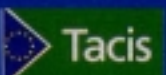


# Danube

The Magazine of the Environmental Programme for the Danube River Basin

# Watch

**3/99**



**National efforts:**  
The country tries to reach the goals of the SAP



**Financial aspects:**  
Environmental projects need to be funded



**Balkan Task Force:**  
Environmental hot spots in Serbia identified

**SPECIAL EDITION**

## DANUBE WATCH

## Editorial

## SAP &amp; PRP ...

... are the abbreviations for the two topics threading through this issue of Danube Watch: the Strategic Action Plan and the Pollution Reduction Programme. These focal subjects clearly demonstrate the priorities in the present phase of implementation of international programmes: municipalities, the industry and agriculture are strongly called upon to tackle the protection of the natural resources in the Danube river countries. Renaturalisation of wetlands and the improvement of the Danube water quality – in consideration of transboundary effects – are focal points. Financing and institutional mechanisms need to be established very soon for the actual mechanisms are described in the article on page 9.

"The Danube Partnership Programme" was also established by the ICPDR to raise the attention of international financing institutions as well as multi- and bilateral donor organisations – more about that on page 5. The different national efforts in the Danube river countries to implement the SAP are demonstrated by the example of the Czech Republic. Milan Bedrich, country programme coordinator in the Czech Republic, describes the interactions between these efforts and the present transformation process of the economy in his country.

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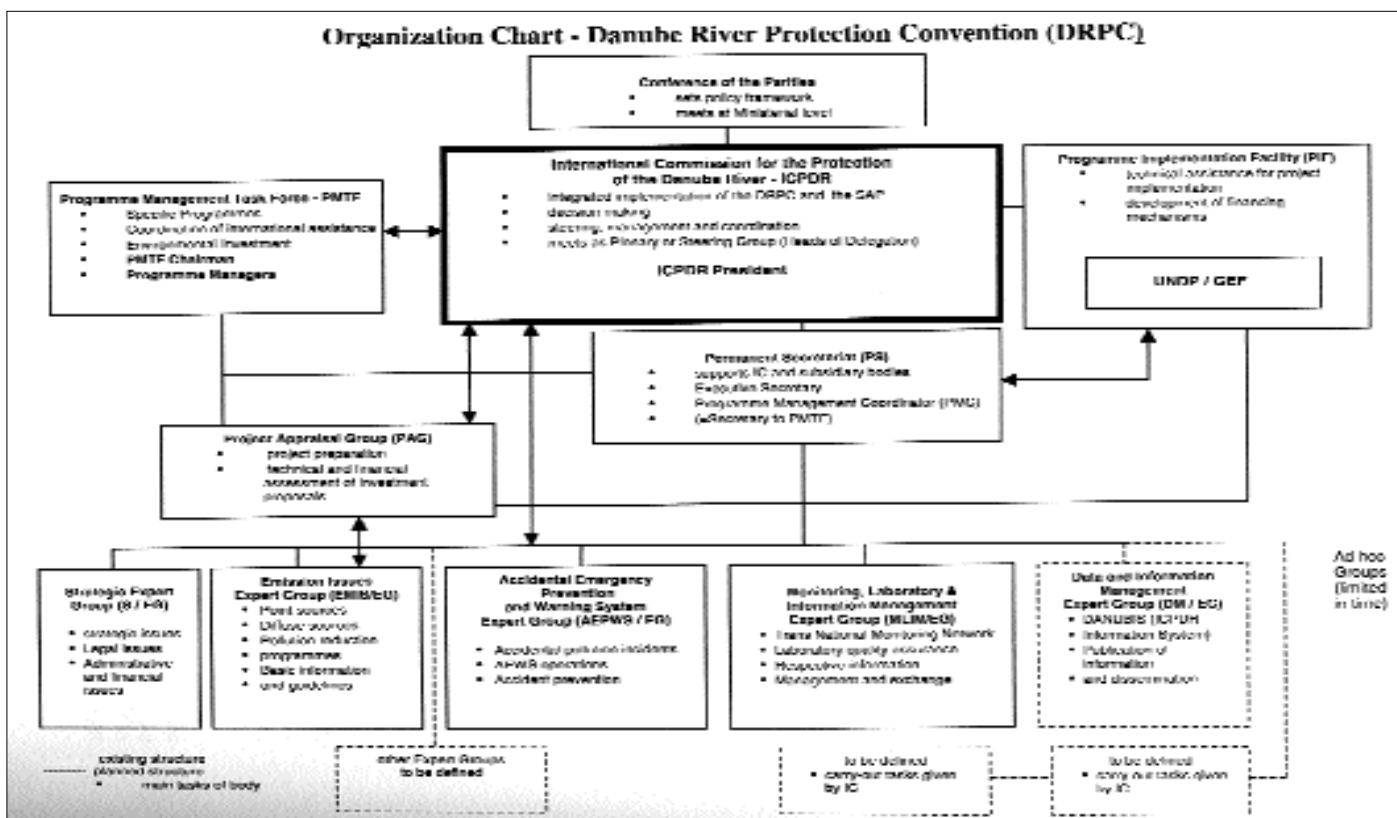
The Danube Watch is intended to be an instrument to support the flow of information on the Danube environment in general and on the EPDRB and the Danube River Protection Convention activities in particular.

Any views expressed in Danube Watch do not necessarily represent those of the members of the Programme Management Task Force or the staff of the Programme Coordination Unit.



WOLFGANG  
STALZER,  
PRESIDENT OF  
ICPDR





A "Programme Implementation Facility (PIF)" should support the ICPDR and its Contracting Parties to develop appropriate investment models, project documents and assistance for project implementation as proposed by the DPRP

## SAP for the Danube Basin: revised and revitalised

The "new" Strategic Action Plan is much more comprehensive in its descriptive introductory chapters as well as in the policy and strategy parts

With its entry into force on 28 October 1998, the Danube River Protection Convention (DRPC) became the legally binding instrument for the entire region, and the International Commission for the Protection of the Danube River (ICPDR) became the steering and decision-making body. These new facts made it reasonable to also revise and update the Strategic Action Plan (SAP), called the "Policy Plan" of the ICPDR.

This was undertaken in spring 1999 by the UNDP/GEF Project

Team which organised a consultative, iterative planning process for the entire region. The "SAP 1995-2005 - Revision 1999" is presently under its final commenting process and is proposed for adoption at one of the forthcoming ICPDR-meeting.

Bottom-up guided democracy

While the first SAP was drafted in 1994 by a team of national and international experts, the revision 1999 was started as a genuine

bottom-up approach in all Danube countries. Some 300 professionals and experts from the entire region were associated in the elaboration of this SAP, including central and local governments, Non-Governmental Organisations (NGOs), universities and research institutions as well as the private sector. This work is grounded on National Review Reports, National Planning Workshops and on the Transboundary Analysis which all were conducted under the UNDP/GEF Pollution Reduction Programme in 1998 and 1999.

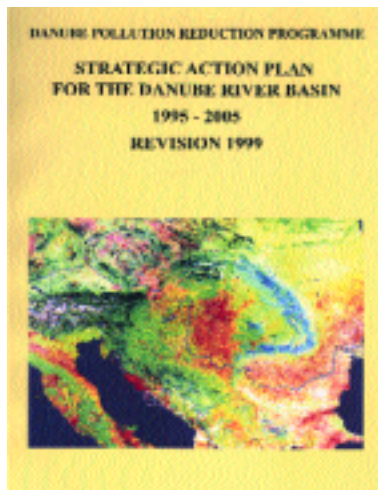
It started as a broad planning process in all Danube countries and then aggregated in a joint, basin-wide framework analysis where international financing institutions and donor organisations became also involved. This active participation of all concerned stakeholders was mobilised through a series of meetings, ending in the Hernstein II workshop in May 1999 when the draft SAP was intensively assessed and finalised.

Thus, local and national ►

considerations as well as transboundary issues and region-wide aspects could be considered in the drafting process, and they will be activated again during the executive implementation of the SAP over the next years.

The revised SAP profits a lot from the analytical work conducted over the last years with respect to the environmental problems, their causes and effects throughout the Danube basin. This makes the SAP 1999 much more comprehensive in its descriptive introductory chapters (legal framework and aspects; demographic, social and economic characteristics; hydrological and ecological factors of the Danube

Some 300 professional s and experts from the entire region were associated in the elaboration of this SAP



basin) as well as in the policy and strategy parts.

For each of the three big sectors of human intervention - municipalities, industry & mining and land use & agriculture - a specific analysis illustrates the present situation, the problem and its causes, and the sector objectives. In addition, respective outputs, targets and indicators will allow in the future to quantitatively evaluate the progress made in each (sub-)sector.

On top of this, a regional analysis is trying to give a basin-wide view. This starts with the definition of the overall core problem of the Danube region as being “*Ecologically unsustainable economic activities and inadequate natural resources management.*” Direct and root causes such as inadequate management of wastewater and solid waste, or the

socio-political transition, reforms and general economic recession lead to direct and ultimate effects, such as pollution of surface and groundwater, or human health risks. The main environmental problem areas are registered as (lists of) “*hot spots*” (especially municipal and industrial centers), *diffuse sources of pollution* (especially from agriculture) and *Significant Impact Areas* (SIAs) which receive cumulative pollution effects and are at the same time ecologically sensitive areas.

Pollution sources and SIAs can be found throughout the basin but their importance is particularly high when transboundary effects are identified. The regional analysis has shown that this is a typical situation for the Danube basin with many hot spots located along the Danube and its major tributaries which form political borderlines between the 13 basin states. The ultimate recipient of pollution loads is the Black Sea which is impacted by the multiple degradations of the Danube basin being often incapable to buffer human interventions. The SAP therefore wants to contribute to the improvement of the Black Sea Ecosystem.

#### Sustainable water use as basin wide objective

As a policy and strategy document, the SAP wants to prescribe the future development objectives for the Danube basin. Already in the first phase of the planning process, the “Achievement of sustainable development in the Danube River Basin” was identified. Similarly, the core objective of the Danube Protection Convention reads “Protection and sustainable use of waters in the Danube River Basin”, and the Black Sea Protection objective wants the “Reduction of pollution loads, in particular nutrient transport, to the Black Sea.”

The SAP therefore defines respective sector objectives like “Improvement of municipal wastewater” or “Implementation of good agricultural practises and

mechanisms for sustainable land management.” It then gives important assumptions (e.g. “guaranteed willingness for implementation in governmental policies”) and specific indicators which allow to measure the grade of SAP implementation, such as “organic and inorganic effluents from industry and mining reduced up to 30 % by the year 2010,” “a 15 % increase in the application of good agricultural practises in large farms by the year 2005” and “250,000 ha of priority wetlands will have been restored by 2010.” The respective action is already defined and prepared in Project Files of the Pollution Reduction Programme and in the “Danube Partnership Project Portfolio of the ICPDR” (see page 5).

#### What is necessary to implement the SAP?

The close linkage of SAP policies and strategies with concrete projects is only meaningful if financing and institutional mechanisms will soon exist for its implementation. These are the topics addressed in the last chapters of the revised SAP. It states that targeted funding sources have to be mobilised first on national level, such as from National Environmental Funds, municipal budget funds, revenues from charges and fines, economic and financial incentives, i.e. the required funds should be generated at the project level, and domestic private investment should be made possible.

In addition come international funding sources like international financing institutions, country-specific funds, private foreign investors or commercial banks which will support especially countries applying for accession to the EU. The SAP indicates in an overview that funds are required primarily for the municipal sector and that almost all projects already identified are directly related to one or more of the “Significant Impact Areas.”

As a new proposal, the SAP refers to the establishment of a “Programme Implementation Facility (PIF)” which is to support

the ICPDR and its Contracting Parties to develop appropriate investment models, project documents and assistance for project implementation. In addition, a specific "Project Appraisal Group (PAG) should assist the Danube International Commission to secure specialised project preparation (assess the proposal quality) and to increase the volume and efficiency of international financial support.

#### The new organisational framework

On institutional level, the international Danubian cooperation is based on three main tools, the Convention (DRPC) as the legal instrument, the SAP as the policy instrument and the Action Programme of the ICPDR as the executive framework instrument for coordination and executive implementation of pollution reduction measures.

The ICPDR is the decision-making body and has to secure the efficient implementation of the DRPC and of the SAP. This is facilitated by the new Permanent Secretariat located in Vienna (started on 1 October 1999), and by four Expert Groups (EMIS on emission issues, MLIM on monitoring laboratory and information management, AEPWS on Accident Emergency Prevention and Warning System and the Strategic Expert Group).

Another special support body is the Project Management Task Force (PMTF) which was established together with international organisations, IFIs, donors and NGOs to support the practical implementation of action programmes, priority environmental investments and technical assistance to Danube countries. In addition come the new PAG for assessing new project proposals and the PIF for project implementation (including bankability).

In this new setting, the revised SAP 1999 will be much more than "another policy document" but a very important tool to make sure that financial engagement will be directly linked through efficient

## The Danube Partnership Programme "in practice"

An appraisal of the environmental situation makes sense if the conclusions drawn are turned into concrete and measurable action

This is very much valid for the Danube basin. But how to match the local needs for reducing water pollution with the international funds somehow available for such projects? One of the last activities of the Danube Pollution Reduction Programme (PRP) was to respond to this need by preparing a new "Danube Partnership" in form of a project portfolio which can give donors a quick overview of concrete investment possibilities in the Danube basin.

In June 1999, UNDP/GEF facilitated a project-finding mission which was completed in early July. Starting points were the



"Transboundary Analysis" with the already identified sources ("hot spots") and effects of pollution (Significant Impact Areas), and the agreed objectives and strategies (see the revised "Strategic Action Plan") to reduce this pollution. Special emphasis was given to the nutrient load to the Black Sea and to the transboundary effects within the Danube River Basin. These were already the key criteria for the pool of 420 to 450 high, medium and low priority projects, suggested in the course of the National Review process and used for the selection. In addition, a number of further agriculture and wetland rehabilitation projects was suggested by the basin governments.

With the "Danube Partnership Programme," the ICPDR wants to raise the attention of International Financing Institutions and of multilateral and bilateral donor organisations to engage in financial and technical assistance to the transition countries in the middle and lower Danube River Basin. The ICPDR also wants to facilitate the co-operation between individual countries, IFIs and other donors. Specific effort was made that these projects meet the criteria given by the GEF (Global Environment Facility) and by the ICPDR (see box).

Out of the 11 countries in transition (middle and lower Danube River Basin), nine have responded and contributed to the preparation of the Investment Portfolio which was submitted last summer to the GEF/World Bank, the EBRD, the EC (ISPA funds) and other multilateral and bilateral financing institutions.

The Partnership Portfolio contains 73 national projects with regional importance in mitigating transboundary effects and reducing nutrient transport to the Black Sea. Total investment for the selected projects is more than US \$ 400 million, with an average of 50 % of needed funds already being nationally or internationally secured. This reflects the high commitment that governments already express to speed up the desired pollution load reduction.

Even though preparatory time ▶

was extremely short to respond to the questions in the Portfolio format, comprehensive detail information was provided by the governments and their consultants. Each project in the Portfolio is presented on a 3-5 pages concept with concise project background and essential elements for donors like incremental costs, financial viability and institutional feasibility.

Danube basin governments were asked to present project proposals which have

- innovative character and can be considered as
- demonstration projects for
- a period of up to 5 years and
- a budget between US \$ 300,000 to 5 million per project.

The 73 projects are assigned to the following sectors:

- 28 to municipal waste water treatment (upgrading of existing WWTPs)
- 10 to wetland restoration
- 12 to Industrial pollution reduction

## Key criteria to be met for Danube Partnership

### DANUBE PROGRAMME CRITERIA

- Project is part of/compatible with the Danube Pollution Reduction Programme
- Project meets objectives of revised SAP (Strategic Action Plan, June 1999)
- Country submitting the project has fulfilled its obligations to the ICPDR
- ICPDR supports the project package
- Implementation agency is clearly defined.

### GEF ELIGIBILITY CRITERIA

- Financial viability: secured funding, especially for national components (baseline costs)
- Financial and technical sustainability: secured operation and maintenance, no risk
- Transboundary effects
- Innovative approach or process
- Demonstration character
- Incremental costs securing nutrient reduction for the Black Sea clearly identified
- Government endorses project and requests preparation and GEF funds
- Efficiency/technical feasibility: emission and nutrient load reduction in t/year.



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# National efforts to implement the SAP

The water management system of the Czech Republic shows a high European standard. The transformation of the economy has led to severe pollution problems

The Czech Republic is located on a water divide of three seas – the North, Baltic and Black. Virtually all main watercourses drain water into the territories of neighbour countries and thus the Czech water resources are completely dependant on atmospheric precipitation. Climate and soil conditions, morphologic characteristic, density of population and degree of the development in industry, agriculture and housing on the Czech Republic territory require systematic protection and management of water resources.

Throughout history, these factors have led to the development of a water management system that was of a high European standard, especially in the period between the wars. In the years 1948 till 1989, when the economy of the country was subject to directed central planning, the interests of the economic sector and gradually also of the population in environmental protection were suppressed. The negative consequences of central planning were equally detrimental to the economy and the environment.

The new political orientation of the country after 1990 has led to significant changes. Transformation of the economy, which has brought about a gradual renewal of value relationships, has had favourable consequences for the impact on the environment. A decrease in production has decreased widespread pollution loads. A decrease in the intensity of agricultural production together with a considerable increase in the

cost of agricultural chemicals, has greatly decreased the pollution of surface and underground waters. Changes in legal, institutional and administrative sphere have been done, leading to the improvement of environment.

## International conventions for three main river basins

In order to get an overview of the situation, to provide for water protection goals within the Czech Republic and to ensure active international cooperation, the



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Ministry of Environment started in 1991 three complex national research projects, related to the main three river basin systems: the Elbe River Project, the Oder River Project and the Morava River Project. The Morava River drains its waters to the Danube and is thus the only part – with small exceptions – of the country, belonging to the Danube and Black Sea catchment. It occupies approximately 2 percent of the state territory.

The Morava River Basin can be

characterised as an area with a dearth of water resources, with high population density of about 130 inhabitants per km<sup>2</sup>. It is highly exploited both economically and agriculturally. Only 1,158 m<sup>3</sup> of annual runoff corresponds to each inhabitant of the Morava River Basin, which is 82 % of the average value for the Czech Republic and only 45.5 % of the mean value for the Danube catchment inhabitant.

The small amount of water in the basin is exacerbated by the low capacity of groundwater resources, caused by geological structure of the area. Water bearing quaternary sediments cover only a small part of the territory along the main watercourses. Full 82 % of the total reserves of ground water is already being utilised.

To understand the situation in water protection in the Czech Republic, it is good to know, that the country has ratified international water protecting conventions for all three main river basins of the country. The Elbe River Protection Agreement

was signed already in 1990 by representatives of the governments of the former Czechoslovak Federative Republic, of the Federal Republic of Germany and the European Union.

Similarly, the Agreement for the protection of the Oder River was signed by the Czech Republic, Germany, Poland and the European Union in 1996. The Danube Protection Convention was ratified by the Czech Republic already in 1995. Further,

## COMMENT

## UNDP &amp; SAP

The UNDP welcomes the recent efforts by the PCU and ICPDR to update and strengthen the Danube Strategic Action Plan, particularly actions and policies proposed to address transboundary nutrient pollution in the Danube and wider Black Sea basins. As a GEF Implementing Agency, UNDP continues to support the Danube riparians in their efforts to implement transboundary elements of the SAP and the Danube River Protection Convention.

The comprehensive portfolio of investments contained in the recently completed GEF Danube Pollution Reduction Programme (PRP) represents a critical step in this respect. While a number of investments have already been made or committed to, far more remains to be done. UNDP encourages the Danube riparians to facilitate continued investments in Danube pollution reduction, from both national resources and with the assistance of the IFI's. In addition implementation of the PRP will make a substantial contribution in reducing transboundary nutrient contamination. As the SAP clearly states, the other major elements of an overall pollution reduction strategy are addressing non-point source pollution, particularly from agriculture, and restoring natural nutrient 'sinks', such as wetlands.

UNDP is presently working with the ICPDR, Black Sea Commission, World Bank, UNEP and EBRD in the development and implementation of a Programmatic Approach to Nutrient Reduction in the Black Sea basin. This approach will include two key components: First a Strategic Partnership between the World Bank and GEF aimed at financing investments and second under the leadership of UNDP, GEF regional projects for both the Black Sea and the Danube. These projects will focus on the development and implementation of policy, legal and economic reforms. UNDP looks forward to working with the ICPDR, the Black Sea Commission and its GEF and IFI partners in the coming years towards achieving full implementation of the Danube and Black Sea Conventions and SAPs.

FOR FURTHER INFORMATION:

the Czech Republic aspires for membership in the European Union and it is thus obliged to fulfil the basic accession criteria including the EU water protection legislation.

Effective tools to fulfill the tasks of the SAP

The specific feature of the Czech Republic is that it draws two thirds of drinking water from surface water. For this reason the present directives are mostly as rigorous as those of the EC in regard to their own needs. In this context there should be particularly mentioned the Governmental Regulation No 82/1999 Coll. aiming at indicators of waters permissible pollution degree and the recent Act No 58/1998 Coll. concerning fees for discharging waste water.

Instead of five parameters included in the previous regulation, the new one includes nine. Now it is necessary to pay not only for the discharge of organic pollution, but also for nitrogen, phosphorus, mercury, cadmium and chlorinated hydrocarbons. This is a great contribution to achieving the goals of the Danube Protection Convention and an effective tool to fulfil the concrete tasks of the SAP.

Hundreds of waste water treatment plants have been constructed or reconstructed in the last years in the country. Nearly all "hot spots" of the previous SAP for the Morava River Basin have been completed or are under implementation. For all tasks of the new revised SAP there exist realistic preconditions for its implementation by the year 2005. The tasks for the Republic are at present far greater. Till now the Czech Republic has solved especially the satisfactory wastewater treatment of great municipal sources of pollution at district or regional capitals and industrial sources in pulp and paper industries, chemical industries, and metal industries.

Remedy measures for hot-spots are in progress

Now they are facing a huge challenge, with regard to accession to the European Union, to solve the waste water treatment in communities with a population larger than 2,000 inhabitants. This will be a very expensive affair. The expenses for accommodating the EC corresponding regulations will reach US-\$ 2.8 billion according to the expert estimations.

The results of the countries endeavour to reach the goals of the SAP are evident. There are four high priority hot-spots in the Czech part of the Morava River Basin in the municipal sector. From these four, the greatest problem was the Brno WWTP with the total investment cost of US-\$ 39.7 million. The negotiations with the EBRD about the loan have advanced so far, that its construction will be launched in the next year. The second mentioned high priority hot-spot – WWTP extension and intensification in Zlin – is already under construction. Similarly, the medium priority municipal WWTPs in Prerov and Breclav will be finished in the year 2001.

In the preparation of the National Planning Workshop, which was together with the other national workshops the basis for the SAP revision, a great advantage was the existence of a national Morava River Project. It has evaluated the country needs in setting priorities and facilitated evaluation of the transboundary effects. It plays its role from now on in discovering further needs in other water related sectors in the relation to the EU accession.

The main interests of the project are as follows:

- water quality monitoring
- point sources water pollution
- non-point sources water pollution
- threat to drinking water resources
- evaluation of water quality with the view of drinking water supply
- water use and water management in the basin
- water quality modelling
- natural values and denaturalization degree referring to watercourses morphology and ecology



# Financing mechanisms for implementation of the SAP

There is no doubt that environmental projects need to be funded. Different appropriate mechanisms for the SAP have been discussed by experts

**F**inancing mechanisms for the implementation of the ICPDR Action Plan were discussed at the Danube Environmental Financing Facility Workshop, held in Baden (Austria) on February 18 and 19, 1999, and dealt with in more detail in the revised "Strategic Action Plan 1995-2005".

## National funding resources and financing mechanisms

In all countries of the Danube River Basin (DRB) there is a common understanding that long term financing needs for water quality and water management programs and projects have to be met primarily from within the countries themselves. Consequently, there is a broad variety of national funding sources which can be categorized as follows:

- National budget funds of the relevant ministries (grants, concessional loans, guarantees);
- Regional budget funds (grants, concessional loans);
- Municipal budget funds (grants, concessional loans, operating subsidies);
- Revenues from charges (for

normal use of water and natural resources, waste water discharge, solid waste disposal);

- Revenues from penalties and fines (for misuse of resources, environmental pollution, violation of legislation, etc.);
- Revenues from concessions (for use or handling of water, waste water, solid waste, natural resources, etc.);
- Revenues from tied taxes and import duties (on land use, import of "harmful" commodities such as fuels, cars, etc.);
- Revenues from public services (water supply services, waste water services, solid waste services);
- Equity of public and private project sponsors / investors;
- Loans from commercial banks and other national financing institutions;
- Economic and financial incentives improving net income or profit of project sponsors (incentives on income tax, import tax, VAT, special transaction taxes; preferential treatment of environment friendly investments/depreciation,

goods, production processes, credits, etc);

- Others (donations, revenues from privatization, etc.).

The importance of the particular funding sources varies greatly from country to country; some of the sources are applied by all or the majority of the DRB countries, other sources just by a few countries.

The revenues from charges, fines, concessions and tied taxes are either used as direct funding sources in a way that the local governments/municipalities can retain a certain portion for environmental funding purposes, or indirectly, via public budgets or special funds, such as National Environmental Funds or Water Management Funds. The actual practice of collecting these funding sources is often not efficient and consequent, and it is sometimes hampered by inappropriate administrative and institutional structures.

All countries of the Danube River Basin have on principle a system of specified funding sources and procedures according to which typical water sector projects (such as small or medium size municipal waste water treatment plants) are actually funded by a more or less "standard funding mix".

Except from Germany and Austria (and with some reservations Hungary and Yugoslavia) the DRB countries do, however, not really dispose of "standardized funding mechanisms" in the sense that a potential public or private investor or project sponsor has a legal claim to a certain amount of public subsidies which would constitute a reliable basis for the elaboration of an appropriate funding schedule.

Thus in most of the countries the elaboration of a project specific funding schedule is usually a long lasting process of negotiations and bargaining, especially for projects with small equity contribution and the need for high public subsidies or international funding assistance.

Since 1992 nine of the DRB countries have established

Country	Year	Annual Income	Expenditures	Surplus/Deficit
Bulgaria (NEPF):	1997	9.1	4.2	4.9
Czech Republic (SEF):	1997	26.8	59.7	- 32.9
Hungary (CEPF):	1998	114.7	114.2	0.5
Moldova (NEF):	1996	0.3	0.3	0.0
Slovakia (SEF):	1997	30.8	29.6	1.2
Slovenia (Eco Fund)	1997	20.0	18.0	2.0
Romania (Draft NEF):	1999	-	-	-
Ukraine (State Fund of Environ. Protection)	1998	4.0	4.0	0.0
Yugoslavia (NEPF):	1998	0.2	-	-

Tab.1: National Environmental Funds in the Danube River Basin Countries (in Million USD)

National Environmental Funds which are, according to the most recent data available, structured as shown in table 1.

The annual budgets of the particular National Environmental Funds vary between about USD 0.3 million (Moldova) and about USD 115 Million (Hungary). Apart from Hungary the budgets of the National Environmental Funds are rather small compared to the prevailing capital requirements, and cannot be considered as substantial and efficient funding sources or mechanism.

#### Resources for international funding

Constraints on the availability of domestic funding means and the need for foreign exchange make the use of external financial resources very important in the short and medium term. International financial assistance is provided by international financing institutions (IFIs), country specific funds, international foundations or Non-Governmental-Organizations (NGOs), bilateral agreements at government level, as well as by foreign private investors or commercial banks.

The assistance is provided either directly or by means of national financial intermediaries for structural and non-structural projects, respectively programs, on the various administration levels of the recipient countries in form of:

- Grants (usually as financial or technical assistance, donations from foundations, trust funds, etc);
- Concessional loans (with preferential terms regarding interest rate, maturity period, grace period, subsidization of interest payments, guarantees);
- Loans at commercial terms (either in form of stand-alone loans, or in form of senior, respectively subordinated loans);
- Guarantees (to facilitate equity investment or commercial bank financing);
- Private investment capital (usually in form of joint venture capital);

- Twinning arrangements (usually in form of know-how transfer).

The types of actions dealt with in the framework of the revised "Strategic Action Plan 1995-2005" (SAP) include policy and regulation, public awareness, institutional strengthening and capacity building and public and private sector investments in water pollution control and water management.

Accordingly, the financing needs fall into three categories:

1. Funds for preparatory technical activities
2. Funds for capital investments related to water pollution control and water management;
3. Funds for project implementation

Yugoslavia, Romania and Austria. The Sub-River Basin with the significantly highest capital requirements of more than USD 1000 million is the Sava River Basin. A portion of about 91% of all capital requirements is dedicated to projects which are directly related to one of the 51 "Significant Impact Areas" (SIA), as determined in the course of the transboundary analysis.

#### Concepts and actions for financing implementation

Since the domestic and external financial resources are limited and obviously not sufficient to cover even the high priority

Financial Requirements for Implementation of the ICPDR Investment Program (in Million USD)

Country	Municipal	Industrial	Agriculture	Wetlands	General	Total
Germany	101	6	0	127	0	233
Austria	576	81	0	43	0	700
Czech Republic	106	3	31	71	0	211
Slovakia	104	75	0	9	1	188
Hungary	90	58	0	313	0	460
Slovenia	280	55	7	0	0	342
Croatia	729	6	0	175	5	915
Bosnia-Herzegovina						
Yugoslavia	222	48	15	80	0	365
Yugoslavia	681	78	20	124	3	905
Bulgaria	199	97	0	22	0	318
Romania	360	255	40	101	3	759
Moldova	54	38	45	24	0	161
Ukraine	64	11	1	28	2	107
Total	3,566	810	159	1,116	14	5,664

The overall capital requirements for the implementation of the ICPDR investment program in all DRB countries are about USD 5.7 billion; they are structured as follows: the overwhelming portion is dedicated to the municipal sector (63%); the requirements for the industrial sector are about 14%, for wetland restoration (including cost of land) in the range of 20%; the requirements for agriculture, land use and other projects are less than 3%.

The countries with the highest capital requirements of more than USD 500 million are Croatia,

requirements in the short term, it is necessary to focus on long-term sustainable funding concepts and innovative financial mechanisms which are to be based on common basic principles. Therefore domestic financial resources should be used primarily on external resources wherever possible to avoid pressure on the usually unfavorable countries' balance of payments. The restricted domestic funding sources should be allocated to the competing projects of a particular sub-sector in utmost accordance with the results of the basin-wide project priority ranking, as carried

out in the framework of the Pollution Reduction Program. Emphasis should be placed on meeting funding requirements from revenues generated at the project level (e.g. charges for municipal water and waste water services) before seeking external national or international sources of funding.

Domestic private investment is currently constrained by historical barriers to private ownership, a limited domestic banking and financial sector, and the inexperience of potential investors with the types of activities required. Therefore it is essential to modernize and adjust the legal, regulatory and institutional framework to international standards in order to enable and attract utmost private participation in project funding and operation.

In the short term actions are to be taken at the national level, such as a confirmation at the governmental level to identify high priority projects. In addition, project data bases have to be improved and completed and internal discussions on governmental level have to be initiated in order to establish the agreed investment portfolios dealing with the most urgent short term priorities. To improve the project investors' net income and internal cash generation, cost covering tariffs for public services and adequate charges for the utilization of natural resources have to be established gradually.

A reasonably structured set of economic and financial incentives, e.g. to promote a rational utilization of natural resources or to prevent or reduce environmental pollution and degradation of natural environment, would also be helpful.

The establishment of at least for standard projects with country specific "standard funding schemes" could help to improve the "planning certainty" of potential investors. If international funding assistance is needed, these funding schemes have to take into account the requirements and procedures of



the particular IFIs. These country specific standards should – among some other aspects – clarify the priority of the particular project and the eligibility of the project for potential national and international funding sources. It could also help to find out the potential range for public grants and loans, for the contribution of relevant public funds and for international co-funding.

Within the existing framework of the ICPDR a "Project Implementation Facility" (PIF) should be installed. The mandate of this group is to support the work of the ICPDR regarding implementation of investment programs; to assist member countries in preparation of projects for IFIs and to prepare projects with transboundary environmental benefits for GEF. Last but not least the proposed PIF has to monitor the results.

It is expected that the PIF can positively contribute to the work of the IC and its Secretariat although the essential features of a financing facility, i.e. to receive and handle grant money for the benefit of the Danube environment, cannot be met. The PIF would basically be an extension of the donor support having been granted to the co-operation of the Danube countries in the field of the environment for now over 6 years.

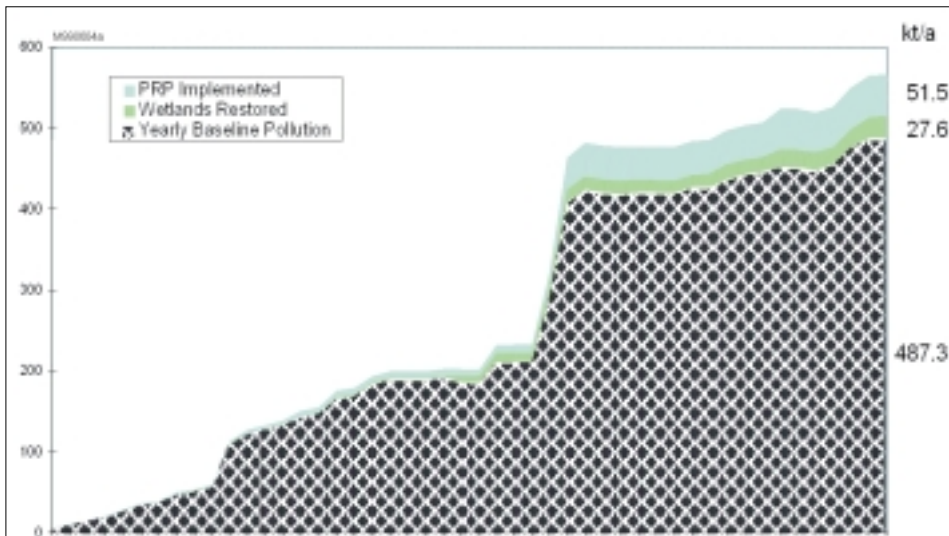
A "Project Appraisal Group" (PAG), i.e. a multidisciplinary expert group, within the existing framework of the ICPDR may examine and endorse investment proposals from the member states which otherwise might not gain the attention of multilateral donors or IFIs. The "PAG" tasks would be to examine the proposal on the relevant environmental performance standards, to check the technical design, the cost calculations and the management plans.

In the medium and long term there has to be started a review and up-date of project data and project priority ranking at the national level. In addition, the legislation and regulatory framework have to be adjusted. Actions are required for an



# A giant step towards implementation

As one of the final achievements of the UNDP/GEF Danube project, the Danube River Basin Pollution Reduction Programme (PRP) report has been completed



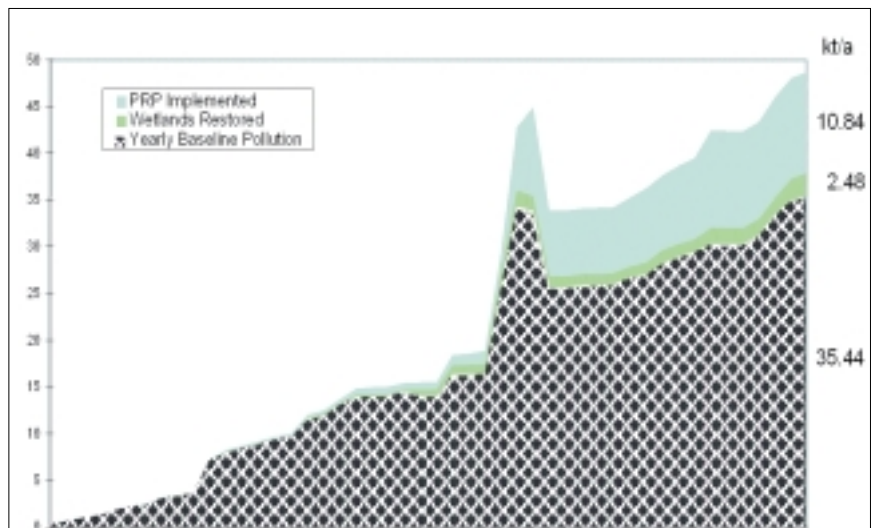
In-stream nitrogen load profile for the Danube river, before and after implementation of the PRP, with additional effect of the restoration of 17 wetlands

The PRP responds to earlier outputs of the GEF Project such as the “Transboundary Analysis of Water Pollution in the Danube River Basin,” (TDA) and the “Strategic Action Plan for the Danube River Basin-Revision 1999” (SAP), by clearly outlining a programme of projects and measures to reduce transboundary pollution in the Danube River Basin (DRB).

The PRP is the result of a two year process which started with the completion of National Reviews by each participating Danube country. The National Reviews contained information on water quality, hot spots of pollution, an analysis of existing financing mechanisms, an evaluation of socio-economic impacts of water pollution as well as the identification of ongoing, planned and proposed projects to respond to pollution problems. The National Reviews were the basis for completing the TDA, the SAP and now the PRP. The TDA

utilized information from the National Reviews as well as other sources (Danube Water Quality Model etc.) to identify cause and effect relationships of transboundary pollution in the Danube River Basin.

While the TDA confirmed the



In-stream phosphorus load profile for the Danube river, before and after implementation of the PRP, with additional effect of the restoration of 17 wetlands

serious impacts of Danube pollution on the Black Sea it also identified “areas significantly impacted by transboundary pollution” within the Danube River Basin. The SAP Revision 1999 provides the policy framework for responding to water quality problems as well as other challenges for the sustainable management of the DRB.

The objective of the PRP was to indicate how Danube countries should respond to the transboundary pollution problems identified in the TDA while also showing how the policies and strategies of the SAP can be implemented.

The PRP has identified investment projects to both address “hot spots” of pollution as well as to relieve the SIAs. The PRP also identified the projects in the frame of 15 Danube sub-river basins; a forward looking approach as it responds to the proposed EU Water Framework that will require a river basin approach to water management. It is foreseen that sub-basin management plans will be prepared for these sub-river basin areas in the future as a follow-up step.

The PRP has identified 421 projects in the municipal, industrial and agricultural sectors to respond to hot spots of pollution. Information concerning the projects have been input into a project database. Remedial

measures are also proposed in the form of 17 priority wetland rehabilitation projects that could lead to the reduction of pollution, not to mention the improvements to nature conservation and protection of biodiversity. These remedial measures are considered to be cost effective particularly given the multiple benefits that can be achieved.

The implementation of the PRP has a total estimated cost of 4.8 billion USD. Given the scope of the pollution reduction that can be achieved, as well as other benefits that implementation can bring (human health, recreation, nature conservation etc.), the proposed programme represents a worthwhile investment.

If implemented, it is estimated that the PRP would lead to a reduction of total Nitrogen loads of up to 18.1% and total Phosphorus loads of up to 41.6% signifying important improvements to the Danube River Basin as well as to the Black Sea. BOD, COD and other pollutants will also be significantly reduced.

The Pollution Reduction Programme also proposes strategies for addressing diffuse sources of pollution such as from agriculture and other land uses. Given the significant contribution to pollution loads from diffuse sources in the Danube River Basin, efforts to develop and implement appropriate policies and measures to reduce diffuse sources will be a major task and challenge of the ICPDR in the future.

The ICPDR is currently cooperating closely with international financial institutions and donors to identify and mobilize additional financial support to implement components of the PRP. Discussions are underway to jointly plan and hold a series of sub-basin donor/financing meetings beginning in 2000.

The Pollution Reduction Programme marks a major milestone in efforts to reduce pollution in the Danube River Basin. When implemented, the PRP will bring important environmental benefits to the

## MANAGEMENT TOOL

# Pollution Reduction Programme Database

The Project Database is one of the most important outputs of the Pollution Reduction Programme (PRP) and it will become an important management tool of the International Commission for the Protection of the Danube River (ICPDR). Together with the Danube Water Quality Model and the Emission Inventory, the Database will facilitate the evaluation of pollution reduction measures from planned or ongoing national activities. It will also present the Investment Portfolio, available for financing institutions and donor organizations in the future.

The Database was initially developed under MS-Access and recently it is under conversion to ORACLE system to become an integral part of the ICPDR Information System. The Project Files, developed as a part of National Review Reports have been used for the first input of information to the Database. Furthermore, in the frame of Transboundary Analysis, the hot spots and projects have been identified by national experts and briefly verified during the Transboundary Analysis Workshops and later on incorporated to the Database as well. Thus the Database contains now information about selected national activities, undertaken or planned to reduce water pollution in the Danube Basin.

Actually the Database contains 421 projects, covering 246 hot spots in the Danube River Basin. From the point of view of sectors, the Database comprises 192 municipal, 113 industrial, 67 agricultural, 29 wetland restoration projects and 20 projects classified as others, or general measures. The national investment portfolio of the Danube Partnership Programme prepared with GEF support under the Pollution Reduction Programme includes 76 projects, which will be also included in the Database. In the municipal sector, the reduction of pollution from municipal waste

waters has been considered as the most urgent, with particular attention to nutrients removal. Therefore, proposed projects focus firstly on rehabilitation and extension of existing waste water treatment facilities (third treatment stage - nutrient removal). However, the complete new constructions of technical schemes for waste water collection and treatment are proposed as well. With regard to the reduction of water pollution from industries, diversity of produced types of waste waters has to be considered.

Summarising the type and character of possible measures concerning direct or indirect industrial discharges, the proposed projects are focusing on end-pipe solutions - rehabilitation/extension or construction of pre-treatment facilities and introduction/application of new technologies and production schemes - cleaner production. Taking into account point sources of pollution from agricultural sector, a number of projects aim at the improvement of waste water collection as well as waste water and sludge treatment facilities from livestock farms. However, with respect to diffuse pollution, majority non-structural measures have been proposed with main objective to reform and apply sustainable approach in agricultural practices including improvement of land management.

Floodplains and wetlands play an important role in the elimination of nutrients from diffuse sources. Because of a high potential from point of view of nutrient load reduction, projects for restoration of wetlands and floodplains have been included into the Pollution Reduction Programme. It has to be pointed out, that the data, which are now included in the Database need to be revised and verified by countries and additional information have to be provided. Furthermore, it is expected that experts from respective countries

# Balkan Task Force: Is all the work done?

The Joint UNEP/UNCHS (Habitat) Task Force on the Balkans (BTF) recently published a final report. Four environmental „hot spots“ had been found in Serbia

The Joint UNEP/UNCHS (Habitat) Task Force on the Balkans (BTF) was established on 5 May 1999 by Dr. Klaus Töpfer, UNEP's Executive Director, in order to monitor the environmental and human settlements impacts of the Balkans conflict. The BTF consisted of some 10 staff members of UNEP and Habitat, as well as several persons seconded to UNEP for the duration of BTF activities. The BTF was headed by the former Minister of Environment and Development Cooperation from Finland, Mr. Pekka Haavisto. The mandate of the BTF was to collect, harmonise, integrate and review information on potential and real environmental impacts, as well as those on human settlements, stemming from the conflict in the Federal Republic of Yugoslavia (FRY) and neighbouring countries.

## Final report analyses the situation

In November 1999 there had been made decisions on possible future actions. The results had been published in a report offering an analysis of the current situation, including short-, medium- and long-term environmental challenges, and establishing a priority list for environmental action. It also proposed priorities for future fact-finding issues in the field of environment.

With the aim to assess the environmental impact of the Balkans conflict on the Danube river, a team of nine international experts from the joint United

Nations Environment Programme (UNEP)/ UN Centre for Human Settlements (Habitat) Balkans Task Force (BTF) started their work in August. The third BTF mission to the region was organised in cooperation with the Vienna-based International Commission on the Protection of the Danube River (ICPDR), and the ICPDR Executive Secretary, Joachim Bendow has accompanied the BTF Chairman, Pekka Haavisto, in meetings here today with the Yugoslav authorities.

## Hot spots identified by an international expert team

Over four days, the BTF scientists from the Czech Republic, Hungary, France, Germany, Romania, Russia, Slovakia and Sweden visited potential pollution „hot-spots“ up and down-stream of the Novi Sad oil refinery, Pancevo industrial complex and a tributary near the Zastava car factory in Kragujevac.

Concerning the identified „hot-spots,“ the report recommends:

- At Pancevo (industrial complex), urgent remedial action should be taken at the wastewater canal which flows into the Danube and which is seriously contaminated with 1,2-dichloroethane (EDC) and mercury. Also, immediate clean-up of the mercury spill at the petrochemical factory.
- At the Zastava car plant in Kragujevac, immediate steps should be taken to clean-up PCB and dioxin contamination, and improve storage of significant quantities of hazardous waste.

- At Novi Sad (oil refinery next to the river Danube) detailed studies should be carried out to determine whether oil product pollution has contaminated the groundwater/drinking water supplies.

- At Bor (ore smelting complex), immediate action should be taken to prevent further release of large amounts of sulphur dioxide gas in the atmosphere. Damaged equipment containing PCB oils should be removed and stored securely.

## Much of the pollution pre-dates the conflict

The BTF scientists found no evidence of an ecological disaster for the river Danube as a result of the conflict. However, the report states that the analysis of samples taken from the Danube sediment and biota revealed significant chronic pollution, both upstream and downstream of the sites directly affected by the conflict. Further monitoring and investment in appropriate production and waste management processes is recommended. Also, it recommends the urgent need for the FRY to be integrated within international agreements for water quality monitoring, pollution reduction and emergency response.

As the last team of environmental experts finished their field-work BTF Chairman Pekka Haavisto played down concerns of an ecological catastrophe, but said action was needed to deal with the „hot-spots“. „The initial reports from the biodiversity experts support our broader conclusions on the environmental impact of the Balkans conflict,“ said Haavisto. „There has clearly been some localised impact with vegetation damaged as a result of direct impact from the bombs. Also, some endangered species in the vulnerable highland areas may have been affected which is a cause for concern. However, the long-term impact on the region's biodiversity will likely be minimal,“ he said.



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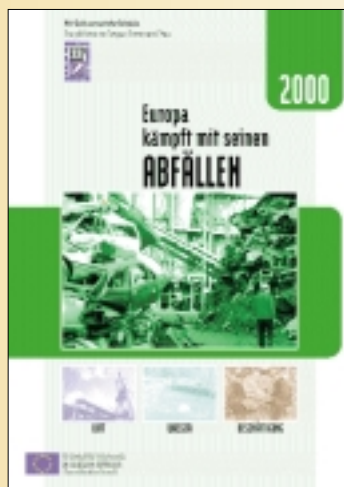
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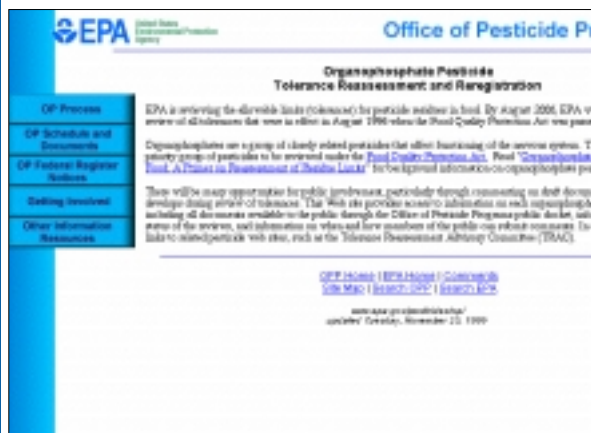
# Water Webs

Environmental Report on the Kosovo War



Balkan Task Force:  
<http://www.grid.unep.ch/btf>

Reviewing tolerances for pesticides



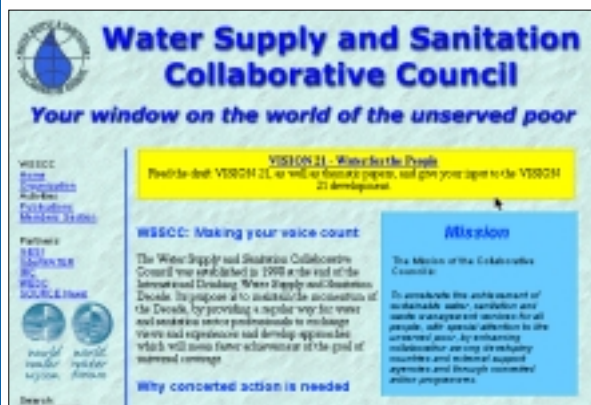
Environmental Protection Agency:  
<http://www.epa.gov/pesticides/op/>

Issues on border water bodies between USA and Canada



The International Joint Commission:  
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