Phase 1 of the DRP

Some further lessons have been learned based on experience gained in the implementation of Phase 1 of the DRP to date (also contained within the APR/PIR in Annex 14.)

The establishment of intensive cooperation with the ICPDR and its structures (co-executing agency and primary beneficiary) and improving administrative and technical capacities to cooperate enhances the effectiveness of project implementation. The ICPDR was formed to implement the Danube River Protection Convention (DRPC) and is, since 2000, the platform for coordinating the implementation of the EU WFD in the DRB.

By proactively working together with the ICPDR at various levels, i.e. the Secretariat, the respective ICPDR Expert Groups and respective National Governments, the GEF project has established excellent cooperation. The project participates, together with relevant contractors where appropriate, in all Expert Groups Meetings organized by the ICPDR (currently 5 Expert Groups and 2 Expert Sub-groups meeting 2 to 3 times per year.) In this way the DRP has a full overview and understanding and can thereby provide the best assistance and input into the further development of the work. Further, these commonly implemented activities serve to improve administrative and technical capacities at the National level based on guidelines and requirements set by the ICPDR and the DRP. In this way, the GEF project plays a catalytic role in stimulating DRB countries to meet their commitments to the DRPC and increasingly the WFD. This encourages national governments to develop appropriate structures for regional cooperation that is thereby facilitating the strengthening of good governance in the Danube River Basin.

A key lesson learned is the benefit of a close link between global environmental objectives and an appropriate legislative framework, in this case the EU Water Framework Directive (WFD.) The EU WFD represents, perhaps, the most comprehensive water legislation in the world. It provides an excellent basis for the implementation of the DRP given commonly shared principles such as a basin-wide holistic approach, ecosystem management etc. By linking project activities closely with the WFD implementation, the DRP is both increasing the ability to meet global environmental objectives in the frame of the project, but is also establishing the basis for the sustainability of project results as well as the mechanisms for ongoing improvements after the life of the project.

The DRP has put a large emphasis on supporting increased public participation in DRB cooperation. An important lesson learned is that it is critical to focus on developing appropriate public participation mechanisms and strategies given specific level of activity (regional, national, sub-basin, local.) The DRP is developing grassroots level (bottoms-up) activities via the Small Grants Programme, as well as is supporting the development of the Danube Environmental Forum (DEF) which, as a regional network is capable of working at all levels, sub-basin, national or local levels through its constituent members. The provisions of the WFD provide an opportunity, based on legislative requirements, to enhance public participation within the frame of the ICPDR and its parties for the first time. This will occur concretely by incorporating adequate public participation activities and mechanisms into the process for developing the Danube River Basin Management Plan. Emphasis here will be first at the regional (ICPDR or top) level. However, guidance will also be developed, to assist national governments to incorporate public participation in river basin management at the sub-basin, national and local levels. In addition to the

above-mentioned activities, there are considerations to develop a specific project component to improve access to information for key stakeholders and to enhance their abilities to address priority sources of pollution (hot spots) in the DRB.

By first undertaking a training needs assessment, the DRP learned that training activities should build both institutional capacities (ICPDR, DEF etc.) as well as strengthen technical capacities (nutrient reduction, wetland rehabilitation, reduction of toxic substances etc.) to assure increase of knowledge and capacity to act for water management and pollution control. The training needs assessment also serves as the basis to prioritize training needs given limited resources (human and financial.)

VI Project Budget and Financing

VI - 1 GEF Budget Contribution

The total financial requirements for the performance of the proposed Phase 2 of the Danube Regional Project are USD 12.0 million. According to the provisional estimates the allocation of the budget by cost categories is anticipated as follows:

BUDGET OF THE DRP BY COST CATEGORIES	USD	Percentage
Permanent professional project staff	930,000	7.75
Project Support Staff	506,250	4.22
Subcontractors / International consultants	1,746,000	14.55
National consultants from the DRB countries	1,480,000	12.33
Workshops, training courses, meetings	2,414,660	20.12
"GEF- Small Grants Program"	1,800,000	15.00
Awareness raising and public information material	555,000	4.63
Investment for nutrient monitoring/information	880,010	7.33
Organizational support for DEF and NGOs	300,000	2.50
Project operational costs	499,192	4.16
UNOPS/ICPDR Support cost	888,888	7.41
Total	**12,000,000**	**100 %**

The allocation of the budget by the main project components according to the budget proposal (Annex 4) is as follows:

	BUDGET BY MAIN PROJECT COMPONENTS	USD	Percentage
(1)	Creation of sustainable ecological conditions	3,184,750	26.54
(2)	Capacity building and reinforcement of transboundary cooperation	1,814,130	15.12
(3)	Strengthening of public involvement and community actions	5,390,832	44.92
(4)	Reinforcement of monitoring, evaluation and info systems	721,400	6.01
	UNOPS/ICPDR Support cost	888,888	7.41
	Total	**12,000,000**	**100%**

From the GEF budget contributions 26.54 % is earmarked for the development of policies and legal instruments for nutrient reduction and will be invested directly in supporting the work at the national level. 15.12 % of the budget is aimed at strengthening regional cooperation for implementing the ICPDR policies and related investment programs (JAP) and at reinforcing monitoring and information capacities. In both first project components a total of 11.78 % is allocated for training courses and preparation of workshops.

The budgetary allotment for awareness raising and NGO activities is 44.92 % out of which one third is earmarked the Small Grants Program, and one third for public participation and activities to support access to information. 6.01 % of the GEF budget is earmarked for strengthening monitoring, evaluation and information systems and 7.41 % are support cost for the implementing agency (UNOPS).

	Detailed Budget by Project Components and Assigned Baseline Costs (USD)	**Project Budget**		**Baseline Costs**
		GEF	**Partic. Dan. Countries**	
1	**Creation of sustainable ecological conditions for land use and water management**			
	General project costs	965,580		600,000
1.1	Development and implementation of policy guidelines for river basin management	461,000	1,802,920	33,630,000
1.2	Reduction of nutrients and harmful substances from agricultural point and non-point sources through agricultural policy changes	297,250		25,110,000
1.3	Development of pilot projects on reduction of nutrients and other harmful substances from agricultural point and non-point sources	756,000		25,180,000
1.4	Policy development for wetland rehabilit. under the aspect of appropriate land use	190,800		14,150,000
1.5	Industrial reform and development of policies and legislation for applicat. of BAT	329,700		24,190,000
1.6	Policy reform and legislation measures for the development of cost-covering concepts for water and waste water tariffs	171,700		11,570,000
1.7	Implementation of effective systems of water pollution charges, fines and incentives, focusing on nutrients and dangerous substances	204,700		7,025,000
1.8	Recommendations for the reduction of phosphorus in detergents	73,600		5,640,000
	Subtotal	**3,450,330**	**1,802,920**	**147,095,000**
2	**Capacity building and reinforcement of transboundary cooperation**			
	General project costs	481,784		3,600,000
2.1	Development of operat. tools for monitoring, laboratory and information management and for emission analysis from point and non-point sources of pollution	318,230	1,622,628	33,480,000
2.2	Improvement of procedures and tools for accidental emergency response with particular attention to transboundary emergency situations	257,680	1,135,840	23,436,000
2.3	Support for reinforcement of ICPDR Information System (DANUBIS)	377,900	1,784,891	36,828,000
2.4	Implementation of the "Memorandum of Understanding" btw. the ICPDR and the ICPBS relating to discharges of nutrients and hazard. Substances to the Black Sea	28,800	324,526	6,696,000
2.5	Training and consultation workshops for resource management and pollution control with particular attention to nutrient reduction and transboundary issues	382,200	540,876	217,860,000
	Subtotal	**1,846,594**	**5,408,761**	**321,900,000**
3	**Strengthening of public involvement in env. decision making and reinforcement of community actions**			
	General project costs	690,164		15,150,000
3.1	Support for institutional development of NGOs and community involvement	384,000	216,350	3,820,000
3.2	Applied awareness raising through community based "Small Grant Program"	2,133,000	86,962	13,530,000
3.3	Awareness raising campaigns on nutrient reduction & control of toxic substances	949,800	324,526	116,200
3.4	Public Participation / Access to Information	1,767,000	2,978,000	0
	Subtotal	**5,923,964**	**3,605,838**	**32,616,200**
4	**Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances**			
	General project costs	299,962		
4.1	Development of indicators for project monitoring and impact evaluation	108,150	206,048	2,790,000
4.2	Analysis of sediments in the Iron Gate reservoir and impact assessment of heavy metals and other substances on the Danube and the Black Sea ecosystems	158,000	556,330	7,533,000
4.3	Monitoring and assessment of nutrient removal capacities of riverine wetlands	213,000	741,773	10,164,000
4.4	Danube Basin study on pollution trading and corresponding economic instruments for nutrient reduction	0	556,330	7,533,000
	Subtotal	**779,112**	**2,060,481**	**28,020,000**
	PROJECT TOTAL	**12,000,000**	**12,878,000**	**529,631,200**

VI - 2 Contributions from the ICPDR, participating countries and others:

Total ICPDR and Danube country contributions : 12,878,000 USD

- **The ICPDR, Permanent Secretariat** will facilitate overall project implementation with an annual operational budget of 800,000 USD for a period of 3 years : **2,400,000 USD**
- **The ICPDR Expert Groups** will assure the implementation of project components. The cost for experts, operation, participation and communication can be estimated at 1,200,000 USD per year, for a period of 3 years : **3,600,000 USD**
- **The participating countries** will contribute in the frame of joint activities under the DRPC to project implementation through financial and in kind contributions (experts, equipment, operational cost), estimated at 130,000 USD per country and year, for 13 countries and 3 years : **5,070,000 USD**
- **Others** (national and international institutions, NGO, bilateral donors) : **1,808,000 USD**

VI - 3 National Capital Investments and Development Costs (2001 – 2006)

The Joint Action Program (JAP) has been developed under the ICPDR, and is in most cases coherent with the Five-Year Nutrient Reduction Action Plan prepared in the frame of the PDF-Block B activities (see Annex 8-3). The following costs for policy and legislation development and for capital investments for municipal and industrial waste water treatment and wetland restoration have been identified :

Total capital investments[2)]	**4.40 billion €**
o Assured national funding	1.72 billion €
o Assured international loans	1.16 billion €
o Expected grants (national and EU)	0.66 billion €
o Additional funding to be raised	0.86 billion €
Total cost for non-structural measures	**0.51 billion €**

It should be noted that from the planned investments of 4.40 billion €, about 3.54 billion € have been made available from national funding sources, whereas 0.86 billion € remain to be raised. 510,989,000 € are estimated for developing adequate monitoring and enforcement systems in the frame of the EU accession process[3)] and are considered as non-structural investments to be mobilized by all Danube countries.

VI - 4 World Bank Partnership and UNDP (estimated 5 years period)

W.B. Nutrient reduction projects

o Loans	210,000,000 USD	**280,000,000 USD**
o GEF Grants	70,000,000 USD	

UNDP country programs (2 to 4 years) 1,069,000 USD

2) 4.0 billion USD, respectively 3.22 billion USD available and 0.78 billion USD to be raised

3) Sector Case Study, WRc, Report CO 3291/2, 1993

VI - 5 Investments from EU for environmental measures (accession countries)

The following investment from the EU is for a period of seven years to assist accession countries to improve environmental management and to build or modernize waste water treatment plants and other technical structures; it can be assumed that about half of the Phare money is earmarked for non-structural measures:

Total investment for a period of 7 years [4)]	**13.5 billion €**
o EU Stability Pact for South-eastern Europe (Danube countries)	3.0 billion €
o Phare for environmental protection (Danube countries)	5.3 billion €
o ISPA funds for environment and infrastructure (Danube countries)	3.5 billion €
o SAPARD funds for agricultural sector (Danube countries)	1.7 billion €

VI - 6 Assistance from bilateral sources (estimated 2 to 4 years)

o USAID (amount allocated for environmental/sustainable development projects in 2000 out of which 120.000.000 for structural projects)	**162,000,000 USD**
o Danish Environmental Protection Agency (DEPA)	not available
o Netherlands (Wetlands Ukraine)	

VI - 7 Assistance provided through private sector organizations (international and Danube NGOs for a 2 to 4 years period)

Total Investments (estimated 2 to 4 years period)	**29,437,800 USD**
o Regional Environmental Center (REC): support for national NGO activities (environmental, sustainable development, awareness raising)	22,500,000 USD
o World Wide Fund for Nature (WWF): Implementation of environmental projects in cooperation with governments and national NGOs	5,800,000 USD
o Danube national NGOs (ECCG-Romania, Distelverein-Austria)	1,137,000 USD

VI - 8 Total contributions for environmental protection and nutrient reduction in the Danube River Basin

The total allocations earmarked for pollution control and nutrient reduction in the Danube River Basin fall into two categories:

1. **Non-structural projects (estimation for 3 years period):** Total expenditures for the reinforcement of legislation and institutional mechanisms for transboundary cooperation and nutrient reduction are estimated at 529,631,000 USD for a period of 3 years (2003-2006):
   - GEF UNDP: Danube Regional Project Phase 2 (3 years) 12,000,000 USD
   - ICPDR and participating countries for Danube Regional Project (3 years) 12,878,000 USD
   - National investments for monitoring and enforcement systems (3 years) 279,000,000 USD
   - International private organizations and NGOs (2 to 4 years) 17,662,000 USD
   - Bilateral Assistance (USAID) and UNDP (3 years) 26,269,000 USD
   - EU program for Danube accession countries, 2 years period 206,700,000 USD
     (10 % of Phare program is estimated for non structural measures)

[4)] 12.28 billion USD, applied exchange rate : 1 € = 0.91 USD

The GEF budget and the contributions from the ICPDR and the participating countries are considered as "incremental" costs for the overall development and implementation of new policies and legislation in line with GEF operational principles for international waters and with EU environmental directives. The non-structural "baseline" cost is estimated at 529.631 million USD, out of which the Danube countries will contribute 52.8 % and the EU in the frame of the Phare program 39.1 %. NGOs will provide 3.3 % of the total costs. However, it has to be taken into account that the actual figures are incomplete and that real bilateral and NGO contributions in the coming 2 to 5 years will be a great deal higher than indicated.

Summary of capital investments by country and expected nutrient reduction (5 years programme)

Country	Funding Scheme (€)			Expected Reduction (t/y)	
	Assured Funding	Funds to be raised	Total Investments	N	P
Germany	231,000,000		231,000,000	4,091	74
Austria	264,000,000		264,000,000	3,950	404
Czech Republic	104,000,000	43,000,000	147,000,000	1,091	62
Slovakia	54,000,000	65,000,000	118,000,000	2,574	147
Hungary	682,000,000	5,000,000	687,000,000	6,708	1,522
Croatia	12,000,000	421,000,000	433,000,000	5,233	814
Slovenia	382,000,000	2,000,000	384,000,000	1,509	239
Bosnia & Herzegovina		176,000,000	176,000,000	4,700	853
Serbia & Montenegro	785,000,000		785,000,000	6,793	4,850
Bulgaria	37,000,000	88,000,000	125,000,000	2,683	599
Romania	493,000,000		493,000,000	11,860	1,591
Moldova	493,000,000		493,000,000	6,901	905
Ukraine	5,000,000	62,000,000	67,000,000	486	65
TOTAL	**3,542,000,000**	**862,000,000**	**4,404,000,000**	**58,579**	**12,138**

2. **Structural projects (estimation for 3 years period – 2003 to 2006) :** Investment figures as presented in the previous chapters VI-3, VI-4 and VI-5 have been theoretically adjusted to a 3 years period to demonstrate the capital investments during the project period (7.62 billion USD). During the project implementation period, the following investments for waste water treatment facilities, wetland restoration, the reduction of pollution from agricultural non-point sources, etc. could be expected:

- GEF World Bank Partnership Program (loans and GRF grants) 168,000,000 USD
- Bilateral Assistance (estimation) 120,000,000 USD
- Joint Action Program (assured funds from Danube countries) 1,932,800,000 USD
- EU program for Danube accession countries, 3-year period (ISPA, SAPARD, Stability Pact, 90% Phare for structural measures) 5,400,000,000 USD

In the frame of the ICPDR Joint Action Program (5-Year Nutrient Reduction Plan), the Danube countries contribute from own resources and internal loans for an estimated 3 years period 25.3 % to finance structural projects (municipal and industrial waste water treatment plants, wetlands restoration, agricultural projects etc.).

The EU provides the biggest share of 70.8 % of investments to support national efforts of EU accession countries. The contribution of the World Bank Partnership represents 2.2 % of investments for structural projects and is complementary to the UNDP/GEF Danube Regional Project. Other contributions, e.g. from the EBRD or the EIB, are not taken into account.

Summary of investments for reinforcement of legislation and institutional mechanisms (non-structural projects / programs) by country and expected nutrient reduction (5 years programme)

Country	Funding Scheme (USD)						Expected Reduction (t/y)	
	Governments	UNDP	USAID	EU	NGO	Total	N	P
Germany	51,290,900					51,290,900	6,800	111
Austria	43,400,000				1,583,300	44,983,300	7,700	114
Czech Republic	15,781,800	95,000	2,455,000	14,681,900	2,983,300	35,997,000	1,500	33
Slovakia	29,309,100	125,000	5,454,000	27,266,400	2,983,300	65,137,800	4,500	170
Hungary	57,490,900		5,454,000	53,484,000	2,741,700	119,170,600	4,650	380
Croatia	9,581,800		3,954,000	8,914,000	2,741,700	25,191,500	3,000	130
Slovenia	18,036,400	80,000	2,455,000	16,779,300	2,741,700	40,092,400	3,450	220
Bosnia & Herzegovina	16,345,500		3,954,000	15,206,200	2,500,000	38,005,700	3,600	220
Serbia & Montenegro	50,727,300		2,455,000	47,191,800	2,741,700	103,115,800	7,200	700
Bulgaria	21,981,800		3,954,000	20,449,800	3,466,700	49,852,300	2,300	400
Romania	127,381,800		6,955,000	118,503,800	3,503,700	256,344,300	12,100	1,270
Moldova	6,200,000		2,455,000	5,767,900	483,300	14,906,200	397	70
Ukraine	17,472,700	769,000	2,455,000	16,254,900	966,600	37,918,200	2,800	200
TOTAL	**465,000,000**	**1,069,000**	**42,000,000**	**344,500,000**	**29,437,000**	**882,006,000**	**59,997**	**4,018**

Total Expected Nutrient Reduction from Capital Investments and Investments for Non-structural Projects	**118,576 tons N/y = 22 %**
	16,156 tons P/y = 33 %

VII Incremental Costs

The description and calculation of baseline and incremental costs can adequately be done for technical investment projects designed for the protection and management of international waters, respectively the conservation of biodiversity. In these cases it is possible to determine for each expected output and for each activity the respective baseline and incremental costs and analyze the resulting domestic and global benefits.

In the case of the Danube Regional Project, "incremental" costs are considered to be the GEF project cost of 12,000,000 USD. The special contributions of the ICPDR, participating countries and institutions for implementing the DRPC, which amount to 12,878,000USD, are considered as "incremental" co-financing costs. The Project, with a total financial support of 24,878,000 USD will reinforce - in addition to the investments described under "baseline" cost - the capacities of the ICPDR and the participating countries to address adequately the problem of nutrient reduction. "Incremental" costs are specially defined to strengthen transboundary cooperation under the DRPC for the development of national policies and legislation and the identification of jointly implemented priority actions for nutrient reduction leading to the restoration of the Black Sea ecosystems.

For the definition of "baseline" costs directly related to the development of adequate monitoring and enforcement systems at the national level, the results of the WRc Sector Case Study from 1993[5)] have been taken into account. According to this report, the present systems of monitoring are budget inadequate, staff resources are overstretched and laboratory facilities overloaded. The report estimates the annual cost of compliance for Bulgaria 10 million €, Hungary 12 million €, Romania 28 million € and Slovakia 6 million € based on per capita cost of 1.16 € at 1990 prices. Based on this information, the total cost for compliance, also for those Danube countries, which are not yet in the approximation process but which are undertaking special efforts to upgrade their legislation and mechanisms for compliance with international and EU standards has been estimated at 279,000,000 USD for the 3 years period 2003-2006.

Other "baseline" costs, with a total of 250,631 million USD, but only indirectly related with project activities, can be identified in relation to non-structural projects for the development of policies, legislation, institutional mechanisms and enforcement systems, which are financed in the frame of technical assistance projects from bilateral and international sources :

- Bilateral Assistance (USAID) and UNDP and others 26,269,000 USD
- International private organizations and NGOs 17,662,000 USD
- EU program for Danube accession countries, 5 years period 206,700,000 USD
  (10 % of the Phare Program is estimated for non structural measures)

Considering that the approximation process of the Danube countries will take between 10 and 20 years, including the introduction of new environmental standards in line with international and EU directives, the "incremental" support of the Project will enhance the process with particular attention to nutrient reduction and will considerably accelerate the development and implementation of policies, regulations and adequate monitoring and enforcement systems for nutrient emissions and reduction of nutrient loads discharged into the Black Sea.

Structural projects concerning actually planned investments in waste water treatment facilities, wetland restoration, agricultural pilot projects and other environmental measures, contributing mostly to pollution reduction from point sources or in-stream pollution reduction, amount to 12.6 billion USD. To demonstrate the capital investments during the project period, investment figures as presented in chapters VI-3, VI-4 and VI-5 of the Project Brief have been theoretically adjusted, indicating an amount of 7.6 billion USD for a period of 3 years. These capital investments are not contributing to project implementation and therefore are not considered as baseline cost.

[5)] Sector Case Study, WRc, Report CO 3291/2, 1993

VIII Cost-effectiveness

Taking into account the social and economic development which will take place in the coming 10 to 20 years in the Danube transition countries and considering the EU approximation process and the need to adapt environmental standards to international and EU directives, it is evident that investments in environmental protection and management of resources are necessary to assure a sustainable development in the countries of the Danube River Basin.

It is to be expected that most Danube countries - mainly those in transition – will in the next five to seven years see their GDP grow at an annual rate of 2 to 4 % ending up in five years from now at 10 to 20 % above its current level. This economic growth will be the result of economic recovery in transition countries and new investments in industry, agriculture and services. The development and implementation of adequate environmental standards and mechanisms for compliance is, therefore, essential to assure sustainable development in the region.

The implementation of projects for waste water treatment in the urban and industrial sectors (including agro-industries) is part of national investment programs for pollution reduction from point sources, summarized in the Five-Year Nutrient Reduction Action Plan and the Joint Action Plan of the ICPDR respectively. According to these documents, capital investments will be about 4.4 billion € (4.0 billion USD). Considering EU engagements for accession countries and other multilateral and bilateral assistance in the form of soft loans and grants (World Bank/GEF), the additional financial assistance for implementation of structural projects will be 9.4 billion USD. These investments will lead to an annual reduction of 58,600 tons of nitrogen and 12,100 tons of phosphorus representing 10.6 % and 24.8 % respectively of the total nutrient loads discharged into the Black Sea.

Non-point sources of pollution in relation to land use and agricultural activities represent about half of all nutrients, in particular nitrogen, discharged into the Black Sea. It is assumed that through the development and implementation of policies, legislation and mechanism for compliance, nutrient emissions from non-point sources (land use and agriculture) can be considerably reduced. The actual estimations in the Five-Year Nutrient Reduction Action Plan show that development and implementation of appropriate policies and legislation will lead to a reduction of about 60,000 tons of nitrogen and 4,000 tons of phosphorus, representing 10.9 % and 8.2 % respectively of total nutrient loads discharged into the Black Sea.

The corresponding investments in the period from 2001 to 2006 for the development of new policies, legislation and monitoring and enforcements systems in line with international and EU directives are 913.9 million USD, out of which the major part – 465.0 million USD or 50.9 % – is considered as national contributions and part of direct baseline costs. 344.5 million USD or 37.7 % is provided from the EU Phare program to the accession countries and 72.5 million USD or 7.9 % is provided in the frame of international, bilateral and non-governmental assistance. These investments for technical assistance are also baseline cost but only indirectly related to project implementation measures.

Considering the GEF/ICPDR project costs of 11.95 million USD for the 1st period of 2 years (December 2001 – November 2003) and taking into account additional investments of 24.878 million USD in the 2nd Phase of the project (December 2003 to November 2006), in the particular sector of nutrient reduction and restoration of the Black Sea ecosystems, the benefits for nutrient reduction from non-point sources of pollution - 10.9 % for nitrogen and 8.2 % for phosphorus - can be calculated as representing 20 % of the value for capital investments for nutrient reduction in point sources projects of the Five Year Nutrient Reduction Action Plan, which is equal to 800.0 million USD for the total period of 5 years[6)].

The cost-effectiveness of this Project lies in the opportunity to improve water quality in general and to reduce transboundary nutrient loads in particular, thus contributing to the rehabilitation of the Black Sea

[6)] The Pollution Reduction Program Report, GEF/Environmental Program for the DRB, June 1999 indicates in its methodological approach that 20 % of investments in WWTP are specified for nutrient reduction. Considering a total investments in the 5-YNRAP of 4.4 billion € = 4.0 billion USD, 20 % of the investment = 800.0 million USD would be needed for pollution reduction from point sources. This amount is considered as the comparative benefit for removal of nutrient also from non-point sources of pollution.

ecosystems. Considering incremental cost of 11.95 million USD for the 1st Phase of the Project, the benefits of the Project, at a cost-effectiveness ratio of 1:27 for the first two years period and of 1:22 for the full fives years period, are considerable in terms of its contribution to reducing and mitigating serious damage to regional and globally important waters and ecosystems.

IX Project Risks

The success of two Regional Projects for the Danube and the Black Sea depends ultimately upon the political willingness and the financial and technical means of the contracting parties and participating countries to cooperate. This willingness depends not only on issues related to national or international security but also on changing political and economic conditions of the countries involved. Risks for the performance of the Danube Regional Project might be occurring in the following fields:

(i) Commitment of the UNDP/GEF

Taking into account that the submission of the Strategic Partnership Programme for Nutrient Reduction in the Black Sea and the Danube Basin to the GEF Council in November 2000 was deferred due to resources constraints, the first Project Brief was prepared in September 2000 with a total budget of 15 million USD, which had to be split in two phases. The GEF Council approved Phase 1 of the Project with a budget of 5,350,000 USD in May 2001. The 2nd tranche for DRP should be approved by the GEF Council in May 2003. The present Project Brief with a budget of 12 million USD covers the 2nd Phase of the Project from December 2003 to November 2006. The approval of these funds is essential to assure the continuation of the activities initiated in the 1st Phase of the project and to achieve the overall goals of the entire DRP.

(ii) Commitment of participating countries

At the institutional level the conditions for the implementation of the Danube Regional Project are already set-up through the structures of the ICPDR, which have already been successfully utilized in the frame of the Pollution Reduction Program and further reinforced in 1st phase of DRP. Taking into account that financial inputs from the participating countries are relatively small, there are probably no significant risks for project performance. All Danube countries are prepared to deliver in-kind contributions in the frame of the ICPDR Expert Groups and experience has shown that special in-kind contributions to the project implementation are also voluntarily made available.

Considering political and administrative constraints and slow decision-making process, a certain risk can be expected for the actual implementation of the findings and recommendations of the project, especially regarding the issues of policy reforms and changes of legislation. Also administrative obstacles might hamper the implementation of measures for exacting compliance.

(iii) Methodological approach

The methodological approach as applied for the implementation of the proposed project components is in line with the work program of the ICPDR and corresponds to national standards. It is therefore unlikely to expect major problems. However, as mentioned in point (i), the overall goals of the project will only be achieved if the funding for the 2nd Phase of the GEF assistance will be made available in time.

For project implementation the choice of qualified experts is an essential prerequisite. Experts and consultants should be familiar with the social and economic conditions in the Danube River Basin and in the participating countries, knowledgeable about modern planning methodology and the efficient organization of consultation meetings and workshops.

The scope for the organization of workshops and awareness building activities should be clearly defined from the beginning and accepted by the participating countries; this should include the precise definition and agreement for the selection of participants, which is a joint responsibility of the stakeholders involved.

The same agreements have to be reached for the identification of sub-contractors and national consultants, which should respond to defined levels of professional standards and be acceptable to the ICPDR and the Executing Agency.

(iv) Delivery of counterpart contribution and availability of information

Considering administrative and financial constraints, participating countries might not be able to provide in time necessary data for the proposed project components and administrative support for meetings and workshops.

Hence, requests for counterpart contribution are to be precisely defined and timely delivery has to be agreed upon. The type of analysis and information needed has to be clearly identified in order to assure the timely availability of precise and viable information.

X Institutional Frameworks and Implementation

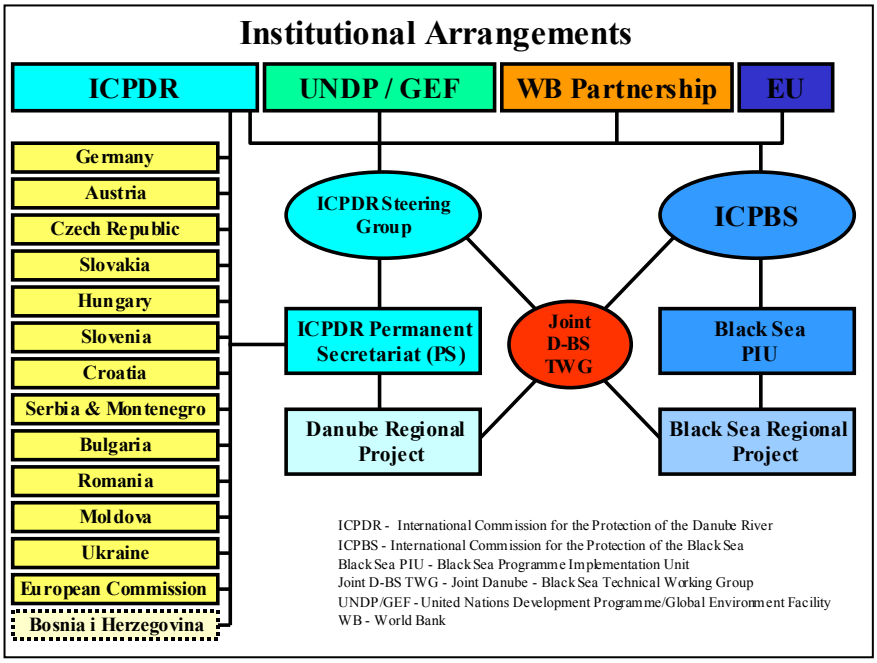
X - 1 Institutional Arrangements

Taking into account that there was a successful GEF project in operation for 6 years, which resulted in a revised SAP (Common Platform for Development of National Policies and Actions for Pollution Reduction under the DRPC), and a Pollution Reduction Program for the DRB, it is proposed to make utmost use of institutional mechanisms and structures which are already operational.
In this context the International Commission for the Protection of the Danube River (ICPDR) has become the responsible organization for project implementation in cooperation with UNOPS as executing agency. A Project Manager, using the existing ICPDR structures, shall establish close cooperation with all participating countries, organize efficiently the planning process and assure timely execution of all project components.

The ICPDR Steering Group (SG) should guides the implementation of the Danube Regional Project and assures engagement and cooperation at the national level. For this purpose the ICPDR SG should meet:

- at the beginning of Phase 2 of the Project to review and define scope, planning approach and work program of the project;
- during project implementation, Steering Group meetings should be held twice a year, to review and assess the progress, to evaluate completed project components and to make recommendations for the continuation and/or adjustment of activities;
- at the end of Phase 2 of the Project to assess and approve the final results at a joint review meeting and to re-examine the planned activities of the 2nd Phase of the Project.

Regarding the elaboration of detailed scope of work and actual performance of the various project components it is proposed to use further the professional competence and country specific experience of the existing Expert Groups established under the ICPDR : EMIS, MLIM, AEPC, RBM EG and the ECO EG.



At the central level, the Project Manager, in cooperation with the ICPDR Executive Secretary and following the directives of the ICPDR Steering Group, will have the mandate to organize and coordinate the planning process and implementation activities and to assure, with UNOPS administrative support, proper management of the GEF project funds.

"Inter-Ministerial Co-ordination Mechanisms", which have been put in place at the national level in Phase 1 of the Project will assure that all technical, financial and administrative departments are involved to facilitate and coordinate the implementation of policies, legislation and projects for nutrient reduction and pollution control.

At the regional level, a Joint Danube Basin-Black Sea Technical Working Group (DB-BS/WG) shall further assure proper coordination of activities between the Danube Project, the Black Sea Project and the

World Bank Partnership Programme. Besides this coordinating role of project activities, the DB-BS/WG shall also follow-up the implementation of the Memorandum of Understanding for the Protection of the Black Sea agreed upon by the two Commissions. The Joint DB-BS Technical Working Group shall meet at least twice a year after the respective Steering Group meetings of the two Commissions.

Coordination with the Black Sea Regional Project and the World Bank Investment Fund will be ensured through mid-term stocktaking meeting.

According to the broad spectrum of activities it is envisaged that most of the particular project components should be carried out by consultant services (on the basis of sub-contracts for international consulting companies and individual consultants from the DRB countries). Objectives, scope and terms of reference will have to be defined in close co-operation with the respective Expert Groups of the ICPDR and approved by the Steering Group Meeting.

In this case the project personnel employed on a fixed term basis and located in the offices of the ICPDR Permanent Secretariat can be restricted to:

- one Project Manager, specialist in environmental policy, with particular experience in institutional arrangements and water pollution legislation and knowledge of EU environmental directives and guidelines and nutrient issues;
- one specialist for awareness raising, organization of training courses and follow up of NGO activities, in particular implementation of the Small Grants Program;
- one project administrator, with particular experience in budgeting, follow-up of expenditures and establishment of contracts;
- one technical expert for information management
- one administrative project assistant/secretary (support staff).

For specific tasks, conceptualization of activities and evaluation of results, highly specialized international consultants shall be assigned.

X - 2 Monitoring and Evaluation

Project objectives, activities outputs and emerging issues will be regularly reviewed and evaluated by the competent bodies of the executing and implementing agencies (UNDP/GEF and UNOPS) and the ICPDR.

During the 1st Phase of the Project, a Monitoring and Evaluation System is being developed and indicators for pollution reduction (process and stress indicators) and environmental status indicators are being defined. Progress indicators for project implementation are defined in the Logical Frame Matrix and will be revised at the initial stage of Phase 2 of the Project to relate to specific activities and outputs of project components. In both project phases 200,000.00 USD, representing 1.2 % of the project budget is earmarked for the development of indicators for project monitoring and impact evaluation.

The annual review will focus on performance (effectiveness, efficiency and timeliness) and evaluate the results in applying the defined progress indicators. At the ICPDR Steering Group Meeting, the Project will submit and present an consolidated APR/PIR (Annual Project Report/ Project Implementation Review) in line with UNDP and GEF requirements and also participate in the Tripartite Reviews (TRPs) each year.

The project will be subject to an external Project Performance Review in the middle and at the at the end of the three-years project period. On these occasions an independent consultant team shall make an overall assessment of the project advancement and prepare an independent evaluation. During this mid term review the team should pay particular attention to formulating recommendations for adjustments of procedures and activities of the 2nd Project Phase as needed.

The ICPDR Steering Group should meet after the external reviews to evaluate project performance and endorse or make recommendations for the continuation and/or adjustment of activities after the 1st Project

Phase and after the mid-term evaluation of the 2nd Phase and should assess and approve the results of the joint review meeting.

At the end of the 2nd project period, the project team, in cooperation with the ICPDR Permanent Secretariat, shall prepare a Project Performance Evaluation Report, which should be endorsed by the ICPDR Ordinary Meeting.

X - 3 Implementation Schedule

A provisional implementation schedule for the proposed Phase 2 Danube Regional Project is presented in Annex 5.

The project is supposed to start in December 2003 and will have a total duration of 36 months. This period includes a project mobilization phase of two months for reviewing the institutional structures and for the organizational preparation of project activities (writing TOR, hiring of consultants, organizing workshops, etc).

Each project component has a consolidation phase of two to three months at the end of Phase 1 as well as at the end of Phase 2 of the Project. This arrangement facilitates the transition of the activities between Phase 1 and 2 of the Project. For the handing over of project results and operational tools to national teams and/or to the ICPDR Expert Groups to a period of four months is foreseen to assure sustainability of new mechanisms for nutrient reduction and sustainable management of water resources.

ANNEXES