# Panel Abstract

**Name of Session:** Session IV: Lessons of Experience – Longstanding Multicountry Institutions

**Panel Title:** Water Management and Sustainable Development in the Danube River Basin / The Convention and the Role of the International Commission for the Protection of the River Danube

**Moderator:** Lars Vidaeus, GEF Executive Coordinator, World Bank

**Panelists:** Joachim Bendow, Executive Secretary, ICPDR

## Panel Background

Text - 1 paragraph executive summary describing the panel and its objective **(prepared by ~~Moderator~~/Panelist)**

The panel describes the objectives of the Danube River Protection Convention as a frame for transboundary cooperation and gives and overview on the current development of policies, strategies and actions to assure the protection of international waters and ecosystems in the Danube River Basin. Particular attention is given also to the analysis of social and economic conditions, investment needs for project implementation and the development of financing mechanisms.

## Summary of Key Issues and Best Practices/Lessons Learned

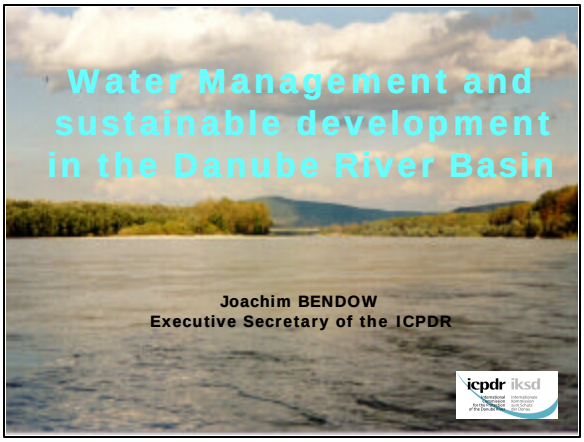
Text - Bullet points summarizing the key points to be made and best practices and lessons learned referenced in your panel :

- Objectives of the Danube River Protection Convention,
- Mandate of the Commission and the organizational and operational mechanisms for the implementation of the DRPC;
- Analysis of the social and economic situation with particular attention to transition countries and the EU accession process;
- Causal-chain analysis : Root causes and direct causes for water pollution and nutrient transport to the Black Sea,
- Five Year Nutrient Reduction Plan (UNDP/GEF): Development of policies, strategies and actions, cost estimation (investments for structural and non-structural projects) and expected results in terms of COD/BOD, N and P reductions;

## Key References

Text - List of references and related web sites, publications, articles, etc that provide the reader with additional resource on your panel topics:

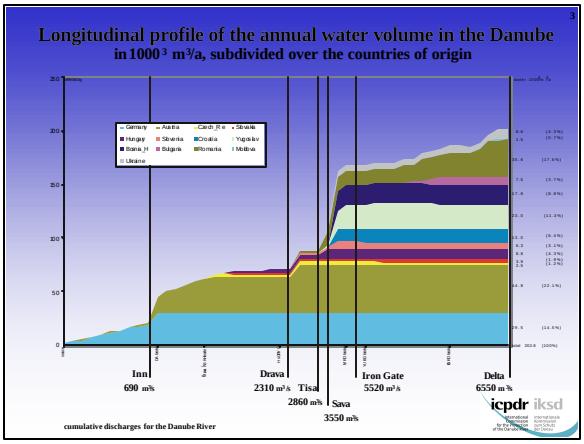

- Reports of the UNDP/GEF Pollution Reduction Program 1997-1999 (Trans-boundary Analysis, Revised SAP, Pollution Reduction Program Report, etc);
- Project Brief and Annexes for the Danube Regional Project 2001-2005;
- Annual Report of the ICPDR 1999
- ICPDR Information System (DANUBIS) : www.icpdr.org



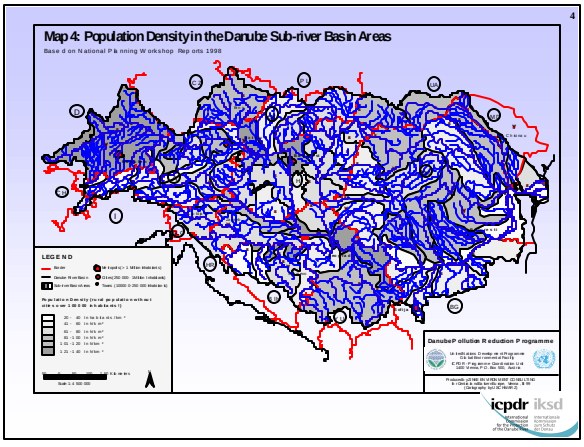

# Water Management and Sustainable Development in the Danube River Basin

**Joachim Bendow, Executive Secretary of the ICPDR**


**The Danube River Basin** is not only the geographical catchment area of the second largest river of Europe, but it has played in the past and still plays today an important role as a cultural and historical center of political, social and economic development in Europe.




**The Danube River** is 2780 km long and drains 817000 km² with a mean annual water volume of 6550 $m^3/s$ discharged into the Black Sea. The basin area includes all of Hungary; nearly all parts of Austria, Romania, Slovenia, Slovakia and FR Yugoslavia; significant parts of Bosnia – Herzegovina, Bulgaria, Croatia, the Czech Republic, Moldova and small parts of Germany and Ukraine. Areas smaller than 2000 km², where the DRPC similarly does not apply, are left out of consideration.

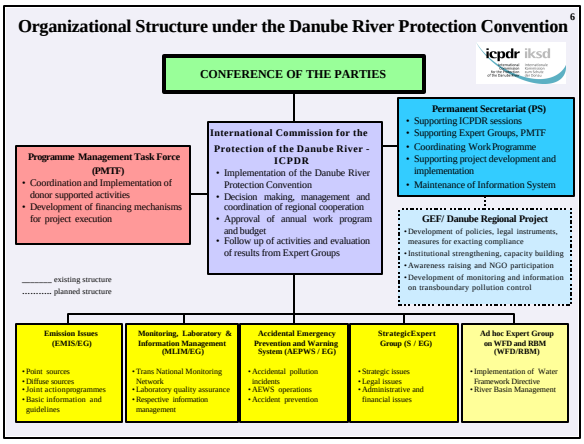



The present population living in the DRB is about 83 million. Out of which 57% is living in urban areas. The share of population connected to public water supply varies from 29% in Moldova to 98 % in Germany representing an average of 74%. The share of population branched to public sewer system varies from 14% in Moldova to 89% in Germany representing an average of 52%. Based on the national projection figures, it can be anticipated that the population living in the Danube River Basin will by the year 2020 remain at its present level.

## The Danube River Protection Convention

**A legal frame for co-operation to assure the protection of water and ecological resources and their sustainable use in the Danube River Basin**

The Danube River Protection Convention is the legal frame for cooperation of the contracting parties to assure environmental protection of ground and surface waters and ecological resources in the Danube River Basin. Out of 13 countries in the Danube River Basin, eleven states and the European Commission have singed, and most of them have ratified the Danube River Protection Convention (DRPC) which came into force in October 1998.



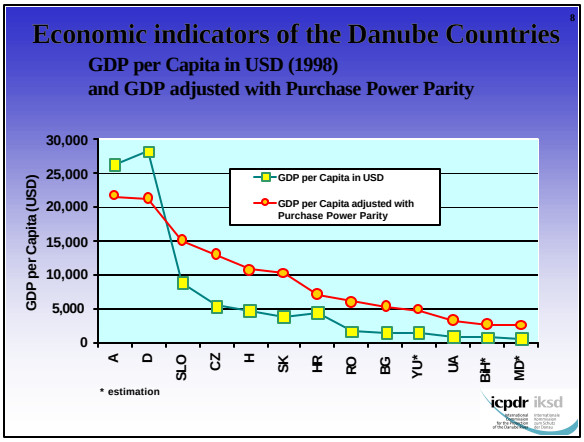

Recognizing individually and responding in common to the obligations of the DRPC, the Danube countries have established the International Commission for the Protection of the Danube River (ICPDR) to strengthen regional cooperation. It is the institutional frame not only for pollution control and the protection of water bodies but it sets also a common platform for sustainable use of ecological resources and coherent and integrated river basin management.

The UNDP Global Environment Facility and the EU through its Phare and Tacis programs, have provided since 1992 in the frame of the Danube Environmental Programme, international assistance to develop appropriate mechanisms and planning tools for the implementation of the DRPC.

## The Social and Economic Context in the Danube River Basin

- ➔ **Regional social and economic disparities**
- ➔ **The particular situation of transition countries and the requirements for EU accession**

**An in depth analysis of the social and economic context** of the different countries in the Danube River Basin is necessary to understand the problems of cooperation and the efforts to be undertaken to achieve common regional and global goals.




The analysis of economic disparities shows a clear trend of a west – east decline of the GDP from the upstream countries like Germany and Austria, with about 25,000 US $ per capita and year (in 1997), to the downstream countries of which the Ukraine accounts for less than 1,000 $ per capita and year.

## The particular situation of the Transition Countries and requirements for EU accession

- Restructuring and modernizing the legal and institutional framework and administrative systems;
- Establishing development policies and programmes as well as funding mechanisms in compliance with international standards of modern market economies;
- Initiating privatization and establishing new links for international economic cooperation;
- Further, harmonizing of national legislation with EU directives and standards.

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

## Root causes for inadequate water resource management in the DRB

- Socio-political transition and economic recession;
- War and displacement of population;
- Incomplete legislation, regulations and standards;
- Low public ecological awareness, education and training;
- Lack of financing mechanisms;
- Inadequate national strategies for water management;
- Inefficient environmental management, enforcement and compliance.

The root causes for "Inadequate Management of Water Resources" refer primarily to the middle and lower Danube countries, taking into account problems related to:

- socio-political transition and economic recession;
- war and displacement of population;
- incomplete legislation, regulations and standards;
- low public ecological awareness;
- lack of financing mechanisms;
- inadequate national strategies for water management;
- inefficient environmental management, enforcement and compliance.

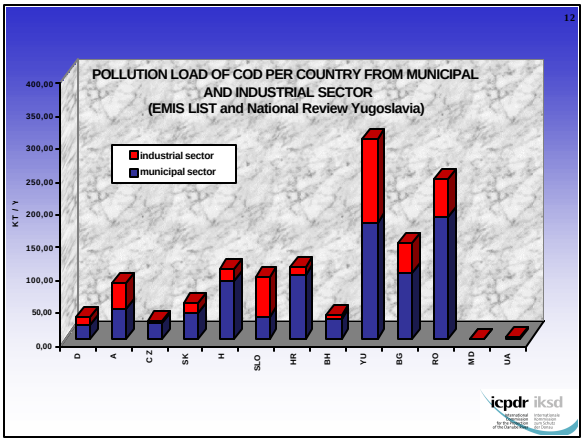
## Number of identified Hot Spots

**(Transboundary Analysis, January 1999)**

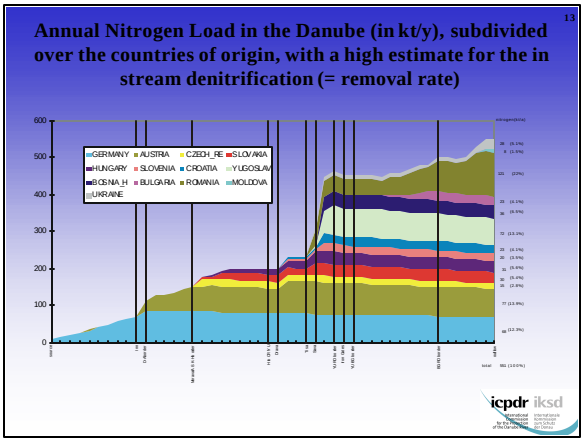
| Country | Number of Hot Spots identified in National Reviews with priority | | | TOTAL |
|---|---|---|---|---|
| | High | Medium | Low | |
| Germany* | *10* | | | *10* |
| Austria* | *6* | | | *6* |
| Czech Republic | 7 | 5 | 5 | 17 |
| Slovak Republic | 4 | 10 | 6 | 20 |
| Hungary | 8 | 30 | 30 | 68 |
| Slovenia | 15 | 6 | 8 | 29 |
| Croatia | 9 | 10 | 6 | 25 |
| Bosnia-Herzegovina | 9 | 7 | 6 | 22 |
| Yugoslavia | 42 | 28 | 13 | 83 |
| Bulgaria | 9 | 4 | 7 | 20 |
| Romania | 34 | 32 | 119 | 185 |
| Moldova | 3 | 7 | 6 | 16 |
| Ukraine | 3 | 5 | 4 | 12 |
| TOTAL | 159 | 144 | 210 | 513 |

*) Austria and Germany have identified "important sources of pollution" which are however not considered as "Hot Spots"

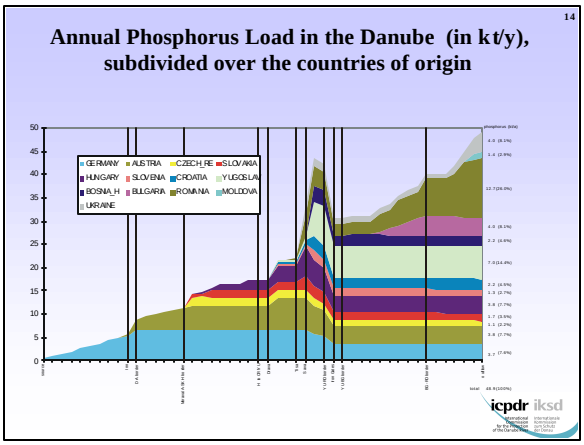
Concerning the direct causes, important sources of pollution or priority "hotspots" where identified for municipal, industrial and agricultural sectors.




Pollution loads of COD from the Municipal and Industrial point sources are most significant from central and downstream countries which do not yet have established adequate waste water treatment facilities.




Applying the Danube Water Quality Model, nutrient transport to the Black Sea was analyzed, indicating a total of 551 kilotons of Nitrogen




and 48,9 kilotons of Phosphorus reaching annually the Black Sea from the Danube River Basin.

Significant is the Phosphorus absorption in the Iron Gate Reservoirs.

## Five -Year Nutrient Reduction Action Plan

Investments:

- structural projects : 3.9 billion USD
- non-structural projects : 0.9 billion USD

Nitrogen reduction:

- from point sources : 58,600 t/y
- from diffuse sources : 60,000 t/y
- total emission reduction : 22 %

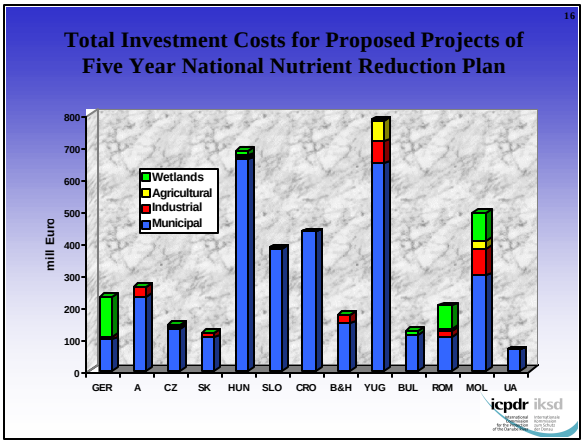
Phosphorus reduction:

- from point sources : 12,000 t/y
- from diffuse sources : 4,000 t/y
- total emission reduction : 33 %

In the frame of the Five - Year Nutrient Reduction Action Plan, 243 committed investment projects have been identified out of which 156 are in the municipal sector and only 44 in the industrial sector. This reflects the situation in most transition countries that industries are not operational or using mostly outdated technologies.

Most of these projects, responding generally to "hot spots" or point sources of emission, are representing national priorities and taking equally into account the obligation to mitigate transboundary effects.

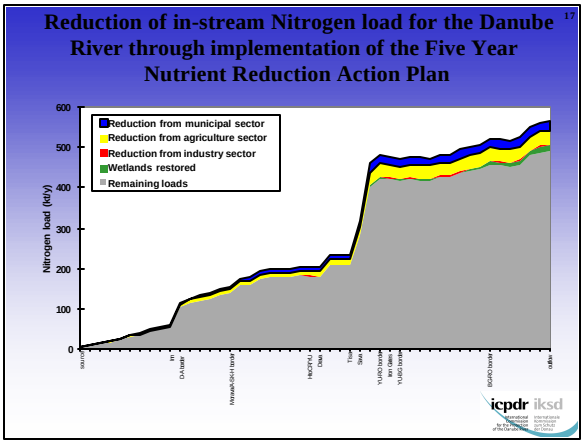
Particular attention was also given to the identification of sites for wetland restoration, which play an important role not only as natural habitats but also as nutrient sinks.




The total investment foreseen in the five year period 2001-2005 to respond to priority needs is estimated to be about 4.404 billion €, covering the following sectors :

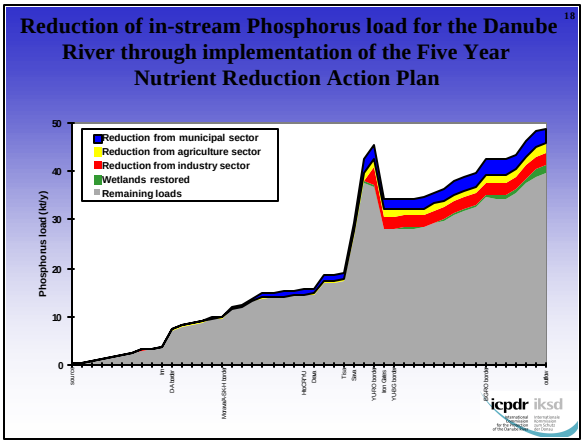
- Municipal waste water collection and treatment plants: 3.702 billion €
- Industrial waste water treatment: 0.267 billion €
- Agricultural projects and land use: 0.113 billion €
- Rehabilitation of wetlands: 0.323 billion €

For the downstream countries in transition, the investment needs in relation to the per capita income represent an enormous burden. Countries affected by the Balkan crisis have highest investment needs. Romania, Bulgaria and Bosnia & Herzegovina are presently lacking the financial capacities to respond to investment needs. These countries will have to define their investment programs for the period from 2005 to 2015 to respond to international and EU environmental standards.



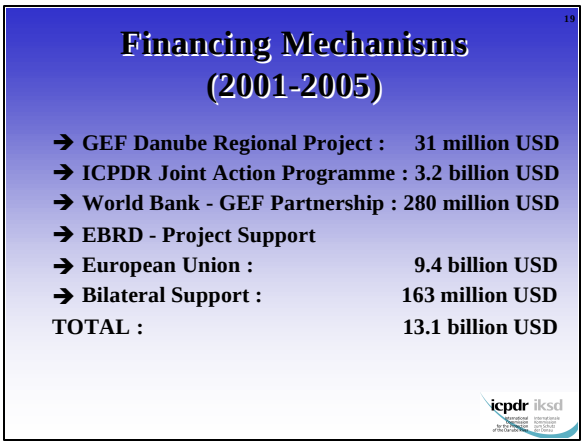

The expected results in a period of five years show considerable decrease of pollution in terms of COD/BOD respectively in terms of Nitrogen and Phosphorus. The implementation of the proposed priority projects in municipal, industrial and agricultural sectors as well as pollution reduction from diffuse sources will lead to a reduction of about 713,000 tons of COD/BOD.

Applying the DWQM, the calculated nutrient reduction amounts to about 118,000 tons for Nitrogen (22%) and



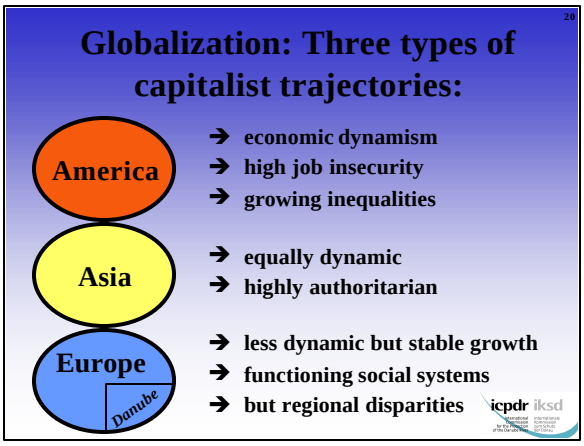

to about 16,000 tons for Phosphorus (33%).

Nutrient reduction will have a direct impact to the Black Sea and will contribute to achieve common Danube and Black Sea goals to restore marine ecosystems in the north-western shelf.




**Perspectives for international co-operation and financial support for program implementation**

Considering the economic and financial situation of transition countries and conflicting interest for the allocation of scarce resources and taking into account the regional and global responsibilities, it is evident that the international community has the obligation to provide necessary support to develop appropriate financing mechanisms taking into account transboundary and global interest of protection of international waters.




Globalization and Development in Europe

In his presentation on 'Global Development, Poverty and Environmental Degradation' Nicholaos Mouzelis developed a concept for social and economic development of Europe. This concept, which foresees the development of Europe as one of the world growth pools in a global system, is only achievable if there is cooperation and commitment from all European States to preserve identity, values, social systems and sustainable environmental management in Europe. In this context the Danube River Basin with its cultural, historical, natural and economic potential will play an important role in building Europe, protecting the global environment and contributing to sustainable development.