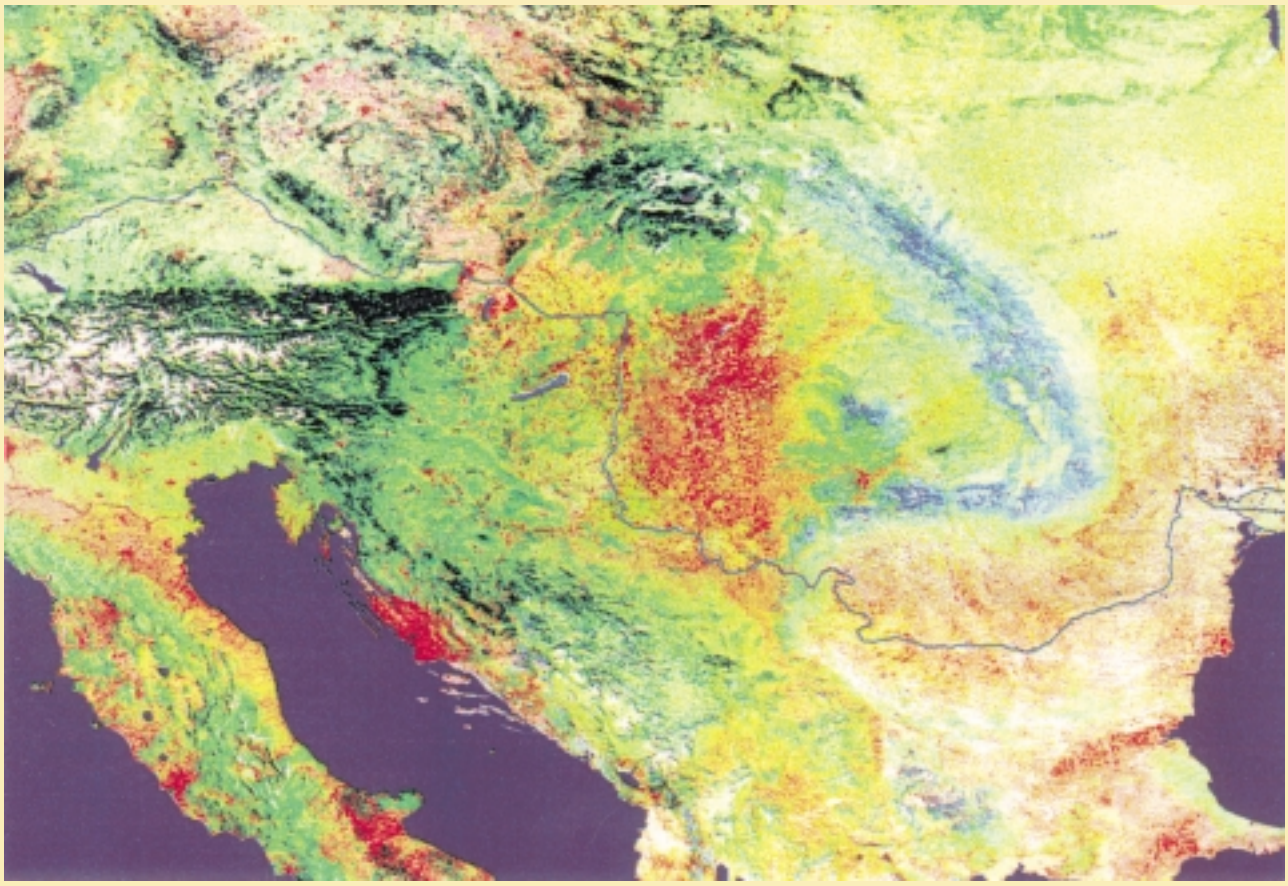
DANUBE POLLUTION REDUCTION PROGRAMME

FINANCIAL MECHANISMS IN THE DANUBE RIVER BASIN COUNTRIES

SUMMARY REPORT

JUNE 1999



Programme Coordination Unit
UNDP/GEF Assistance

prepared by
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Preface

The Report on Financing Mechanisms in the Danube River Basin was prepared in the frame of the Danube Pollution Reduction Programme (PRP). The lack of appropriate financing mechanisms at the national as well as the regional level is perhaps the largest deterrent to implementation of pollution reduction measures. The study has been carried out to review available national financing mechanisms in each participating Danube country as well as to identify the existing gaps which may be hindering the implementation of important pollution reduction projects

The present report also reviews the on going and planned investments in each country as well as the international financing institution involvement in project financial implementation.

The report clearly identifies legal and institutional constraints as well as the lack of appropriate fee and collection structures.

The results of this report will allow for the determining of measures for strengthening existing mechanisms as well as the developing of new national financial mechanisms, The report further provides information needed for developing new financing mechanisms that should facilitate the implementation of the ICPDR Action Plan.

The report was prepared by Reinhard Wanninger, international financial consultant who prepared and guided the work of national experts selected in each participating country and responsible for preparing updated National Reviews. This approach ensured full participation at the national level. Financing mechanisms were equally discussed in the frame of each of the National Planning Workshops. Further, the preliminary results of the were presented in the frame of the Transboundary Analysis Workshop in January 1999, held I Hernstein as wellas at the Danube Environmental Financing Facility Workshop held in February 1999 in Baden, Austria. Based on the comments received in these workshops, the present report has been finalized.

The conceptual preparation as well as the organization of activities was carried out by Joachim Bendow, UNDP/GEF Project Manager with the assistance of Andy Garner, UNDP/GEF Environmental Specialist. The report was edited by Michael Sokolnikov.

The findings, interpretation and conclusions expressed in this publication are entirely those of the authors and should not be attributed to any manner to the UNDP/GEF and its affiliated organizations.

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List of Abbreviations and Acronyms

A	Austria
BAT	Best available technology
BEP	Best environmental practice
BiH	Bosnia and Herzegovina
BOT	Build-Operate-Transfer
BUL	Bulgaria
CEE	Central and Eastern Europe
CEPF	Central Environmental Protection Fund (Hungary)
CRO	Croatia
CZ	Czech Republic
DEFF	Danube Environmental Financial Facility
DRB	Danube River Basin
DRBPRP	Danube River Basin Pollution Reduction Programme
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECU	European Currency Unit
EIB	European Investment Bank
EIU	The Economist Intelligence Unit Limited
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GER	Germany
GTZ	Agency for Technical Cooperation (Germany)
HDB	Hungarian Development Bank
HUN	Hungary
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IFI	International Financing Institution(s)
KFW	Kreditanstalt fuer Wiederaufbau (Germany)
km^2	Square kilometer
M	Million
MoE	Ministry of Environment
MOL	Moldova

NEPF	National Environmental Protection Fund (Bulgaria)
NGO	Non-Governmental Organization
NTEF	National Trust Ecofund (Bulgaria)
OECD	Organization for Economic Cooperation and Development
PHARE	EC Programme of Assistance for Economic Restructuring in the Countries of Central and Eastern Europe
PHARE-CBC	PHARE - Cross Border Cooperation Programme
REC	Regional Environmental Center (Budapest)
RO	Romania
SEF	State Environmental Fund (Czech Republic)
SK	Slovak Republic
SLO	Slovenia
TACIS	EC Programme of Transfer of Know-how to the New Independent States and Mongolia
UA	Ukraine
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nation Environmental Programme
USAID	United States Agency for International Development
USD	US Dollar
WB	World Bank
WMF	Water Management Fund (Hungary)
WWTP	Wastewater Treatment Plant
YUG	Yugoslavia

Currency Equivalents

1 USD = 0.85 ECU	(End-December 1998)
1 ECU = 1.17 USD	(End-December 1998)
1 USD = 1.41 SF	(End December 1998)

Particular exchange rates between national currencies of the DRB Countries and USD for the years 1995 to 1998 are compiled in Annex 1.

1. Introduction

This Summary Report is based on the National Review Reports prepared by national experts and the Executive Summaries prepared by the National Country Co-ordinators for each of the Danube River Basin (DRB) countries. The main tasks of this Summary Report are:

- to summarize the findings of the National Review Reports regarding national and international funding policies, sources, mechanisms and water sector relevant investment portfolios of the DRB countries;
- to identify common features and problems in the DRB countries; and
- to figure out country specific particularities with relevance to the DRBPRP.

The majority of the National Review Reports provide a lot of data and information as well as a relatively profound problem characterization on country basis. The reports indicate on the other side that the actual country specific funding policies, sources and mechanisms are strongly determined by the historical development and the current development status, and thus rather different from country to country.

In this context it has to be taken into account that, apart from Germany and Austria, all other DRB countries are at the time being in a more or less critical process of transition regarding their political, legal, administrative, economic and social systems.

Altogether there are seventeen DRB countries which are located in the heartland of central, respectively eastern Europe. Some basic indictors for the 13 countries which are included in the DRBPRP are compiled in the following Table 1. The main economic indicators for the DRB countries are compiled and described in Annex 1.

Table 1. Main Indicators for the Thirteen DRB Countries

Country	Population of the Country	Population in the DRB		Country Specific DRB Area	Annual GDP per Capita -1997
	Million	Million	(%)	(1000 km^2)	(USD/Capita)
BiH	3.8	2.9	76 %	37.3	1087
Bulgaria	8.3	3.9	47%	47.0	1227
Croatia	4.8	3.2	67%	34.4	4267
Czech Republic	10.3	2.8	27%	21.1	5050
Hungary	10.2	10.2	100%	93.0	4462
Moldova	4.3	1.1	26%	12.0	504
Romania	22.6	21.2	94%	237.4	1549
Slovakia	5.4	5.2	96%	44.3	3624
Slovenia	2.0	1.7	85%	17.5	9101
Ukraine	50.9	3.1	6%	32.4	976
Yugoslavia	10.4	9.0	87%	88.9	1462
Germany	82.1	9.1	11%	56.2	25606
Austria	8.1	7.7	95%	80.5	24691
Total	223.2	81.2	36%	802.3	
Total DRB*				817.0	
(*) Including insignificantly small parts of Italy, Switzerland, Poland and Albania.					

For the purpose of a better understanding and assessment of the country specific data and information provided within this Summary Report the thirteen DRB countries can be categorized as follows:

(i) Germany and Austria

These two countries are located at the upper end of the DRB and have compared to all other DRB countries significantly higher development levels, represented by as high per capita income as about 25000 USD per annum. They have achieved high standards of emission reduction and water pollution control and have therefor an exceptional status within the DRBPRP. Due to this fact, and due to the fact that they are certainly not candidates for international financial assistance, these two countries have not elaborated complete National Review Reports and are therefor not explicitly considered within this Summary Report.

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

These countries are located in the middle Danube River Basin. They have in mean time overcome the former central state planning systems and have reached medium economic development levels, represented by annual per capita incomes between USD 4000 and USD 9000. The economic transformation process has caused significant reduction of industrial and agricultural production, thus temporally reducing production related pollution loads. This has created the opportunity to establish and integrate environmental objectives into industrial and agricultural policies before economic activities are going to recover again. All of these countries are interested to join the EU in the following decade; Hungary, Czech Republic and Slovenia are obviously the priority candidates. Within the process to fulfil the basic accession criteria some benefits will result for the water quality in the Danube River Basin, but that is not a central point of their efforts. All countries of this group and especially the main candidate countries are currently going to establish funding policies, legislation and mechanisms which are more or less in compliance with international standards and the requirements of modern market economies.

(iii) Yugoslavia and Bosnia & Herzegovina (BiH)

These two countries, also located in the middle Danube River Basin, are still in the critical phase to overcome the war aftermath. In the forthcoming period their main task will be to reorganize 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 international normalization. With annual per capita incomes of USD 1100 (BiH) and USD 1500 (Yugoslavia) both countries are at the time being clearly below their pre-war levels.

(iv) Romania, Bulgaria, Moldova and Ukraine

These countries located in the lower Danube River Basin are essential polluters, with a lot of damage in each country. At the time being they face serious social problems and are in such a difficult economic transition phase that environmental protection and pollution control investments are not the priority tasks in the near future. Particularly critical is the fact, that their legal and administrative framework is at least to a certain extent still determined by former structures and therefor not really in compliance with the requirements of the commencing process of economic liberalization and privatization. The inferior economic status of these countries is clearly documented by per capita incomes between USD 500 and USD 1500 per annum.

From this basic characterization of the DRB countries it turns out that there is a clear gradient in terms of administrative and economic capability from the "wealthy countries" in the upper DRB, over the "medium countries" in the middle DRB, down to the "poorer countries" in the lower part of the DRB.

On the other side shows the pollution load in the Danube River system a continuously cumulating tendency from the sources towards the delta.

These contrary facts have to be considered as an essential problem for the implementation of any financing mechanism aiming at cost-effective rehabilitation or improvement of the water quality of the Danube River system.

The location of the DRB countries and the delineation of the DRB are illustrated in Figure 1.

Danube Basin Map

- Catchment boundary
- State boundary
- City
- River
- Water level measuring station
- Hydropower dams

0 100 200 km

Date: January 1996

Prepared by: delft hydraulics

2. Legal Basis

Apart from Germany and Austria, the actual legal basis for funding of water management programmes and projects has to be discussed under the aspect of the political, economic, administrative and social changes which have taken place in the particular DRB countries during the previous years of transition.

In all DRB countries it is clearly recognized that an appropriate legal basis is one of the most essential prerequisites for the implementation of efficient funding systems and mechanisms for public infrastructure.

According to the relatively detailed information provided by the National Review Reports it turns out that the actual status of legislation concerning water sector funding is very different from country to country.

In a number of countries the basic structure of the legal system is still to some extent determined by the structures of the former state planning systems. That means, numerous laws and regulations were adopted long time ago, have been frequently amended during the previous years of transition and need basic revision.

Due to this fact in most of the DRB countries there is an unreasonably high number of laws, decrees, regulations and other legal acts with some kind of water sector relevance (in Bulgaria for example 153 laws and other legal acts).

The number of laws, decrees, regulations, and other acts, dealing exclusively with funding issues is usually relatively small, because a significant part of these laws and regulations is incorporated into more general or higher laws.

In almost all DRB countries the funding related legislation is currently incorporated in laws, regulations and other legal acts which concern:

- composition and implementation of water sector related state budgets;
- general water management financing acts;
- collection, expenditures and control of environment and water sector related funds;
- water sector related taxes, charges, fines, tariffs, etc. on state level;
- local self government and self administration;
- municipal services;
- local taxes, charges, fines, tariffs, etc.;
- privatization of state and municipal enterprises including public utilities.

A particular feature for all DRB countries is the harmonization of the national environmental and water sector relevant legislation with EC regulations and standards. Hungary, Czech Republic and Slovenia which are the priority candidates to join the EC before the year 2005, are expected to successfully achieve this process of harmonization in time. In the other countries the time frame for the envisaged harmonization is determined by the actual status of environmental and water management legislation and the economic capability and affordability of the particular country.

Thus in most of the DRB countries the relevant legislation is currently in the phase of substantial reform and modernization. Due to the complexity of this task it can be anticipated that the completion of the ongoing reform process will take several years until the relevant legislation will have reached an acceptable level of compliance with international requirements.

Common deficiencies and needs for improvement regarding water sector related legislation in the DRB countries can be summarized as follows:

- Basic Needs for Revision and Reform of Relevant Legislation:
  - Restructure and adjust legislation to the requirements of modern market economy;
  - Streamline and simplify legislation and eliminate inconsistent components, basically resulting from ad-hoc changes during the previous transition period;
  - Ensure utmost compatibility of interacting legislation on the various administrative levels;
  - Specify implementing regulations and eliminate all kinds of non-justified exemptions.
- Needs for Revision and Up-date of Particular Components of Relevant Legislation:
  - Revise and up-date legislation concerning local self-government and funding of municipal services (especially regarding aspects of tariffication);
  - Revise and up-date laws, regulations and enforcement mechanisms concerning the compatibility and efficiency of charges and fines;
  - Revise and up-date laws and regulations concerning the introduction of more effective economic and financial incentives.
- Further harmonization of national legislation with EU regulations and standards.

3. National Policies and Strategies for Funding of Water Sector Programmes and Projects

Each of the DRB countries has actually a more or less well defined country specific system of strategies, principles and programmes for the sectoral, regional and periodical allocation of funds for water sector programmes and projects. Depending on the actual problems in the water sector and the economic capability in the particular country, the strategies and principles are rather different from country to country.

In all DRB countries funding of water sector programmes and projects has relatively high priority among the competing economic and infrastructure sectors.

In the less developed DRB countries it is recognized that necessary rehabilitation and construction of new water supply and waste water collection and treatment systems, required to guarantee at least minimum hygienic and service standards, are essential prerequisites supporting regional equalization of living conditions and essential impulses for country wide economic development.

In the priority countries to join the EU, substantial improvement of the existing status of water supply and wastewater collection and treatment systems is required to fulfil the basic accession criteria. Especially in these countries funding policies and strategies are clearly targeted to achieve the required service levels and quality standards in time.

Strategies and Principles

The basic common strategies and principles in the DRB countries regarding provision of funds and implementation of efficient funding instruments and mechanisms for water sector programmes and projects can be summarized as follows:

- Establish mechanisms for integrated management of all water sector related funds;
- Use economic value of water for project prioritization and allocation of funds;
- Use cost-effectiveness criteria for project prioritization and allocation of funds;
- Adopt as consequently as possible the "user pays principle", respectively the "polluter pays principle";
- Use domestic funds (municipal, regional, national) to utmost extent prior to international funds;
- Establish mechanisms for improving self-financing capacities of water and waste water utilities;
- Establish mechanisms for private participation in enterprises dealing with water management and water utilization;
- Review and up-date existing tariff systems and improve financial capability of water utilities through gradual introduction of cost covering tariffs;
- Establish adequately balanced systems of charges/fines and economic/financial incentives:
  - to promote rational use of natural resources; and
  - to prevent and reduce environmental pollution and degradation of natural environment.

In all DRB countries it is recognized that the implementation of these strategies and principles needs:

- substantial revision of the existing legal framework;
- introduction of appropriate enforcement mechanisms;
- strengthening of institutional and administrative capacities;
- streamlining of responsibilities between authorities on the different administrative levels and private institutions;
- encouraging private participation (public and non-governmental organizations, further privatization of state enterprises and utilities, etc.);
- awareness building (regarding representatives of policy, administration, economy and population).

Programmes and Plans

Most of the DRB countries have phased water sector development programmes and plans which define sub-sector and regional priorities and in relatively general terms also capital requirements for a period of up to 5 years.

Usually the countries do not have profound estimates of capital requirements and funding concepts for a period which extents beyond the current and the following year.

The long term programmes and plans are usually very general and do often not comprise definite time frames for implementation. Usually they do also not contain reliable estimates for the overall funding requirements and the related operation and maintenance cost.

In most of the DRB countries the medium and long term programmes seem rather optimistic in view of the presently available and reasonably expectable national and international funding means.

4. National Sources, Instruments and Mechanisms for Funding of Water Sector Programmes and Projects in the DRB Countries

4.1. Public Funding Sources and Instruments

(a) Funding Sources

There is a broad variety of public funding sources and instruments currently used for funding of water quality and water management programmes and projects in the DRB countries.

The main funding sources and their application in the particular DRB countries are compiled in Table 4.1-1 and can be categorized as follows:

- **National budget funds of the relevant ministries;**
  (grants, loans, concessional loans, interest free loans, guarantees);
- **Regional budget funds;**
  (grants, loans, concessional loans);
- **Municipal budget funds;**
  (grants, loans, concessional loans);
- **Revenues from charges;**
  (for normal use of water and natural resources, discharge of wastewater, disposal of solid waste, etc.);
- **Revenues from penalties and fines;**
  (for misuse of resources, environmental pollution, violation of legislation, etc.);
- **Revenues from concessions;**
  (for use or handling of water, wastewater, solid waste, natural resources, etc.);
- **Revenues from tied taxes/fees/import duties;**
  (on land use, "harmful" commodities such a s fuels, cars, etc.);
- **Revenues from public services;**
  (water supply services, waste water services);
- **Equity of public and private investors;**
- **Commercial bank loans;**
- **Others (donations, periodic revenues from privatization, etc.).**

From the information provided by the National Review Reports it turns out that some of the funding sources are either 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 source by the way that the municipalities can retain a certain portion for environmental funding purposes, or indirectly, via public budgets or special funds, such as National Environmental Funds, Water Management Funds, etc..

The importance of the particular categories of funding sources for particular purposes is very different from country to country. A general overview on the importance of the particular categories for water sector programmes and projects can be obtained from the compilation of actual investment portfolios by funding sources, as compiled in Table 6.1.

It is obvious that most of the DRB countries do at the time being not dispose of a rational mix of funding sources which is really suited to achieve the utmost provision of funds for water sector investments.

The actual practice of collection of tied taxes, revenues, charges and penalties is often not efficient and consequent, and sometimes hampered by inappropriate administrative and institutional structures.

(b) Funding Instruments

Since 1992 eight of the DRB countries have established National Environmental Funds and Romania is currently in the process to install a "Draft Environmental Fund". The eight existing National Environmental Funds are:

National Environmental Funds in the DRB Countries

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

Income and expenditure data for the particular funds are compiled for the most recent year for which data are available in Table 4.1-2 . They can be summarized as follows:

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 in the particular DRB countries.

In addition to the National Environmental Funds most of the countries have some kind of special funds, as listed in the following compilation:

- **BiH:** - Special funds as defined by special law;
- **Bulgaria:** - 170 "municipal environmental funds" (very small budgets);
  - National Trust Ecofund
  (1997: revenues USD 5.3 million, expenditures USD 0.4 million)
- **Croatia:** - Special funds as defined by the Water Management Financing Act;
- **Czech Repub.:** - National Property Fund (for removal of old soil contamination);
- **Hungary:** - Water Management Fund (1998 budget: USD 25.5 million);
- **Slovakia:** - State Water Management Fund;
  - State Fund of Conservation and Reclamation of Agricultural Land;
- **Slovenia:** - Fund of the Ministry of Environment and Physical Planning, Administrative Board of Environmental Protection;
- **Romania:** - Water Fund;
- **Ukraine:** - Republican Environmental Fund (1998 budget: USD 2.0 million);
- **Yugoslavia:** - Special Environmental Protection and Improvement Fund;
  - Public Management Enterprise "Srbijavode" acting as a kind of special fund (1997 budget: USD 43 million).

Also the special funds established in the particular DRB countries cannot be considered as essential and efficient funding sources or mechanisms.

TABLE 4.1-1
MAIN NATIONAL FUNDING SOURCES AND INSTRUMENTS
FOR WATER OUALITY AND WATER MANAGEMENT PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES

	Funding Sources	BiH	Bulgaria	Croatia	Czech Rep.	Hungary	Moldova	Romania	Slovakia	Slovenia	Ukraine	Yugoslavia
1	Federal budgets											
	- subsidies	X	X	X	X	X	X	X	X	X	X	X
	- loans / soft loans / interest free loans	X	X	X	X	X			X	X		X
	- guarantees				X	X			X	X		X
2	Regional budgets											
	- subsidies	X	X	X	X	X	X	X	X	X	X	
	- loans / soft loans / interest free loans	X	X	X	X	X			X	X		
3	Municipal budgets (subsidies / loans)	X	X	X	X	X	X	X	X	X	X	X
4	Charges for:											
	- use of surface and ground water	X	X	X	X	X	X	X	X	X	X	X
	- waste water discharge	X	X	X	X		X	X	X	X	X	X
	- solid waste disposal						X				X	
	- utilisation of natural resources, soil, land, etc.			X							X	
5	Fines for environmental pollution and		X		X	X	X	X	X			
	violation of environmental legislation											
	- (air, water, wastes, soil, flora, fauna, etc.)											
6	Revenues from concessions	X		X						X		
	- (water, waste water, waste, natural resources, etc.)											
7	Taxes / fees on land use			X								
8	Taxes / fees on "harmful" commodities (fuels, etc.)		X			X						
9	Import duties on "harmful" commodities (cars, etc.)		X									
10	Revenues from public services											
	- water supply services	X		X								X
	- waste water services	X		X								X
11	Donations	X	X					X	X			
12	Commercial bank loans				X				X	X		
13	Equity of public and private investors	X	X	X	X	X	X	X	X	X	X	X
14	Others		(2)			(6)		X				
	Funding Instruments											
(a)	National Environmental Fund	--	X	--	X	X	X	(8)	X	X	X	--
(b)	Regional / Municipal Environmental Funds	--	(3)	--	--	--	--	--	--	--	X	--
(c)	Special Funds	(1)	--	(4)	(5)	(7)	--	--	(9)(10)	(11)	--	(12)

(1) BiH: Special funds as defined by special law
(2) Bulgaria: Revenues from privatisation
(3) Bulgaria: 170 Municipal environmental funds (small budgets)
(4) Croatia: Special funds as defined by the Water Management Financing Act
(5) Czech Republic: National Property Fund (for removal of old burdens);
(6) Hungary: Revenues from sales of state-owned architectural assets
(7) Hungary: Water Management Fund (1998 budget: USD 25.5 million)
(8) Romania: "Draft" National Environmental Fund
(9) Slovakia: State Water Managerment Fund
(10) Slovakia: State Fund of Conservation and Reclamation of Agricultural Land
(11) Fund of the Ministry of Environment and Physical Planning, Administrative Board of Envir. Protection
(12) Public Management Enterprise "Srbijavode" acts as a kind of special fund (1997 budget: USD 43 million)

Table 4.1-2/1
NATIONAL ENVIRONMENTAL FUNDS IN THE DRB COUNTRIES

	Million NC			Million USD		
	1996	1997	1998	1996	1997	1998
Bulgaria: National Environmental Protection Fund (NEPF)						
	M BGL	M BGL				
(1) Sources / Income of Funds	(1994)					
- Air	25					
- Water	14					
- Wastes	15					
- Taxes (from car imports)	111					
- Income from privatisation	51					
- Total Income	215	15704		4,6	9,1	
(2) Utilisation / Expenditures of Funds	(1994)					
- Monitoring	57					
- Waste water treatment	60					
- Control of air pollution	62					
- management of solid waste	4					
- Others	11					
- Total Expentitures	193	7261		3,4	4,2	
(3) Annual Surplus /Deficit (1997: 1USD = 1717 BGL)	22	8443		1,2	4,9	
Czech Republic: State Environmental Fund (SEF)						
		M CZK				
(1) Sources / Income of Funds						
- Charges for waste water discharge		499			15,7	
- Charges for ground water abstraction		36			1,1	
- Fines		19			0,6	
- Principal repayment from loans		295			9,3	
- Total Income		849			26,8	
(2) Utilisation / Expenditures of Funds						
- Subsidies		1145			36,1	
- Soft loans		747			23,6	
- Total Expentitures		1892			59,7	
(3) Annual Surplus /Deficit (1997: 1USD = 31.7 CZK)		-1043			-32,9	
Hungary: Central Environmental Protection Fund (CEPF)						
			M HUF			
(1) Sources / Income of Funds						
- Fines charged for protection of environment			1060			5,2
- Fees for environmental protection on products			18800			91,7
- Fines from protection of architectural values			100			0,5
- Fines from inproper construction and building			200			1,0
- Revenues from sales of state-owned assets			100			0,5
- Principal repayments from loans			2200			10,7
- Other revenues			1050			5,1
- Total Income			23510			114,7
(2) Utilisation / Expenditures of Funds						
- Subsidies for investment in environmental protection			16272			79,4
- Public tasks of environmental protection			4500			22,0
- Prevention of environmental damages			530			2,6
- Payment for caused damages			950			4,6
- Cost of collection of charges			550			2,7
- Cost of administration and control of utilisation			600			2,9
- Total Expentitures			23402			114,2
(3) Annual Surplus /Deficit (1998: 1USD = 205 HUF)			108			0,5

Table 4.1-2/2
NATIONAL ENVIRONMENTAL FUNDS IN THE DRB COUNTRIES

	Million NC			Million USD		
	1996	1997	1998	1996	1997	1998
Moldova : National Environmental Fund (including local environmental funds)						
	M MDL					
(1) Sources / Income of Funds						
- Charges for air pollution	0,580			0,126		
- Charges for waste water	0,777			0,169		
- Charges for wastes	0,050			0,011		
- Penalty charges for air pollution	0,031			0,007		
- Penalty charges for waste watrer discharge	0,012			0,003		
- Penalty charges for the use of land and soil	0,011			0,002		
- Penalty charges for violation of flora and fauna legisl.	0,057			0,012		
- Total Income	1,516			0,330		
(2) Utilisation / Expenditures of Funds						
- Air	0,350			0,076		
- Water and waste water	0,340			0,074		
- Solid wastes	0,000			0,000		
- Environmental protection	0,154			0,033		
- Environmental education	0,168			0,037		
- Monitoring	0,059			0,013		
- Others	0,299			0,065		
- Total Expentitures	1,370			0,298		
(3) Annual Surplus /Deficit (1996: 1USD = 4.6 MDL)	0,146			0,032		
Slovakia: State Environmental Fund						
		M SK				
(1) Sources / Income of Funds						
- Charges for waste water discharge		195			5,8	
- Charges for ground water		5			0,1	
- Penalties, fees		589			17,5	
- Principal repayment from loans		0			0,0	
Interest payments		9			0,3	
Penalties for delayed payment		0			0,0	
Contribution from the state budget		240			7,1	
- Total Income		1038			30,8	
(2) Utilisation / Expenditures of Funds						
- Non- investive expenditures		54			1,6	
- Investment expenditures		945			28,0	
- Total Expentitures		999			29,6	
(3) Annual Surplus /Deficit (1997: 1USD = 33.7 SK)		39			1,2	
Ukraine: State Environmental Fund						
			M HRN			
(1) Sources / Income of Funds						
- 30% of charges for pollution of environment						
- Others						
- Total Income			8,3			4,0
(2) Utilisation / Expenditures of Funds						
- Grants for programmes, studies, research						
- Grants for small water resource projects						
- Total Expentitures			8,3			4,0
(3) Annual Surplus /Deficit (1998: 1USD = 2.1 HRN)			0,0			0,0

4.2. Funding Mechanisms for Investments in Water Pollution Reduction

A compilation of standard funding sources and funding mechanisms as currently applied in the DRB countries for funding of standard investments in water pollution control (such as "municipal WWTP", "industrial WWTP" and "protection or rehabilitation measures concerning agricultural and other pollution of ground and surface water") is presented in Table 4.2.

All DRB countries have to a certain extent specified funding sources and procedures according to which a typical water sector project (such as a small or medium size municipal WWTP) is actually funded by a more or less "standard funding mix".

Apart from Hungary and Yugoslavia the DRB countries do, however, not have "standardized funding mechanisms" in that sense that a potential public or private investor or project sponsor has the legal right on a certain amount of public subsidies and thus a reliable basis for the elaboration of an appropriate funding mix.

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

The main problem in all DRB countries is in this context the prevailing "planning uncertainty" for a potential investor due to the fact that the probability and extent of public subsidies to be obtained for a particular project are usually determined by

- the availability of public budget funds for the current period in relation to the number and funding requirements of the competing projects of the same type;
- the project related budget obligations for the following funding periods;
- the technical, economic and environmental project feasibility;
- the status of project preparation and the quality of the application documents;
- the financial soundness and reliability of the project sponsor; and
- the availability or probability of complementary funding sources.

Funding mechanisms in Hungary:

Hungary is one country which has in mean time established a system of typical funding sources and mechanisms for the implementation of municipal and industrial WWTP. For a municipal WWTP the typical funding sources, and the upper limits for each particular source are determined as follows:

- grants from national budget (up to 40% of investment cost);
- subsidies from WMF (up to 30% of investment cost);
- subsidies from CEPF (up to 30% of investment cost);
- subsidies from regional development sources (up to 30% of investment);
- loans from Hungarian Development Bank (HDB);
- loans from international institutions mediated by HDB;
- own sources of municipality or utility (e.g. 30% share from charged wastewater fines, depreciation fund, etc.);
- loans from commercial banks (usually not relevant, as HDB can offer more favorable loan terms and the share of loans is restricted to 15% of the balance sum of a public utility).

According to a Government Decree the actual contributions of the potential funding sources have to be harmonized in order to achieve an appropriate and for both sides acceptable funding mix. Theoretically this system looks very generous; in practice, however, the funds of the particular sources are so limited in relation to the amount of applications, that a particular project can usually not expect more than a small share of the theoretically possible amount.

A similar system (with similar conditions) exists for the funding of industrial WWTP.

Funding mechanisms in Yugoslavia:

Yugoslavia is the other country which has recently introduced a kind of "standardized funding mechanism" for municipal, industrial and agricultural wastewater facilities and treatment plants. According to the new regulations all "producers" of wastewater can use the "Republican Non-repayable Fund" up to 30% of the total investment cost (for wastewater facilities and WWTP).

In the case of a municipal wastewater collection system or treatment plant the residual 70% of investment cost have to be provided by the municipality, respectively public utility, from

- internal funds of the public utility;
- municipal budgets;
- municipal taxes, charges, etc.

It will be an interesting experience if there will be sufficient public funds in relation to the amount of applications, and how the municipalities will achieve to raise the residual own contribution of 70% of investment cost. In almost all DRB countries the actually available funding sources and the applied funding mechanisms for investments in water management and pollution control are not at all suited to adequately cover the obvious needs of this sector.

It would be an essential task to establish at least for standard projects (such as small, medium or large size municipal or industrial WWTP) country specific "standard funding schemes" in order to improve the "planning certainty" of potential investors and to reduce the project preparation period.

If international funding assistance is needed these funding schemes have to take into account the requirements and procedures of the particular IFIs.

The country specific "standard funding schemes" to be established for typical "standard projects" should take into account and clarify the following items:

- the priority of the particular project in relation to competing projects in the same sub-sector;
- the potential national and international funding sources,
- the sequence of source applications;
- the basic funding procedures and guarantee requirements;
- minimum equity contribution, respectively own sources of the project sponsor;
- potential range for public grants;
- potential range for public loans;
- potential range and specific requirements for contribution of relevant public funds (Environmental Fund, Water Management Fund, etc.);
- potential range for international co-funding, taking into account the standard requirements of the potential IFI, (if the project is eligible for international assistance from the national point of view);
- particular funding components (technical assistance, donations, etc.);
- commercial loans as residual funding component.

TABLE 4.2/1
STANDARDISED FUNDING MECHANISMS FOR INVESTMENT IN WATER POLLUTION CONTROL IN THE DRB COUNTRIES

Country	Funding Sources and Mechanismns for Municipal Waste Water Treatment / Plants	Funding Sources and Mechanismns for Industrial Waste Water Treatment Plants	Funding Mechanisms for Protection or Prevention Measures Regarding Agricultural and other Pollution of Ground and Surface Water
BiH	(a) No standardised funding mechanisms (b) In recent years and currently reconstruction of WWTP fully financed by international funding sources	(a) Currently IWWTP are fully financed by international funding sources (b) In future IWWTP will have to be funded again by the industrial enterprise in compliance with reformed legislation (incl. small public subsidies)	(a) Apart from compensation fees for use of herbicides, pesticides, insecticides, etc, there are no funding sources and mechanisms for protection and prevention measures
Bulgaria	(a) No standardised funding mechanisms (b) Very limited sources of funding: - small public grants and loans - usually no equity (due to low tariffs) - usually no commercial bank loans	(a) No standardised funding mechanisms (b) Very limited sources of funding: - small public loans (for public enterprises) - usually no equity - usually no commercial loans	(a) No standardised funding mechanisms (b) Very limited sources of funding: - small public grants and loans - no equity - no commercial loans - some assistance from international sources
Croatia	(a) No standardised funding mechanisms (b) Typical sources of funding: - public loans (from water levy and water protection fees) - state participation in form of property rights (shares)	(a) No standardised funding mechanisms (b) No standard funding sources	(a) No standardised funding mechanisms (b) No standard funding sources
Czech Republic	(a) No standardised funding mechanisms (b) Typical sources of funding: - own sources of municipalities / utilities - commercial loans - grants from the state budget - grants and soft loans from SEF - grants from municipal budget - foreign funding sources (institutions and countries)	(a) No standardised funding mechanisms (b) Typical sources of funding: - internal funds of enterprise (equity) - commercial loans - loans from SEF	(a) No standardised funding mechanisms (b) No standard funding sources (c) Removal of old burdens, especially from dump sites and industrial plants is supported by the National Property Fund in the framework of privatisation
Hungary	(a) Typical funding sources and mechanisms: - grants from national budget (up to 40% of investment) - subsidies from WMF (up to 30% of investment) - subsidies from CEPF (up to 30% of investment) - subsidies from regional development sources (up to 30% of investment) - loans from Hungarian Development Bank (HDB) - loans from international institutions mediated by HDB - own sources of municipalties (e.g. 30% share from charged waste water fines, depreciation, etc) - loans from commercial banks (usually not relevant, as HDB can offer more favourable loan conditions and share of loans is restricted to 15% of balance sum) - according to a new Government Decree all funding sources have to be harmonised	(a) No standardised funding mechanisms (b) Typical sources of funding: - internal funds of enterprise (equity) - loans from the Central Environmental Protection Fund (which cannot exceed 50% of investment cost) - loans from the Water Management Fund (which cannot exceed 30% of investment cost, or HUF 75 million corresponding to USD 0.37 million) - HDB loans (at favourable terms) - commercial bank loans (usually not relevant)	(a) No standardised funding mechanisms (b) No standard funding sources

TABLE 4.2/2
STANDARDISED FUNDING MECHANISMS FOR INVESTMENT IN WATER POLLUTION CONTROL IN THE DRB COUNTRIES

Country	Funding Sources and Mechanismns for Municipal Waste Water Treatment / Plants	Funding Sources and Mechanismns for Industrial Waste Water Treatment Plants	Funding Mechanisms for Protection or Prevention Measures Regarding Agricultural and other Pollution of Ground and Surface Water
Moldova	(a) No standardised funding mechanisms (b) No standard funding sources (c) One recent funding source: EBRD loan for most urgent measures of "Apa Canal Chisniau" enterprise	(a) No standardised funding mechanisms (b) No standard funding sources	(a) No standardised funding mechanisms (b) No standard funding sources (c) Planned: Provision of funds from National Environmental Fund (95% for irrigation, 5% for waste water services)
Romania	(a) No standardised funding mechanisms (b) Typical sources of funding: - very limited own sources (municipalities/utilities) - very limited public grants (state budget, Water Fund) - very limited public soft loans (state budget, Water Fund) - some international sources (institutions) - some bilateral funds (technical assistance)	(a) No standardised funding mechanisms (b) No standard funding sources	(a) No standardised funding mechanisms (b) No standard funding sources
Slovakia	(a) No standardised funding mechanisms (b) Typical sources of funding: - sources of municipality - internal funds of utilities - grants from state budget - grants from State Environmental Fund (insignificant) - grants from State Water Management Fund (insignificant) - commercial bank loans (very problematic)	(a) No standardised funding mechanisms (b) Typical sources of funding: - internal funds of enterprise (equity) - grants from State Environmental Fund (insignificant) - grants from State Water Management Fund (insignificant) - commercial bank loans	(a) No standardised funding mechanisms (b) No standard funding sources
Slovenia	(a) No standardised funding mechanisms (b) Typical sources of funding: - state budget - Ecofund - funds of the Ministry of Environment and Physical Planning, Administrative Board of Environmental Protection - municipal budgets - internal funds of utilities - commercial bank loans	(a) No standardised funding mechanisms (b) Typical sources of funding: - internal funds of enterprise (equity) - Ecofund - funds of the Ministry of Environment and Physical Planning, Administrative Board of Environmental Protection - commercial bank loans	(a) No standardised funding mechanisms (b) No standard funding sources (c) Some funds from the Ministry of Agriculture for environment oriented programmes
Ukraine	(a) No standardised funding mechanisms (b) Typical sources of funding: - local budgets - local environmental funds - State Environmental Fund - internal funds of utilities - limited funds of the Cabinet of Ministers Reserve Fund in the case of emergency	(a) No standardised funding mechanisms (b) Typical sources of funding: - internal funds of enterprise (equity) - Central State Investment Fund for Industrial Development - limited funds of the Cabinet of Ministers Reserve Fund in the case of emergency	(a) No standardised funding mechanisms (b) Possible sources of funding: - internal funds of enterprise (equity) - Central State Investment Fund for Industrial Development - limited funds of the Cabinet of Ministers Reserve Fund in the case of emergency
Yugoslavia	(a) Some kind of standardised funding mechanisms (b) Typical sources of funding: - All "producers" of waste water can use the "Republican non-repayable Fund" amounting to 30% of the total investment cost (for sewerage facilities and WWTP) - The residual 70% of investment cost have to be provided by the municipality/public utility from - internal funds of public utility - municipal budgets - municipal taxes, charges, etc	(a) Some kind of standardised funding mechanisms (b) Typical sources of funding: - Also industrial enterprises can use the "Republican non-repayable Fund" amounting to 30% of the total investment cost (for sewerage facilities and WWTP) - The residual 70% of investment cost has to be provided by the enterprise from - internal funds (equity) - commercial bank loans	(a) Some kind of standardised funding mechanisms (b) Typical sources of funding: - Also agricultural enterprises can use the "Republican non-repayable Fund" amounting to 30% of the total investment cost (for sewerage facilities and WWTP) - The residual 70% of investment cost has to be provided by the enterprise from - internal funds (equity) - commercial loans

4.3. Private Financing Models for Public Infrastructure

On the international funding markets there is a broad variety of private financing models which have proven to be suited for funding or co-funding of public infrastructure. These models usually enable both national and international private sector participation.

The most essential models for funding of water sector investment, respectively operation of water and wastewater services, listed in the order of responsibility of the private sector as contractor, are:

(i) Service contract:

Under this contract a public utility or authority contracts out specific operations and maintenance activities to the private sector. Performance criteria are established, bidders evaluated and the private contractor is supervised. The utility pays fees for services based on lump sum or unit cost. Contracts should be awarded through competitive tendering. Contract duration may be between 1 and 3 years.

(ii) Management contract:

In this case the scope of the contract is broader, and may last for 3 to 5 years. The contractor receives some of his compensation as a function of his performance; in this case the contractor needs autonomy in day-to-day operations. Management contracts should provide incentives to train internal staff and are thus useful as interim arrangements to allow utilities to gain experience with contracting prior to consideration of more comprehensive leasing or concession contracts.

(iii) Lease contract

Under this arrangement the private contractor pays the public owner for exclusive rights to operate the leased facilities (without responsibility for major investments) and bearing full commercial risk. In this case the public owner remains responsible for fixed investment and debt servicing. The contractor normally finances (beside operating expenditures) working capital and short lived assets. He collects the tariff revenues directly and returns a portion to the public authority as rental or license fee. Savings from efficiency improvements are retained by the contractor. Contract duration is 6 to 10 years. The lease contract must specify extent of maintenance, performance indicators, enforcement procedures, penalties and dispute resolution.

(iv) Concession contract

In this case the contractor takes on the additional responsibility for specified replacements or extensions to fixed assets. Investment plans and implementation are reviewed by the contract issuing body, and the assets revert to the public owner upon completion of the concession. Contractor compensation is based on agreed tariffs as set out in the contract. The revenues must be sufficient to cover operational expenditures, as well as debt service and depreciation on the concession investment. Concessions last usually 15 to 30 years, depending on the life time of the investment. Concessions must contain appropriate disincentives for contractors to run down assets at the end of the contract period.

(v) BOT (build-operate-transfer) contract

BOT is a variant of concessions, useful where countries or utilities cannot borrow sufficient investment capital. In this case BOT's require explicit guarantees from government concerning demand, tariffs and revenues, and Government remains responsible for sector planning, policy making, etc.

Basic information on the current use of particular financing models in the DRB countries is compiled in Table 4.3 and can be summarized as follows:

(i+ii) Service and management contracts

Service and management contracts have been introduced in Hungary in the process of privatization of public utilities; they are occasionally used for septic tank services (e.g. in Slovenia) and are currently applied for particular activities in the framework of the Ukrainian/ Canadian Dnipro Co-operation Programme. In the other countries this kind of private participation is not yet used or currently in the stage of economic and fiscal assessment.

(iii) Lease contracts

Leasing is very common in the private business sector (mainly for car leasing) in Hungary, Czech Republic and Slovenia and to minor extent adopted in Slovakia, Romania and Moldova. In the other countries it is either not yet relevant or currently in the stage of economic and fiscal assessment. In the water sector, leasing is occasionally applied for the acquisition of technological equipment for small scale WWTP in Czech Republic and Slovakia. There is no example that a whole public utility or an essential part of it is leased to the private sector.

(iv) Concession contracts/joint investment

Concession contracts are at the time being not common in the DRB countries. One of the few examples is the Sewage Utility Plc. Budapest, which entered into a concession contract of operation for 25 years with a German-French consortium. Another example is the long term joint investment and concession contract concluded between the City Assembly of Belgrade and the French companies SOR/Buik for reconstruction of the water supply system, respectively the German company ALBA for wastewater recycling. For the Water and Wastewater Utilities of Sofia a concession study, supported by EBRD, is currently in progress.

(v) BOT contracts

BOT models for rehabilitation or extension of public infrastructure are currently applied in:

- Hungary (WWTP and sewerage networks in Budapest, Gyor and Dunaujvaros);
- Slovenia (construction and operation of gas pipelines);

BOT models are currently in the phase of negotiation in:

- Ukraine (WWTP and demineralization of mine water); and
- Slovenia (WWTP Maribor).

At the time being private financing models do not play a significant role in funding of water sector investment, respectively water and wastewater services, but from the ongoing negotiations in the different countries can be concluded that they have to be considered as essential potential funding sources, as soon as there are a reliable administrative and legislative environment and profitable projects.

TABLE 4.3/1
PRIVATE FINANCING MODELS FOR PUBLIC INFRASTRUCTURE PROJECTS IN THE DRB COUNTRIES

Country	BOT (Build-Operate-Transfer)	Concession, Management, Service Contracts	Leasing Model	Others
BiH	- Not yet relevant in BIH	- Not yet relevant in BIH	- Not yet relevant in BIH	- No other models in application
Bulgaria	- Not yet relevant in Bulgaria	- Not yet relevant in Bulgaria	- Not yet relevant in Bulgaria	- No other models in application
Croatia	- Currently in the phase of fiscal and economic assessment	- Currently in the phase of fiscal and economic assessment	- Currently in the phase of fiscal and economic assessment	- No other models in application
Czech Republic	- Few cases of application in the central heating sector	- Actually not used in Czech Republic	- 60% of all contracts: business cars - Few cases of application: equipment for small scale WWTP	- Industrial companies use: - equity - commercial bank loans
Hungary	- Used by OMS Hungarian Kft (German-Hungarian joint venture) for WWTP and sewerage networks - Actual cases of application: Municipalities of Budapest, Gyor and Dunaujvaros	- Typical since 1992 due to transformation of state owned utilities into limited and public limited companies; - Budapest Sewage Utility Plc. entered into a concession contract of operation for 25 years; contractor a German- French consortium	- Frequent application in private business sector	- International co-financing of public infrastructure possible from legal point of view; actually no examples;
Moldova	- Not yet relevant in Moldova	- Not yet relevant; under current market conditions water and waste water services not yet profitable;	- Actually very few cases of leasing contracts in the busines sector	- No other models in application
Romania	- Not yet relevant in Romania	- Not yet relevant in Romania	- Duty free import of equipment, etc, in the framework of leasing contracts (if not older than 2 years and a leasing period of less than 36 month)	- Individuals, wether Romanian or foreign, can rent property in Romania by freely negotiated contracts, keeping standards set by fiscal authorities;

TABLE 4.3/2
PRIVATE FINANCING MODELS FOR PUBLIC INFRASTRUCTURE PROJECTS IN THE DRB COUNTRIES

Country	BOT (Build-Operate-Transfer)	Concession, Management, Service Contracts	Leasing Model	Others
Slovakia	- Not yet relevant in Slovakia - Currently in the phase of fiscal and economic assessment	- Not yet relevant - Currently in the phase of fiscal and economic assessment	- Leasing is adopted for financing of technology in WWTP in the case of: - adequate guarantee - sound financial situation - leasing period shorter than period of depreciation	- Industrial companies use: - equity - commercial bank loans - In accordance with actual legislation transfer of state property free of charge to (usual) municipal utilities
Slovenia	- Application for construction and operation of gas pipelines - Ongoing BOT activities for the water treatment plant Maribor (with initial assistence of EBRD)	- Currently in the phase of fiscal and economic assessment - Some minor contracts in the field of emtying of septic tanks	- Leasing was introduced in 1994, - In 1997 about 12% of all investment was financed by leasing - Actually leasing is subject to a tax of 6.5% on leasing value	- All funding models regarding water sector projects are still in the phase of administrative and fiscal assessment
Ukraine	- As proposed by the Ukrainean and Japanese Governments, 3 projects are considered to be financed jointly by BOT models: - reconstruction of WWTP in Kryvyi Rig and Zaporizhzhya; - demineralisation of Krivbas mine water	- Within the 2nd stage of the Ukrainian-Canadian Dnipro Coop. Programme, service contracts are considered for: - desludging of river beds/reservoirs - production of bio-fertilisers - dissimination of leasing models regarding environmental issues	- Not yet relevant in Ukraine	- Particular funding models as developed in the frame of TACIS projects
Yugoslavia	- No experience on national level - Negotiations on BOT contracts with forein contractors for WWTP and water supply system in Nis (1997)	- Long term joint investment and concession contracts concluded between City Assembly of Belgrade and - the French companies SOR/BUIK for reconstruction of water supply system - the German company ALBA for waste water recycling	- Not relevant for public infrastructure	- No other models in application

4.4. Water and Wastewater Tariffs

(a) Tariff Policies and Systems

Revenues from water supply and wastewater services have to be considered as the most essential funding sources for investment in and operation of water sector facilities with the usually highest capital requirements.

Each of the DRB countries has on principle a country specific tariff policy for water and wastewater tariffs which is in the particular countries to different extent determined by the following conditions, targets and principles:

- the overall legal, institutional and administrative framework for the water and wastewater sector;
- the legal, institutional, technical and financial conditions of the water utilities;
- the recent development and actual economic status of the country;
- the income structure of the private households and the affordability of the low income segment of the population to pay for public services;
- the principle that the different categories of users should pay regional differentiated cost covering tariffs, based on actual consumption;
- the principle that cross-subsidization (mainly between industry and private households) should be eliminated;
- the principle that tariff setting should achieve a reasonable compromise between the conflicting targets of:
  - saving and protection of natural resources (environmental target);
  - covering economic cost of water and wastewater services (economic target);
  - utmost income generation for the public utilities or private owners/operators (financial target);
  - adequate consideration of affordability of the low income segment of the population (social target).

In practice most of the DRB countries have not yet achieved these targets and principles and the tariff systems currently in application can in general terms be characterized as follows:

- In all countries the tariff systems are regionally differentiated with usually different tariffs for population, budget organizations / public authorities, agricultural /gardening demand and commercial / industrial demand.
- In all countries there is a broad differentiation of tariffs for industries, budget organizations and private households, usually reflecting significant cross-subsidization between industries and population.
- In all countries individual metering of water consumption has been introduced; the actual status and level is, however, very different from country to country. At least for the population, tariff setting is partly not based on actually metered consumption, but determined on flat rate or lump sum basis.
- In all countries the tariffs for population are not differentiated by volume of consumption. For social reasons tariffs are consequently set at relatively low levels which do not use the full potential of the better-off households, but are often above the affordability or willingness to pay for the low income segment of the population.

- Tariffs for water supply are usually for all consumer categories based on consumption volumes (either metered or determined on a flat rate basis). For population wastewater tariffs are usually based on quantities of water consumption, for industries wastewater tariffs are usually based on quantities of wastewater discharge and concentration of pollutants.
- Actual tariff levels do neither cover economic cost nor financial cost for adequately maintained and operated water and wastewater services, and are not at all suited to enable the utilities to create sufficient internal funds for system rehabilitation, improvement and extension.
- Utilities are usually not in the position to set tariffs according to entrepreneurial requirements. Tariff setting as well as the application of measures needed to improve the usually unacceptably low collection rates are rather strictly determined by existing legislation, respectively the control authorities.

(b) Water and Wastewater Tariffs

The actual water and wastewater tariffs for the particular DRB countries are compiled in Table 4.4 and illustrated in Figure 4.4. The tariff figures are given for the most recent year for which data are available and are for the purpose of comparison expressed in USD (based on the official exchange rate between the national currencies and the USD). In Annex 4.4 the actual water and wastewater tariffs are additionally compiled in national currencies. The presented figures show the minimum and maximum tariffs to be found in one of the DRB countries; as well as the range of the country specific average tariffs.

Water and waste tariffs for population (USD/m^3):

Minimum water tariff:	USD 0.02	(Moldova)	
Maximum water tariff:	USD 0.79	(Slovenia);	
Range of average water tariffs:	USD 0.11	(Yugoslavia)	- USD 0.79 (Slovenia);
Minimum wastewater tariff:	USD 0.01	(Moldova)	
Maximum wastewater tariff:	USD 0.80	(Hungary);	
Range of average wastewater tariffs:	USD 0.05	(Yugoslavia)	- USD 0.46 (Hungary);

Water and wastewater tariffs for industry (USD/m^3):

Minimum water tariff:	USD 0.07	(Yugoslavia)	
Maximum water tariff:	USD 2.95	(Hungary);	
Range of average water tariffs:	USD 0.42	(Yugoslavia)	- USD 1.60 (Hungary);
Minimum wastewater tariff:	USD 0.01	(Yugoslavia)	
Maximum wastewater tariff:	USD 4.22	(Hungary);	
Range of average wastewater tariffs:	USD 0.20	(BiH)	- USD 2.18 (Hungary);

From this compilation can be seen that water and wastewater tariffs are (even under consideration of different purchase power parities) extremely different from country to country and have to be considered in most of the DRB countries as the most promising source of additional fund raising for investment in water sector programmes and projects.

ANNEX 4.4
WATER AND WASTE WATER TARIFFS IN THE DRB COUNTRIES
(IN NATIONAL CURRENCIES)

Country	Tariff Level	Currency	Year	Water Tariffs			Waste Water Tariffs			Total Tariffs		
				Domestic	Budget Organisations	Industry, Others	Domestic	Budget Organisations	Industry, Others	Domestic	Budget Organisations	Industry, Others
Bosnia and Herzegovina	- Average (x)	KM/m3	1997	0,58	--	1,72	0,23	--	0,35	0,78	--	2,50
	- Minimum	KM/m3	1997	0,12	--	0,42	0,12	--	0,21	0,40	--	1,98
	- Maximum	KM/m3	1997	1,04	--	3,02	0,33	--	0,49	1,16	--	3,02
Bulgaria (1)	- Average (x)	BGL/m3	1998	503,00	509,00	649,00	116,00	117,00	565,00	619,00	626,00	1214,00
	- Minimum	BGL/m3	1998	231,00	243,00	243,00	79,00	79,00	171,00	0,00	0,00	0,00
	- Maximum	BGL/m3	1998	775,00	775,00	1054,00	153,00	155,00	959,00	0,00	0,00	0,00
Croatia	- Average	HRK/m3	1996	4,91	--	7,87	1,86	--	2,46	6,77	--	10,33
	- Minimum	HRK/m3										
	- Maximum	HRK/m3										
Czech Republic	- Average	CZK/m3	1997	11,86	15,85	15,85	9,31	13,34	13,34	21,17	29,19	29,19
	- Minimum	CZK/m3	1997	5,00	7,46	7,46	5,00	5,00	5,00	--	--	--
	- Maximum	CZK/m3	1997	19,07	31,30	31,30	16,40	31,30	31,30	--	--	--
Hungary	- Average (x)	HUF/m3	1997	96,50	328,50	328,50	94,85	446,35	446,35	191,35	774,85	774,85
	- Minimum	HUF/m3	1997	53,00	53,00	53,00	26,70	26,70	26,70	--	--	--
	- Maximum	HUF/m3	1997	140,00	604,00	604,00	163,00	866,00	866,00	--	--	--
Moldova (2)	- Average (x)	MDL/m3	1997	0,55	4,75	6,51	0,39	3,23	6,10	0,94	7,98	12,61
	- Minimum	MDL/m3	1997	0,10	0,80	0,62	0,07	0,45	0,91	--	--	--
	- Maximum	MDL/m3	1997	1,00	8,70	12,40	0,70	6,00	11,28	--	--	--
Romania (5)	- Average	LEI/m3	1998	6500,00	6500,00	6500,00	4000,00	4000,00	15000,00	10500,00	10500,00	21500,00
	- Minimum	LEI/m3	1998	3000,00	3000,00	3000,00						
	- Maximum	LEI/m3	1998	10000,00	10000,00	10000,00						
Slovakia	- Average	SK/m3	1997	6,00	14,81	14,81	4,00	11,08	11,08	10,00	25,89	25,89
	- Minimum	SK/m3										
	- Maximum	SK/m3										
Slovenia (3)	- Average	SIT/m3	1997	126,27	143,38	183,63	44,31	51,01	86,35	170,58	194,39	269,98
	- Minimum	SIT/m3										
	- Maximum	SIT/m3										
Ukraine (4)	- Average											
	- Odessa	Krb/m3	1996	12600,00	26760,00	83960,00	6900,00	14520,00	45540,00	19500,00	41280,00	129500,00
	- Mariupol	UAH/m3	1997	0,22	0,34	0,56	0,08	0,16	0,16	0,30	0,50	0,72
Yugoslavia	- Average	YUD/m3	1997	1,17	--	4,45	0,53	--	2,12	1,70	--	6,57
	- Minimum	YUD/m3	1997	0,42	--	0,74	0,11	--	0,11	--	--	--
	- Maximum	YUD/m3	1997	2,76	--	9,12	1,17	--	8,48	--	--	--

Remarks:

(1) Actual tariffs for industry are to be increased by a surcharge for waste water treatment depending on pollution content;
(2) Excluding a few extreme values of more than 3 US$ per m3 of water or sewage for industry and budget organisations
(3) Tariffs for budget organisations are increased by a surcharge of 60 SIT/m3 for taxes and public fees;
(4) Tariffs are for Vodokanal Odessa, April 1996; and for Vodokanal Mariupol, 01 January 1997;
(5) Approximate figures
(x) Average values not available: Simplifying assumption: Average = (maximum value plus minimum value) / 2;

FIG 4.4-1: WATER AND WASTE WATER TARIFFS FOR POPULATION IN THE DRB COUNTRIES

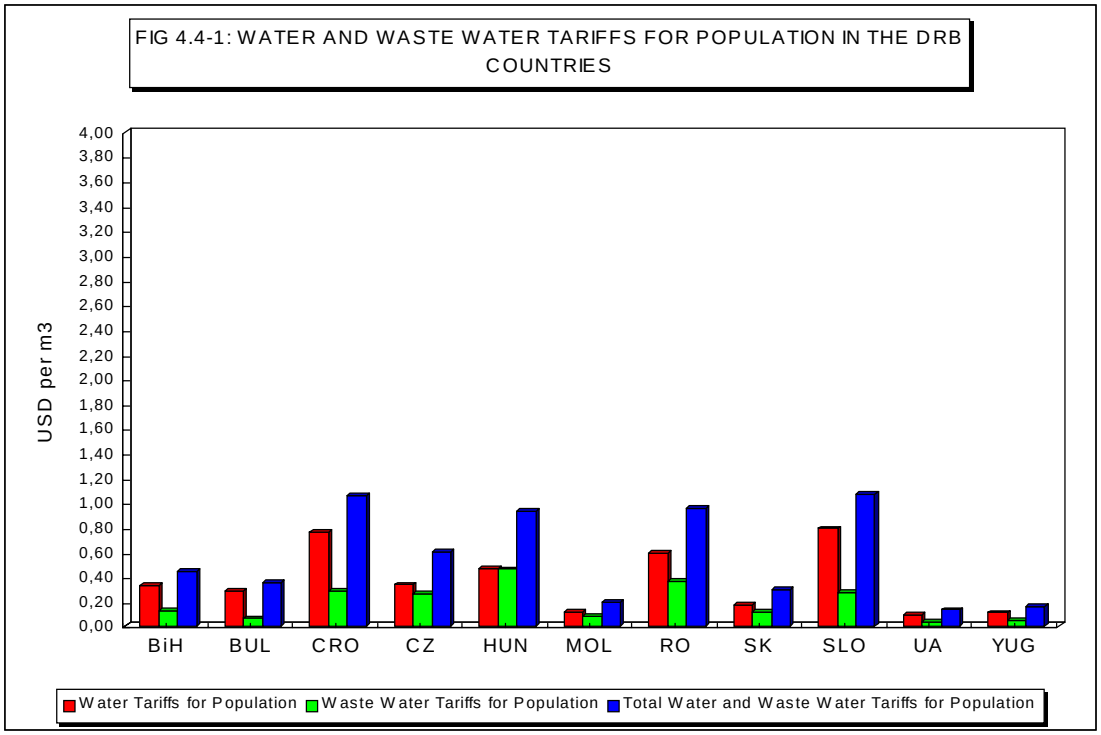
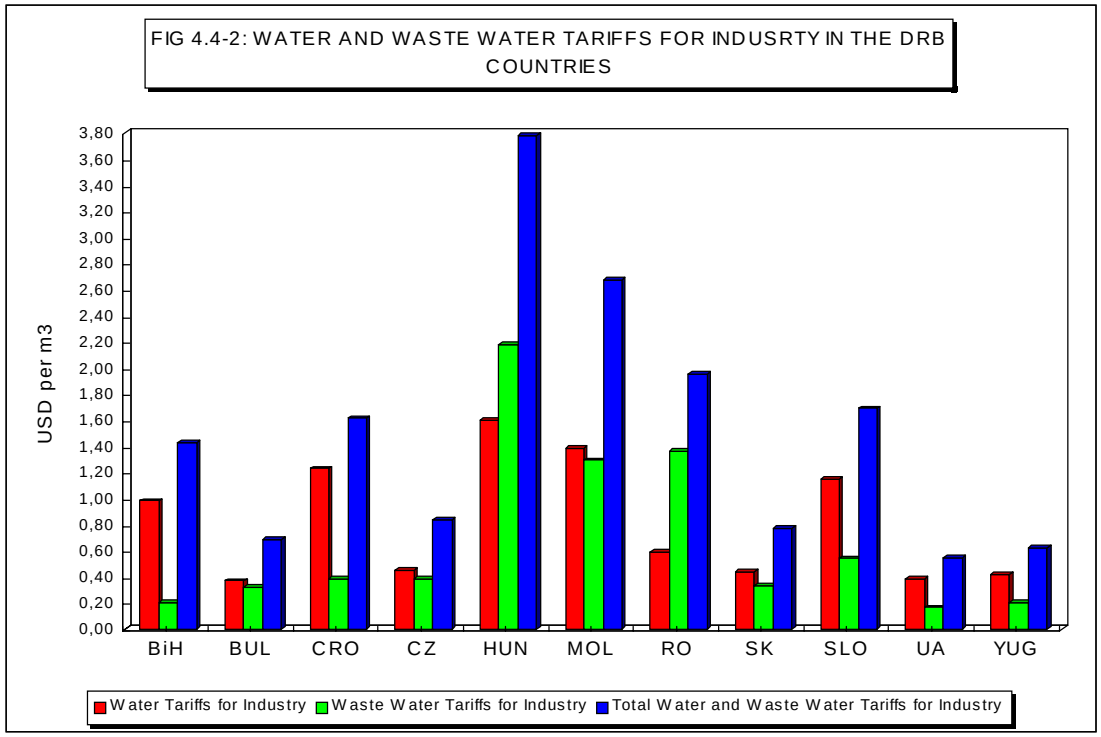


FIG 4.4-2: WATER AND WASTE WATER TARIFFS FOR INDUSRTY IN THE DRB COUNTRIES



4.5. System and Practice of Charges and Fines

In all DRB countries it is clearly recognized that an appropriately matched system of charges and fines is a substantial funding source for water sector investment and at the same time an effective tool:

- to promote rational utilization of natural resources;
- to prevent or reduce environmental pollution (of air, water, soil); and
- to prevent or reduce degradation of natural environment.

In the DRB countries there is a broad variety of charges, fines, fees, taxes, and compensation payments which can be categorized as follows:

(i) Charges

- Charges for abstraction of surface water;
- Charges for abstraction of ground water;
- Charges for wastewater discharge
  (with concentration of pollutants within permitted limits).

(ii) Fines

- Fines for abstraction of surface and ground water
  (exceeding contract volumes, legal regulations, etc.);
- Fines for discharging of wastewater
  (exceeding contract volumes, legal regulations, quality standards);
- Fines for discharging substances
  (with special toxic effects or exceeding permitted limits);
- Wastewater fines (sewer fines);
- Fines for the violation of environmental legislation/standards;
- Particular fines.

(iii) Fees

- Water use fees;
- Water protection fees;
- Concession fees
  (for the exploitation of natural resources);
- Exploitation fees
  (for materials from surface waters);
- Catchment fees.

(iv) Taxes, duties, others

- Taxes on the use of natural resources (soil, water, minerals)
- Water tax on payroll;
- Excise duties on imported fuels and cars;
- Special compensation for change of water regime.

The particular charges, fines and other instruments currently applied in the particular DRB countries are compiled in Table 4.5.

This compilation gives relatively detailed information on all categories and fines in application. An assessment and comparison of the country specific figures seems not useful as the provided figures are obviously not really complete.

According to the figures provided by the National Review Reports the annual country specific revenues can be summarized as follows:

Annual Revenues from Charges, Fines, etc.	Year	Million USD
BiH	1997	14.8
Bulgaria	1996	0.6
Croatia	1997	165.3
Czech Republic	1996	64.3
Hungary	1997	27.3
Moldova	1996	0.0
Romania	1997	38.2
Slovakia	--	--
Slovenia	1997	25.0
Ukraine	1997	90.0
Yugoslavia	1997	52.7
Total		478.2

According to the figures provided, the total aggregated amount of charges, fines and other instruments for the ten countries for which any figures are available, is in the range of about USD 480 million per year. This corresponds to a value of about USD 3.8 per capita and year.

The bases, regulations and practice procedures for the particular charges, fines, etc. are usually very detailed defined, but most of them are relatively unimportant or ineffective regarding the envisaged effects as well as the amount of revenues; only a few items are really essential revenue categories.

A particular problem in most of the countries is that under the prevailing economic conditions full payment of charges and fines cannot be enforced.

Due to this fact and due to the fact that most of the basic regulations are still determined to some extent by historical features, in most of the DRB countries the system and practice of charges and fines is currently in a phase of restructuring and modernization.

TABLE 4.5/3
CHARGES AND FINES FOR WATER UTILISATION AND WASTE WATER DISCHARGE IN THE DRB COUNTRIES

Main Characteristics of Charges and Fines	Annual Revenues 1996 M USD	Annual Revenues 1997 M USD
Slovenia		
(1) Charges for utilisation of surface water: - Abstraction of drinking water: USD 0.039/m3; - Abstraction of other water: USD 0.026/m3; - Exploitation of gravel: USD 0.78/m3; - Exploitation of fine river sand: USD 3.9/m3;	7,4	6,3
(2) Charges for waste water discharge: - Charges are determined by the regulations of the Act on Waste Water Discharge Fees - Price per "charge unit" is annually determined by the government, as follows 1996: USD 5.0 per "charge unit"; 1997: USD 7.5 per "charge unit"; 1998: USD 13.1 per "charge unit"; - Revenues from charges paid by municipalities: - Revenues from charges paid by industry:	10,1 5,2	12,8 6,0
(3) Total revenues (exchange rate: 1 USD = 135 SIT for 1996, 160 SIT for 1997)	22,6	25,0
Ukraine		
(1) Charges for utilisation of water resources: - Abstraction of surface water: USD 0.007 - 0.043 (depending on the river catchment area); - Abstraction of ground water: USD 0.0144 - 0.045; - Hydro-electric power stations: 0.0035 per 100 m3; - Water transport : USD 0.0063 per ton-day for cargo fleet in operation; - Water transport: USD 0.0007 per "place day" of passenger fleet in operation; - There are reduction factors of 10 to 50% for particular customer categories;		90,0
(2) Charges for waste water discharge: - Charges depend on type and quantity of pollutants; - Actual figures not available;		
(3) Total revenues (exchange rate: 1 USD = 2 HRN)		90,0
Yugoslavia		
(1) Charges for water abstraction/utilisation: - Unprocessed water: USD 0.0045/m3; - Drinking water quality: USD 0.0076 - 0.0127 per m3; - Mineral water: USD 0.0068 per litre of sold mineral water; - 4% of the wholesale price per kg of sold fish; - 2.3% of the selling price per kWh of hydro-electic power plants; - 1.25% of selling price per kWh of thermo-electric power plants;		
(2) Charges for waste water discharge: - Discharge of polluted industrial waste water: USD 0.09 - 0.18 per m3 (depending on the branch of industrial enterprice); - Tax payers who discharge waste water into sewage systems: USD 0.0068/m3; - Other tax payers: USD 0.049/m3; - The basic charges increase in accordance with the degree of recipient's pollution: (first class recipient with 50%, second class recipient with 25%); - Charges for tax payers are reduced according to quality of waste water treatment to: 85%, 25% or 10% of basic charges;		
(3) Total revenues (exchange rate: 1 USD = 5.9 YUD)		52,7
Overall Revenues for all Countries		478,2
(Note: If figures for 1997 are not available, figures of 1996 are schematically adopted for 1997)		

TABLE 4.5/2
CHARGES AND FINES FOR WATER UTILISATION AND WASTE WATER DISCHARGE IN THE DRB COUNTRIES

Main Characteristics of Charges and Fines	Annual Revenues 1996 M USD	Annual Revenues 1997 M USD
Hungary		
(1) Charges for water abstraction: - USD 0.007 for domestic and agricultural users; - USD 0.02 for industrial users;		25,2
(2) Waste water fines - Waste water fine is levied on point sources discharging waste water directly into surface water above defined effluent standards (not for public utilities); - Fines are defined in terms of polltion concentration, depending on sensitivity of recipient 70% of fines for CEPF, 30% for municipalities;		2,1
(3) Sewer fines - Sewer fine is levied on users on public sewer networks (public utilities); - Fines are defined in terms of pollution concentration, depending on sensitivity of recipient; - Revenues from sewer fines remain with the (usually public) owner of the utility;		
(4) Total revenues (exchange rate: 1 USD = 205 HUF)		27,3
Moldova		
(1) Charges for water abstraction: - General tax on water supply: USD 0.038 / m3; - Reduced tax for irrigation and fisheries:USD 0.019/m3, cooling water: USD 0.013 /m3; - Charges on central municipal water supply: USD 0.53/m3; (for local administration);		
(2) Pollution charges for waste water discharge - Different charges for pollution "within permitted limits" and "exceeding permitted standards";	0,014	
(4) Total revenues (exchange rate: 1 USD = 4.7 MDL)	0,014	
Romania		
(1) Charges for water abstraction:		38,2

Charges for water abstraction:		Inland rivers	Danube River	Ground water
- Industry, agriculture:	USD/1000m3	7,50	--	9,00
- Irrigation, fisheries:	USD/1000m3	0,10	0,90	2,11
- Power plants:	USD/1000m3	0,05	0,02	0,36
- Public administration:	USD/1000m3	2,75	0,53	2,80
- Others	USD/1000m3	7,50	0,90	9,23

(2) Charges for waste water discharge (with concentration of pollutans within permittted limits): - Suspended matters and dissolved substances as listed in the regulations: 0.63 USD/ton; - Oxygen consuming substances: 2.5 USD/ton; - Water used in power plants: USD 0.09 - 0.20 per 10000 m3
(3) Penalties for abstraction of surface water or ground water, or discharge of waste water, exceeding the contract volumes or legal regulations: - between 2 and 10 times the basic charges for water abstraction or waste water discharge;
(4) Penalties for discharging waste water exceeding the mean daily values of quality parameters defined by the legal regulations: - between USD 0.006 and 5.6 per kg of particular substances;
(5) Penalties for discharging substances with special toxic effects: - Mercury: 68 USD/kg - Pesticides with persistent halogen compounds: 113 USD/kg;

(6) Total revenues (exchange rate: 1 USD = 8478 ROL)		38,2
Slovakia		
(1) Penalties for non-legal water utilisation: - Non-legal utilisation of surface water: USD 0.03/m3; - Non-legal utilisation of ground water: USD 0.21/m3;		
(2) Penalties for non-legal waste water discharge: - Category I: USD 0.15/m3; (minimum penalty USD 445); - Category II: USD 0.09/m3; (minimum penalty USD 297); - Category III: USD 0.06/m3; (minimum penalty USD 148); - Category IV: USD 0.006/m3; (minimum penalty USD 297);		
(3) Total revenues (exchange rate: 1 USD = 33.7 SK)		0,0

TABLE 4.5/3
CHARGES AND FINES FOR WATER UTILISATION AND WASTE WATER DISCHARGE IN THE DRB COUNTRIES

Main Characteristics of Charges and Fines	Annual Revenues 1996 M USD	Annual Revenues 1997 M USD
Slovenia		
(1) Charges for utilisation of surface water:	7,4	6,3
- Abstraction of drinking water: USD 0.039/m3;		
- Abstraction of other water: USD 0.026/m3;		
- Exploitation of gravel: USD 0.78/m3;		
- Exploitation of fine river sand: USD 3.9/m3;		
(2) Charges for waste water discharge:		
- Charges are determined by the regulations of the Act on Waste Water Discharge Fees		
- Price per "charge unit" is annually determined by the government, as follows		
1996: USD 5.0 per "charge unit";		
1997: USD 7.5 per "charge unit";		
1998: USD 13.1 per "charge unit";		
- Revenues from charges paid by municipalities:	10,1	12,8
- Revenues from charges paid by industry:	5,2	6,0
(3) Total revenues (exchange rate: 1 USD = 135 SIT for 1996, 160 SIT for 1997)	22,6	25,0
Ukraine		
(1) Charges for utilisation of water resources:		90,0
- Abstraction of surface water: USD 0.007 - 0.043 (depending on the river catchment area);		
- Abstraction of ground water: USD 0.0144 - 0.045;		
- Hydro-electric power stations: 0.0035 per 100 m3;		
- Water transport : USD 0.0063 per ton-day for cargo fleet in operation;		
- Water transport: USD 0.0007 per "place day" of passenger fleet in operation;		
- There are reduction factors of 10 to 50% for particular customer categories;		
(2) Charges for waste water discharge:		
- Charges depend on type and quantity of pollutants;		
- Actual figures not available;		
(3) Total revenues (exchange rate: 1 USD = 2 HRN)		90,0
Yugoslavia		
(1) Charges for water abstraction/utilisation:		
- Unprocessed water: USD 0.0045/m3;		
- Drinking water quality: USD 0.0076 - 0.0127 per m3;		
- Mineral water: USD 0.0068 per litre of sold mineral water;		
- 4% of the wholesale price per kg of sold fish;		
- 2.3% of the selling price per kWh of hydro-electic power plants;		
- 1.25% of selling price per kWh of thermo-electric power plants;		
(2) Charges for waste water discharge:		
- Discharge of polluted industrial waste water: USD 0.09 - 0.18 per m3 (depending on the branch of industrial enterprice);		
- Tax payers who discharge waste water into sewage systems: USD 0.0068/m3;		
- Other tax payers: USD 0.049/m3;		
- The basic charges increase in accordance with the degree of recipient's pollution: (first class recipient with 50%, second class recipient with 25%);		
- Charges for tax payers are reduced according to quality of waste water treatment to: 85%, 25% or 10% of basic charges;		
(3) Total revenues (exchange rate: 1 USD = 5.9 YUD)		52,7
Overall Revenues for all Countries		#######
(Note: If figures for 1997 are not available, figures of 1996 are schematically adopted for 1997)		

4.6. Economic and Financial Incentives for Water Protection and Pollution Reduction

In modern industrialized countries it is common sense that a reasonably structured set of economic and financial incentives can be used as an essential tool:

- to promote rational utilization of natural resources;
- to prevent or reduce environmental pollution (of air, water, soil); and
- to prevent or reduce degradation of natural environment.

In all DRB counties it is fully recognized that critical investment in environment, respectively water quality protection and pollution reduction programmes should be facilitated through economic and financial incentives which do not involve a direct budget allocation but which may have a kind of budgetary impact. Such incentives are considered suited to improve the financial condition of potential project authorities or sponsors and increase the net revenues, respectively operation profit, available for investment or debt service. This will expand the capacity of the authority or utility to mobilize resources for project financing and implementation. The incentives currently applied in the particular DRB countries are listed in detail in Table 4.6 and can be summarized as follows:

- **Income tax incentives -**
  for companies and authorities acting in the environmental sector or dealing with environmental protection;
- **Income tax incentives -**
  for companies adopting environment friendly production technology or producing environment friendly products;
- **Exemption from or reduction of import tax -**
  for companies and authorities dealing with environmental protection;
- **Exemption from or reduction of import tax -**
  for import of environment friendly equipment or commodities;
- **Exemption from or reduction of VAT –**
  for companies and authorities acting in the environmental sector or dealing with environmental protection:
- **Exemption from or reduction of VAT -**
  for environment friendly commodities and services of environmental nature;
- **Exemption from or reduction of particular taxes -**
  special transaction taxes, land tax, property tax, etc., in case of environment friendly production technology or resource utilization;
- **Preferential treatment of environment related donations;**
- **Preferential treatment of credits for environmental projects;**
- **Preferential treatment of reserves and funds -**
  dedicated for environmental investment;
- **Accelerated depreciation of fixed assets -**
  serving for environment protection or water and waste water services;
- **Export licenses -**
  for environment friendly tradable commodities;
- **Licenses -**
  for generation, transport, trade and recycling of hazardous waste if approval of technological safety is provided.

From the information provided by the National Review Reports it turns out that due to the usually critical economic situation none of the DRB countries has at the time being a really satisfying and functioning system of economic and financial incentives.

A few countries (such as Bulgaria, Hungary, Moldova, Slovenia) have at least basic sets of financial incentives, and only Yugoslavia has recently introduced a reasonably structured set of incentives, the practicability and efficiency of which has still to be proven.

Altogether it has to be stated that the economic and financial incentives as currently applied in the DRB countries are not sufficient and not efficient to promote rational utilization of natural resources or to prevent environmental pollution or degradation of natural environment.

TABLE 4.6/1
ECONOMIC AND FINANCIAL INCENTIVES, CHARGES AND FINES FOR PROTECTION OF ENVIRONMENT AND POLLUTION CONTROL IN THE DRB COUNTRIES

Country		Incentives to Promote Rational Utilisation of Natural Resources Incentives to Prevent or Reduce Environmental Pollution of Air, Water, Soil Incentives to Prevent or Reduce Degradation of Natural Environment		Charges and Fines for Environmental Pollution Charges for Utilisation of Natural Resources Fees for Compensation of Environmental Damages Fines for Violation of Environmental Legislation
Bosnia and Herzegovina	(a)	Presently no significant economic and financial incentives	(a) (b) (c) (d) (e)	General Compensation for water resource management Special compensation for utilisation of water Special compensation for protection of water Special compensation for exploitation of materials Special compensation for change of water regime
Bulgaria	(a) (b) (c) (d)	Exemption of duties for a long list of environmentally relevant installations, equipment, commodities, etc. Exemption of profit tax for environmentally relevant donations (up to 3% of profit before taxes) Exemption of VAT for commodities of environmental nature Preferential treatment of credits for environmental projects as provided under the law on Protection of Foreign Investment	(a) (b)	Charges and fines for water abstraction Charges and fines for waste water discharge
Croatia	(a) (b)	Exemption of duties and special transaction taxes for environmentally relevant commodities which can not be produced in Croatia Legislation of other incentives in preparation	(a) (b) (c) (d) (e)	Water use fee Water protection fee Water tax on payroll Exploitation fee for materials from surface waters Catchment fee
Czech Republic	(a) (b)	No information on actual economic and financial incentives Legislation of incentives in preparation	(a) (b) (c) (d)	Charges for abstraction of surface water Charges for abstracxtion of ground water Charges for discharge of untreated waste water Particular fines
Hungary	(a) (b) (c)	Exemption of corporate tax for water supply and waste water services under certain circimstances Progressive/accelerated depreciation for water supply and waste water services Favourable VAT of 12% (insted of the usual rate of 25%) for water supply and waste water services	(a) (b) (c)	Charges for surface and ground water abstraction Waste water fines Sewer fines
Moldova	(a) (b) (c)	Tax rebates on corporate profit tax for legal entities carrying out environmental protection activities 50% profit tax cut for a period of 5 years, if foreign capital investors obtain approval for the technological safety of their planned investment Issue of licences to generate, transport, trade and recycle hazardous waste, if adequate information on control devices, methods, and waste generation sources has been provided	(a) (b) (c) (d) (e)	Taxes on the use of natural resources (soil, water, minerals) Concession fees for the exploitation of natural resources Charges for environental pollution (discharging and dumping of substances exceeding permitted limits) Fines for the violation of environmental legislation (standards) Excise duties on imported fuels and cars

TABLE 4.6/2
ECONOMIC AND FINANCIAL INCENTIVES, CHARGES AND FINES FOR PROTECTION OF ENVIRONMENT AND POLLUTION CONTROL IN THE DRB COUNTRIES

Country		Incentives to Promote Rational Utilisation of Natural Resources Incentives to Prevent or Reduce Environmental Pollution of Air, Water, Soil Incentives to Prevent or Reduce Degradation of Natural Environment		Charges and Fines for Environmental Pollution Charges for Utilisation of Natural Resources Fees for Compensation of Environmental Damages Fines for Violation of Environmental Legislation
Romania	(a)	No information on actual economic and financial incentives	(a) (b) (c) (d)	Charges for surface and ground water abstraction Charges for waste water discharge (with concentration of pollutants within permissable limits) Fines for abstraction of surface and ground water or discharging of waste water exceeding contract volumes, legal regulations or quality standards Fines for discharging substances with special toxic effects
Slovakia	(a)	No information on actual economic and financial incentives	(a) (b)	Penalties for non-legal water utlilisation Penalties for non-legaö waste water discharge
Slovenia	(a) (b) (c) (d)	Expenditures for environmental purposes can be deducted from corporate and individual income tax (the allowable deduction is restricted to 40% of the amount of expenditures and may not exceed the tax base) Funds dedicated to ecological and other non-profit purposes are exempted from corporate tax Reserves established for environmental investment may be reducted up to 10% from the tax base Equipment imported for environmental projects are partially or totally exempted from import duties	(a) (b)	Charges for utilisation of surface water Charges for waste water discharge
Ukraine	(a)	Presently no significant economic and financial incentives	(a) (b)	Charges for utilisation of water resources Charges for waste water discharge
Yugoslavia	(a) (b) (c) (d) (e) (f) (g)	Exemption of import duties for companies and organisations dealing with environmental protection (for equipment and commodities not produced in Yugoslavia) Exemption of turnover tax for state agencies, companies and other organisations (for equipment , commodities and services, serving for the prevention of air, water and land poluution, etc, and not produced in Yugoslavia) Accelerated depreciation of fixed assets serving for the prevention of air, water and land pollution, etc. Investment in equipment for protection of the environment is exempted from income tax Tax exemption for income from land with particular environmental significance (as listed in relevant law) Reduction of land profit tax in case of damages by "higher forces" or accidential issues the tax payer was unable to prevent Exemption of property tax for tax payers who own facilities and land serving for the purpose of air, water and land pollution, etc.	(a) (b)	Charges for utilisation of water resources Charges for waste water discharge

4.7. Quality and Capacity of the National Banking Systems

Appropriate capacity and quality of the national banking systems and the national capital markets are essential prerequisites for the functioning of market economy mechanisms and also for the funding of public infrastructure projects by domestic and international funding sources.

Between 1987 and 1994 basically all DRB countries have recognized the necessity for fundamental reform of the legislative framework for the national banking systems and the reformation and modernization of the national banking sector. In this reform process basically all countries achieved substantial improvements of their national banking sector during the previous years.

Now all DRB countries dispose of a standard two-tier banking system in which the National Bank carries out all tasks of a "central bank", and a number of commercial banks or special bank institutes perform to different extent the scope of bank services. In mean time the national commercial banks have also developed accounting standards which usually comply with international standards.

Basic information on the quality and capacity of the national banking systems in the particular DRB countries are compiled in Table 4.7.

The most advanced banking system is to be found in Hungary, the least developed system in Ukraine and the system with the most critical problems and deficiencies left from former and previous bank sector practices in Yugoslavia.

The other countries dispose of banking systems which comply more or less with at least basic requirements of market economy systems, but need usually further improvement and adjustment to international standards.

Typical deficiencies to be found generally, but mainly in the less developed countries, can be summarized as follows:

- Deposits in commercial banks are mainly short-term deposits; the capability of commercial banks to provide long-term loans, as required for infrastructure projects, is very restricted;
- In most of the countries the banking sector is usually composed of a relatively high number of small banks in relation to the available domestic capital market potential; the consequence is that many of the small banks cannot utilize the advantages of large scale business and are not able to take over more risky business activities;
- Commercial banks in foreign ownership or banks with foreign shareholder capital have usually to fulfil particular prerequisites and to meet particular qualifications;
- In most of the countries the commercial bank sector is still in the phase of developing appropriate planning and market research techniques, management and bank administration techniques, staff training, etc.;

As a result of these deficiencies interest rates and commission fees are usually higher than they had to be under optimal conditions in relation to the country specific inflation rates.

TABLE 4.7/1
QUALITY AND CAPACITYOF THE NATIONAL BANKING SYSTEMS IN THE DRB COUNTRIES

	BIH
(a)	Two-tier system consisting of the Central Bank of Bosnia and Herzegovina and 52 business banks; - Total capital of commercial banks in BiH (1997): USD 400 million; - Capital of 18 state banks: USD 278 million; capital of 34 private banks: USD133 million;
(b)	Main deficiencies of the banking sector: - mainly short term deposits and short term credits; - low liquidity, high interest rates; - lack of modern marketing concepts, untrained personnel; - no capacities for long term investments (e.g. for water sector infrastructure);
(c)	In 1997 the government established new "Investment Bank of the Federation of BiH", with the main task to handle rehabilitation and development projects, and in particular foreing assistance funds;
	Bulgaria
(a)	Two-tier system consisting of the Bulgarian National Bank and 35 commercial banks;
(b)	After introduction of the "Currency Board" (July 1, 1997) and the fixing of the exchange rate of the BGL to the German Mark, the situation of the banking system has substantially improved;
(c)	At present there are seven large state banks which hold 74% of all bank assets, 81% of the whole loan portfolio and 77% of the total deposits of population;
(d)	The second group of 18 small and medium private banks are not really successful and ended the year 1997 as a group with a loss of USD 29.5 million;
(e)	There are also 10 foreign banks on the Bulgarian market, which reached as a group a positive financial result of USD 0.2 million in 1997;
(f)	Main deficiencies of the banking sector: - mainly short term deposits; problems with long term loans as required for public infrastructure; - since 4th quarter of 1997 loan activities are slowly recovering (still 72% short term loans); - no special financial institution for funding of large infrastructure projects; - the State Bank for Investments, established in 1996 and supposed to handle funds from foreign lenders, has not yet started operation;
	Croatia
(a)	Two-tier system consisting of the Croatian National Bank and 56 commercial banks and saving banks;
(b)	The Croatian National Bank (HNB) carries out all tasks of a "national bank" and cooperates with relevant IFIs; in 1996 HNB controlled 56 local banks and saving banks with a total capital of USD 11.55 billion;
(c)	After the war the government established the Croatian Bank for Reconstructuion and Development for the purpose of reconstruction and the handling of international funds;
(d)	Some local commercial banks offer medium to long term hard currency loans via EBRD credit lines: - of up to DM 1 million for the agro-business sector, - of up to DM 5.5 million for tourism projects; - of up to DM 1 million for small and medium size projects in the private sector;the agro-business sector;
	Czech Republic
(a)	Standard two-tier system consisting of the Czech National Bank and 50 commercial banks; - 11of the commercial banks are controlled by the National Bank or are in the process of liquidation; - the banking system is completed by 6 saving institutions and six mortgage banks;
(b)	Commercial banks offer loans with a maturity of 4 to 6 years, less frequent between 8 and 10 years;
(c)	The Municipal Financial Company arranges by means of state garantees of the Czech and US government refinancing of commercial banks with long term maturities between 7 and 15 years;
(d)	Due to the obvious deficiencies an amendment of the Act on Banks is currently under preparation;
(e)	At present the establishment of a "development bank" is in discussion; this bank should inter alia provide loans for municipal and environmental projects;

TABLE 4.7/2
QUALITY AND CAPACITYOF THE NATIONAL BANKING SYSTEMS IN THE DRB COUNTRIES

	Hungary
(a)	Since the introduction of the new Credit Institutions Act in 1997, which harmonised the earlier rules of the banking law to EU norms, Hungary disposes of the most advanced and effective banking system;
(b)	A new Code of Foreign Exchange provides now full convertibility for all current account transactions and an increasing degree of liberalisation of capital movements;
(c)	There are 39 banks in Hungary, of which 27 are wholly or partly foreign-owned; about 40% of the banking sectors assets and over 50% of the share capital is held by banks with foreign ownership;
(d)	A particular role regarding investment in public infrastructure plays the Hungarian Development Bank;
	Moldova
(a)	Two-tier banking system consisting of the National Bank of Moldova which carries out all functions of a modern central bank, and 22 commercial banks which carry out the full scope of bank services;
(b)	Structure of commercial banks in 1998: total assets ~ USD 520 millon; regul. capital ~ USD 137 million;
(c)	In 1995 EBRD has established two successful credit line facilities of USD 24 respectively 2 million;
(d)	In the framework of the First Private Sector Development Project the WB has established a credit facility providing short and medium term loans; so far six banks have been selected;
(e)	Main remaining deficiencies: - poor banking management, lack of adequate strategic planning, inexperience in credit assessment; - low capitalisation of the majority of the commercial banks; - bad debts, particularly concerning the former state banks which are left with substantial bad debts;
(e)	Draft legislation for setting up a Development and Investment Bank of Moldova (withtax privileges): - projected statutory fund: MDL 16 million state funds, MDL 8 million funds from municipalities; - main tasks: review of currently high interest rates on long term loans; processing foreign investments coming to Moldova
	Romania
(a)	Based on the reformed legislation from 1991 Romania disposes now of a modern two-tier banking system: - The National Bank of Romania is a relatively autonomous institution which carries out the full scope of functions of a modern central bank; - 29 commercial banks (usually organised as joint stock companies) can perform the whole range of banking services under the authorisation of the National Bank; they are composed as follows: - 5 state owned banks, including the Saving Bank CEC, - 16 private banks: 2 banks with domestic, 4 with foreign and 10 with domestic and foreign capital; - 8 "mixed banks" with state and private capital;
(b)	There are now relatively strict conditions for the establishment of a commercial bank on the territory of Romania and also strict regulations for the operation of domestic and foreign commercial banks under the authorisation of the National Bank;
(c)	The government and the National Bank have jointly adopted a package of measures which has resulted in a series of substantial achievements and improvemants of the banking system during the previous two years;
	Slovakia
(a)	Two-tier banking system consisting of the National Bank of Slovakia which carries out the functions of a central bank, and a number of commercial banks which provide either the full range of bank services or act as specialised bank institutions; there are in addition some state financial institutions which provide bank activities on behalf of the state;
(b)	Mid 1998 domestic credits amounted to SK 483 billion (~USD 14 billion), and credits in foreign currencies to SK 37 Million (~USD 1.1 billion);
(c)	Terms of commercial bank loans available in SK: - interest rates between 20 and 27% p.a., maturity of loans: average 18 months, max. 8-10 Years; - bank garantees in SK available; charges (to be paid once) between 1% and 4%;
(d)	Currently no shortage in liquidity;

TABLE 4.7/3
QUALITY AND CAPACITYOF THE NATIONAL BANKING SYSTEMS IN THE DRB COUNTRIES

	Slovenia
(a)	Two-tier banking system consisting of the Bank of Slovenia, 30 commercial banks and 7 saving banks;
(b)	The Bank of Slovenia is an autonomous institution which carries out the full scope of functions of a modern central bank; - the assets of the Bank of Slovenia amount to USD 603 billion (March 1998); - the international monetary reserves amount to about USD 3.3 billion (March 1998):,
(c)	The commercial banks operate under a strict regime, especially regarding capital which remains under the discretionary policy of the Bank of Slovenia; - the minimum paid-in capital to run the full scope of bank services is about USD 33 million; - only 14 banks met this requirements, the remaining banks perform a reduced scope of bank services; - the large banks are assumed to be in the position to finance large infrastructure projects;
(d)	A general weakness of the banking system in Slovenia is the high number of commercial banks in relation to the dimension of business, resulting in low cost-effectiveness and higher bank commissions and charges for financial transactions compared to the neighbouring countries;
	Ukraine
(a)	In the current critical economic situation with substantial barter trading between state and private enterprises the national banking system is not in the position to fulfil the tasks of a modern banking system and especially not in the position to finance large infrastructure projects.
	Yugoslavia
(a)	Since 1994 the FR Yugoslavia disposes of a two-tier banking system in which the independent National Bank of Yugoslavia controls and monitors the financial operations of a high number of commercial banks;
(b)	At the time being a total of 106 commercial banks (40 old ones and 66 new ones) have a working permit; - Banks in which the majority of shareholders are social-legal shareholders participate with 81% in the total commercial banking balance; - In the commercial bank sector losses have accumulateed to an amount of USD 16 billion, out of which USD 10 billion are foreign debts and USD 6 billion debts to Yugoslav nationals;
(c)	Altogether it is obvious that the banking sector is in a very difficult situation, especially concerning the "old banks" and the fact that a high amount of bad debts had to be written off and still has to be written off;
(d)	Currently the banking sector is in the process of rehabilitation and reorganisation and it is expected that the main shortcomings can be resolved with international financial assistance;
(e)	At the time being the commercial banks in the FR Yugoslavia are not at all in the position to finance large infrastructure projects;

5. International Financial Assistance for Funding of Water Sector Programmes and Projects in the DRB Countries

5.1. Principles, Sources and Instruments for International Financial Assistance

(a) Basic Principles for International Financial Assistance

Each of the DRB countries has actually a more or less comprehensive system of policies and principles regarding international assistance for funding of water sector programmes and projects. In very general terms the primary principles can be summarized as follows:

- All DRB countries need to different extent international assistance for rehabilitation, modernization and extension of water sector related infrastructure and water management programmes and projects: the group of "poorer countries" in the lower Danube basin to solve the most urgent and endangering deficiencies and "hot spots" and to achieve at least "minimum supply standards"; the group of "medium countries" to achieve in addition country specific "service standards", and finally the group of EU accession candidates to fulfil the accession criteria.
- In most of the DRB countries all kinds of projects of "primarily environmental nature" have at the time being not the highest priority as far as funding at commercial loan terms is concerned.
- Within the water sector the priorities are very different from country to country; high priority have usual rehabilitation of water supply systems, municipal and industrial WWTP and rehabilitation of solid waste dump sites endangering surface and ground water resources. In particular countries there are sometimes particular hot spots respectively particular projects of high national priority.
- For projects of "primarily environmental nature" the DRB countries usually expect international funding or co-funding in form of grants, interest-free loans or at least favorable soft loans.
- For water sector projects and programmes the DRB countries usually expect international assistance at preferential terms, that means at least concessional loans with more favorable interest rates, longer maturity periods and longer grace periods than provided by loans at national or international market terms.
- Even under preferential funding terms most of the DRB countries are in view of their actual external indebtedness relatively reluctant concerning international loan funding if state guarantees are required. State guarantees are primarily provided for projects of high national priority and if the probability for their availment is expected to be rather low; thus often excluding or postponing possibly effective but to certain extent risky projects.

On the other side each of the IFIs has clearly defined policies and principles for the provision of international financial and technical assistance. These principles as well as the specific procedures of the different IFIs are dealt with in more detail in the Danube Environmental Financing Facility Study (DEFF Study).

(b) Potential Sources of International Assistance

There is a broad variety of potential sources of international financial assistance.

International financial assistance in the DRB countries is provided by international financing institutions, country specific or multi-lateral funds, international foundations or NGOs and in form of bilateral agreements as well as by foreign private investors or foreign commercial banks. The assistance can be provided either directly or by means of national financial intermediaries, either for particular projects or in form of standardized programmes.

The main sources for international funding or co-funding of water sector programmes and projects in the DRB countries can be summarized as follows:

- World Bank;
- EBRD;
- European Investment Bank;
- UN-organizations and programmes (UNDP, UNEP, GEF, etc.);
- EU-organization and programmes (EU PHARE, PHARE-CBP, TACIS);
- Country specific funds and assistance organizations, such as:
  - Japanese Grant Fund,
  - Saudi Arab Fund,
  - USAID,
  - GTZ, etc.;
- Country specific development banks, such as KFW;
- International Foundations and NGOs, such as:
  - Regional Environmental Center;
  - World Wide Fund for Nature;
  - European Nature Heritage Fund;
  - Barbara Gauntlet Foundation;
  - Charles Steward Mott Foundation;
  - Moriah Fund;
  - Rockefeller Brothers Fund, etc.;
- Bilateral assistance;
- International private investors (usually by joint venture investment capital);
- International commercial banks.

(c) Types and Instruments of International Financial Assistance

There is also a broad variety of types and instruments of international financial assistance which can be applied for structural and non-structural projects, respectively programmes on the various administration levels of the recipient country.

Really essential from the volume of funding are only a few types, such as loans at commercial terms, concessional loans, grants and more and more private investment capital. In particular countries or regarding particular types of projects also other instruments can be of essential relevance.

The most essential types or instruments of funding actually applied in the DRB countries are:

- grants (in form of financial or technical assistance);
- interest-free loans;
- concessional loans (with preferential terms regarding interest rate, maturity period, grace period, subsidization of interest payments, expected guarantees);
- national and international loans at commercial terms;
- debt-for-environment-swap;
- donations from foundations;
- private investment capital (joint venture capital);
- twinning arrangements (usually between cities or associations).

5.2. Actual International Financial Assistance

From the information and data provided by the National Review Reports it tuns out that for most of the DRB countries it is difficult to present a complete and reasonably structured quantitative compilation of the actually committed international financial assistance for water sector related programmes and projects. The main reasons for this fact are:

- the broad variety of potential international institutional and bilateral funding sources and target oriented programmes, complicated through the possible inclusion of financial intermediaries;
- the high number of recipients on the different administrative levels;
- long periods of time between first negotiations and final appropriation, respectively disbursement of funds;
- delay of fund disbursement compared to the initially contracted funding scheme due to lack of national funds for required co-funding;
- lack of comprehensive data recording systems comprising all relevant authorities of the different administrative levels.

Table 5.2 contains a standardized compilation of international financial assistance for water sector projects and programmes in the DRB countries as actually committed by end of the year 1998. For each country the international funds are aggregated for 5 categories of "multilateral financial assistance" and separately stated for "bilateral financial assistance".

In this context it has to be emphasized that this compilation which is mainly based on data provided by the National Review Reports is certainly not complete. The figures available for nine countries do usually not comprise all funding sources and usually not always the total amount of funds from each funding source. This is obvious in the cases where funding sources are mentioned, but not further quantified.

Taking into account these basic deficiencies the aggregated funds from "multilateral and bilateral financing assistance" for the nine DRB countries, for which any figures are available, amount to about USD 646 million.

The international financial assistance for water sector programmes and projects for the particular DRB countries is illustrated in Fig 5.2-1 and can be summarized as follows:

Actual international financial assistance for water sector programmes and projects in the particular DRB countries (status: end 1998):			
	Multilateral Funds	Bilateral Funds	Total Funds
	(Million USD)	(Million USD)	(Million USD)
BiH	84	45	129
Bulgaria	133	16	149
Croatia	63	0	63
Czech Republic	5	0	5
Hungary	108	0	108
Moldova	28	0	28
Romania	156	0	156
Slovakia	0	1	1
Slovenia	0	0	0
Ukraine	0	8	8
Yugoslavia	0	0	0
Total	576	70	646

Amount and composition of international financial assistance for water sector programmes and projects in nine DRB countries by funding sources are illustrated in Fig 5.2-2 and can be summarized as follows:

Amount and composition of international financial assistance for water sector programmes and projects in nine DRB countries by funding sources (status end 1998):			
	Remarks	Million USD	
EBRD	excl. tech.assist.	219	33.9 %
EU - organizations / programmes		169	26.2 %
WB		165	25.5 %
Bilateral agreements		70	10.8 %
UN -organizations / programmes	Excl. DRBPRP	3	0.5 %
Others		20	3.1 %
Total		646	100 %

TABLE 5.2/1
ACTUAL INTERNATIONAL FINANCIAL ASSISTANCE FOR WATER SECTOR PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES

Country	International Multilateral and Bilateral Financial Assistance				
		Institution	Type of Assistance	Period	Million USD
BIH	(a)	WB	Soft Loans	~	22,0
	(b)	EBRD			
	(c)	UN			
	(d)	EU	PHARE - grants	~	42,4
	(e)	Others	USAID grants	~ 1998	19,2
	(f)	Bilateral	Various countries - grants	~ 1998	45,5
		Total			129,1
Bulgaria	(a)	WB	Loan agreement (for water sector)	1996-2001	98,0
			Loan for "Environmental Remediation Project"	1998	16,0
	(b)	EBRD			
	(c)	UN	UNDP - grants (technical assistance)	1992-1996	3,0
	(d)	EU	PHARE- grants (technical assistance)	1990 ~	~
			PHARE- CBC grants	1994-1999	16,4
	(e)	Others	REC- local grants programme	1992 ~	~
	(f)	Bilateral	Switzerland - debt-for-environment swap	1996-2001	15,7
		Total			149,1
Croatia	(a)	WB	Loans	1998-2001	8,8
	(b)	EBRD	Loans	1996 ~	53,7
	(c)	UN			
	(d)	EU			
	(e)	Others	Commercial bank loans through KFW credit line	~	~
	(f)	Bilateral			
		Total			62,5
Czech Republic	(a)	WB			
	(b)	EBRD			
	(c)	UN			
	(d)	EU	PHARE - grants for WWTP	1997-1998	4,6
	(e)	Others			
	(f)	Bilateral	Denmark, Germany - financial assistance for WWTP	~	~
		Total			4,6
Hungary	(a)	WB	Loans for WWTPs (under negotiation)	1998-2001	20,0
	(b)	EBRD	Loans	1998 ~	22,7
	(c)	UN			
	(d)	EU	PHARE - grants	1991-1997	46,8
			PHARE - CBC - grants	1998	10,2
			PHARE - grants for regional development	1998	2,8
			PHARE - grants	1998	5,3
	(e)	Others	EIB - Loans for municipal waste/ WWTP under neg	~	~
	(f)	Bilateral			
		Total			107,8
Moldova	(a)	WB			
	(b)	EBRD	Loans	1997 ~	27,2
	(c)	UN			
	(d)	EU			
	(e)	Others	USAID and GTZ (technical assistance)	1996	0,9
	(f)	Bilateral			
		Total			28,1

TABLE 5.2/2

ACTUAL INTL. FINANCIAL ASSISTANCE FOR WATER SECTOR PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES

Country	International Multilateral and Bilateral Financial Assistance				
		Institution	Type of Assistance	Period	Million USD
Romania	(a)	WB			
	(b)	EBRD	Loan	1995/96/97 ~	115,3
	(c)	UN			
	(d)	EU	PHARE - support for "MUDP II"	1997	41,0
	(e)	Others			
	(f)	Bilateral			
		Total			156,3
Slovakia	(a)	WB			
	(b)	EBRD			
	(c)	UN			
	(d)	EU			
	(e)	Others	(1)		
	(f)	Bilateral	Denmark, Netherlands	1997 ~	0,6
		Total			0,6
Slovenia	(a)	WB			
	(b)	EBRD			
	(c)	UN			
	(d)	EU	PHARE - grants for Gornja Radgona and Libelice	1998	~
	(e)	Others	Total loans from international institutions (2)	1997	~
			Total syndicated loans (3)	1997	~
	(f)	Bilateral	Austria, Germany, France, USA,, GB, Netherlands, Japan	~	~
		Total			0,0
Ukraine	(a)	WB			
	(b)	EBRD			
	(c)	UN			
	(d)	EU			
	(e)	Others			
	(f)	Bilateral	Grant for River Dnipro Basin	1994-1997	5,0
			Grant for River Dnipro Basin II	1997-2000	2,6
			Grant for research studies	1997-1998	0,3
		Total			7,9
Yugoslavia	(a)	WB			
	(b)	EBRD			
	(c)	UN			
	(d)	EU			
	(e)	Others			
	(f)	Bilateral			
		Total			0,0
All	(a)	WB		25.5%	164.8
Countries	(b)	EBRD		33.9%	218.9
	(c)	UN		0.5%	3.0
	(d)	EU		26.2%	169.3
	(e)	Others		3.1%	20.1
	(f)	Bilateral		10.8%	69.7
		Total		100,0%	645.8
Remarks:	(1)	Bond emission on eurodollar market for power plant Gabcikovo and river Zilina (USD 200 million)			
	(2)	For all infrastructure sectors: USD 85.4 million			
	(3)	For all infrastructure sectors: USD 165.6 million			

FIG 5.2-1: INTERNATIONAL FINANCIAL ASSISTANCE FOR WATER SECTOR INVESTMENTS IN THE DRB COUNTRIES

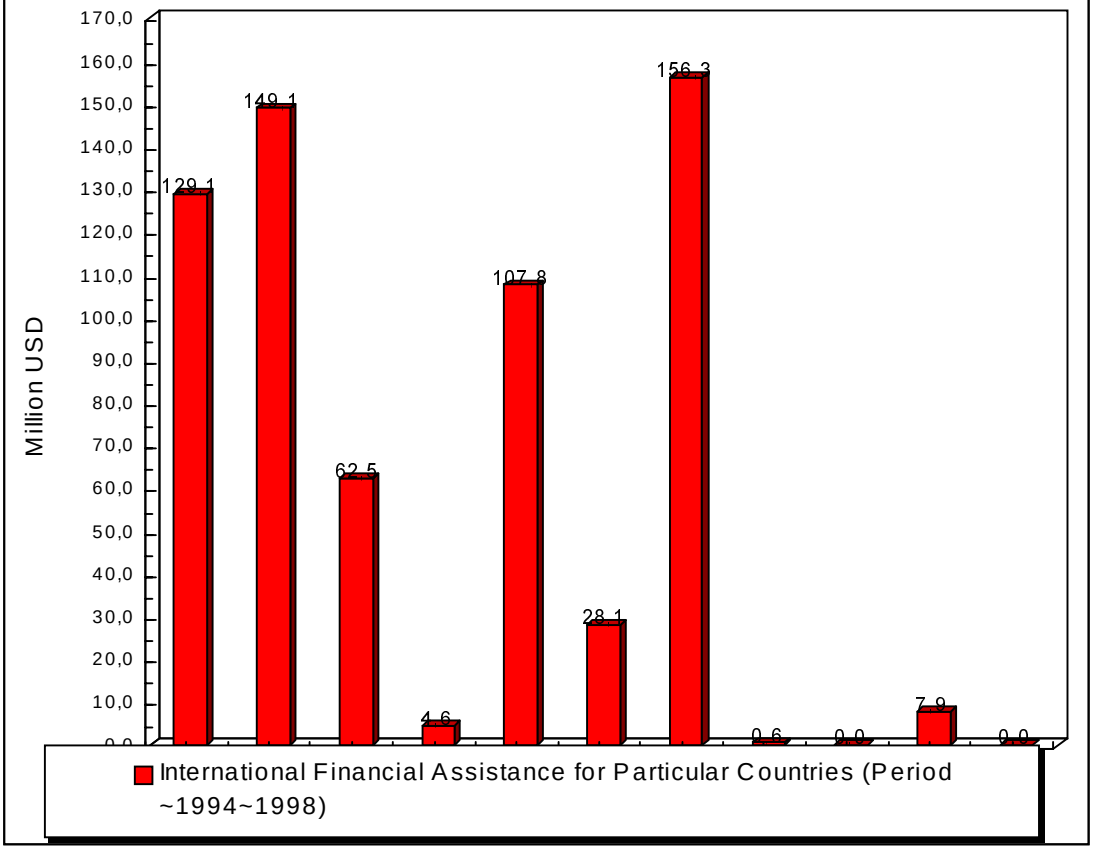
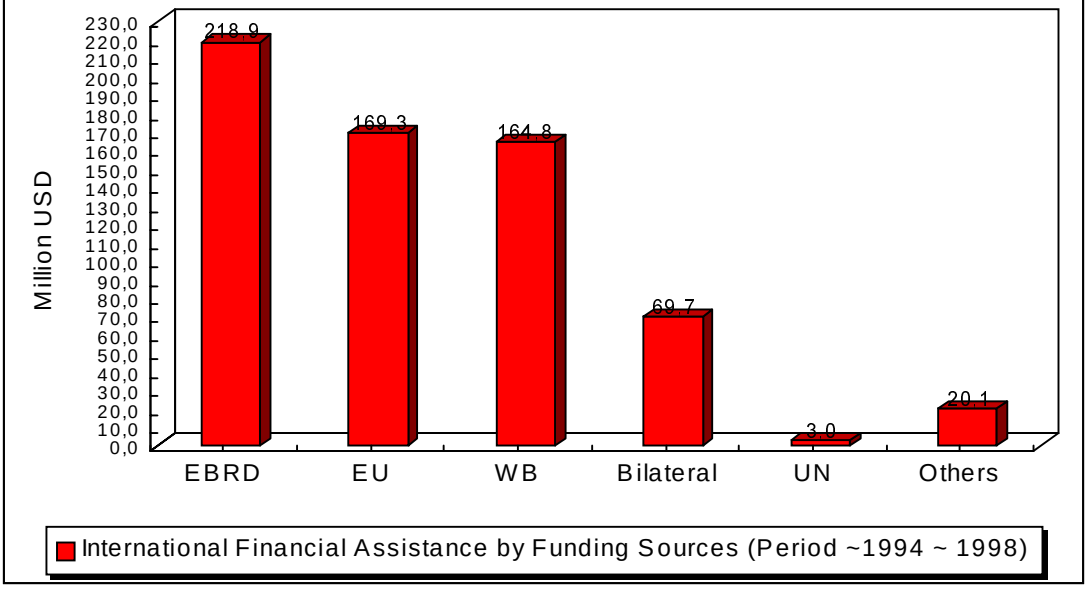


FIG 5.2-2: INTERNATIONAL FINANCIAL ASSISTANCE FOR WATER SECTOR INVESTMENTS IN NINE DRB COUNTRIES



5.3. National Institutions or Promotion Banks for Handling of International Funds

Each of the DRB countries has a particular country specific way to deal with international funds provided within the framework of international institutional or bilateral assistance or by foreign investors. A brief summary for each country is compiled in Table 5.3.

At the time being there are only three countries which have a particular development or promotion Bank which is exclusively or primarily responsible for promotion and handling of international funds. The primary task of these development banks is the funding of national reconstruction and development and in this context also the handling of all kinds of international funds provided for these purposes. These banks are:

(i) The Investment Bank of Federation of BiH:

This bank is still in the process of formation and can not yet play the role of a real development bank.

(ii) The Croatian Bank for Reconstruction and Development:

This development bank is organized like the German Bank for Reconstruction (KFW) and is intended to follow-up similar tasks.

(iii) The Hungarian Development Bank:

This is the most effective institute in the DRB countries with a complete programme of a promotion and development bank; the main tasks are:

- promotion of economic growth and tasks related to modernization and integration into EU;
- funding of economic and infrastructure development projects of national importance;
- raising funds in international capital markets on favorable terms;
- provision of special bank products (such as long term credit facilities for infrastructure development projects under an agreement concluded with KFW, Germany);
- support of economic and trade development and complementation of state funds promotion.

In Ukraine there is a special National Agency for Reconstruction and Development which is inter alias responsible for promotion and contractual handling of funds from international financing institutions and foreign investors on behalf of the government.

In the other countries international funds for water sector programmes and projects are usually handled jointly by the Ministry of Finance and the respective National Fund or, especially regarding funds from foreign investors, by the National Banks or selected commercial banks, as briefly outlined in Table 5.3.

TABLE 5.3/1
SPECIAL NATIONAL INSTITUTIONS OR PROMOTION BANKS FOR HANDLING OF INTERNATIONAL FUNDS IN THE DRB COUNTRIES

Country	National Institute or Development Bank for Handling of International Funds for Development Programmes and Investments
BIH	**Investment Bank of Federation of BiH (founded 1997)** - funding of national reconstruction and development programmes and projects; - handling of reconstruction projects funded by foreign funds and investors; - principally acting on commercial basis; provision of guarantees; - currently not yet in the position to play the role of a development bank;
Bulgaria	**No special national institution or promotion / development bank** - tasks are handled by state owned BULBANK (Bulgarian Foreign Trade Bank) and selected commercial banks;
Croatia	**Croatian Bank for Reconstruction and Development (founded 1992)** - primary task of the HBOR: funding of reconstruction of the Republic of Croatia (basically following the tasks and structure of KFW, Germany); - provision of loans, acting as agent for international loans (e.g. WB loan for Emergency Reconstruction Project , 1994); - founding capital: USD 0.6 billion to be provided by the state budget within a period of ten years; - additional capital sources: funds of the Privatisation Fund, issuing of bonds, international loans;
Czech Republic	**No special national institution or promotion / development bank** - tasks are handled by the State Environmental Fund and several commercial banks;
Hungary	**Hungarian Development Bank (fouded 1992)** - promotion of economic growth and tasks related to modernisation and integration into EU; - funding of economic and infrastructure development projects of national importance; - raising funds in international capital markets on favourable terms; - provision of special bank products (such as long term credit facilities for infrastructural development projects under an agreement concluded with KFW, Germany); - support of economic and trade development and complementation of state funds;
Moldova	**No special national institution or promotion / development bank**

TABLE 5.3/1
SPECIAL NATIONAL INSTITUTIONS OR PROMOTION BANKS FOR HANDLING OF INTERNATIONAL FUNDS IN THE DRB COUNTRIES

Country	National Institute or Development Bank for Handling of International Funds for Development Programmes and Investments
Romania	**No special national institution or promotion / development bank** - tasks are handled by National Fund for Investment Promotion and Institution Building, set up in the Ministry of Finance; - allocation of international funds complementary to budget funds on the basis of financing agreements;
Slovakia	**No special national institution or promotion / development bank** - tasks are handled by the Slovak Guarantee and Development Bank; - provision of loan guarantees to eligible enterprises and support through preferential start-up loans at more favourable terms than commercial loan terms;
Slovenia	**No special national institution or promotion / development bank** - tasks are handled by the Ecofund of the Republic of Slovenia (environmental protection projects) and by commercial banks;
Ukraine	**National Agency for Reconstruction and Development** - primary tasks: handling of contacts and contracts with international funding institutions and foreign investors on behalf of the government;
Yugoslavia	**Yugoslav Bank for International Economic Cooperation (JUMBES)** - organised as a shareholding society according to the Law on Banks and Financial Organisations; - dealing with collection of foreign funds for insuring export business from non-commercial risks; **YU-GARANT Bank** - organised as a shareholding society according to the Law on Banks and Financial Organisations; - initiation and support of large export business deals and provision of export guarantees; - No bank is really dealing with foreign funds for development and infrastructure.

6. Investment Portfolios for Water Quality and Water Management Programmes and Projects in the DRB Countries

6.1. Actual Investment Portfolios

The country specific "investment portfolios for water quality and water management programmes and projects" as compiled in Table 6.1 are based on information and data provided by the National Review Reports for the DRB countries.

The investment portfolios should be stated on an annual basis and cover all relevant programmes and projects in the following areas:

- Municipal water production and water supply;
- Municipal wastewater collection, treatment, discharge;
- Industrial water extraction;
- Industrial wastewater treatment, respectively pre-treatment;
- Agricultural water utilization (including irrigation);
- Agricultural, industrial, solid wastewater pollution;
- Water related recreation;
- Wetlands and protected areas;
- Water quality control programmes, etc.;
- Water sector related studies, etc.

From the data provided by the National Review Reports it turns out that most of the DRB countries have basic problems to provide complete and reasonably structured investment portfolios on an annual basis. The main reasons are:

- high number of recipients and lack of definite allocation of responsibilities for the particular programmes and projects to the various authorities of the different administrative levels (municipal. regional, state, federal);
- insufficient differentiation between cost estimate, funds appropriation, funds disbursement and actual cash flow on an annual basis;
- short term shifting of funding sources during project implementation, due to shortage of particular public budget means;
- delay in project implementation compared to the initial implementation scheme due to lack of funds, insufficient planning consistency or implementation capacities;
- lack of comprehensive up-date data recording systems comprising all relevant authorities of the different administrative levels.

The country specific investment portfolios as compiled in Table 6.1 are aggregated for the 2-year-period 1997/98 and are presented in a standardized format covering the following items:

- sector structure of programmes and projects (eight categories);
- number of programmes and projects;
- actual funds for the years 1997/1998 (expressed in USD);
- funding period (particularly stated, if not covering both years 1997/98);
- allocation of funds by various categories of national and international funding sources;
- not specified funding portions (usually residual portions or unknown sources).

In this context it has to be emphasized that the compiled investment portfolios are actually not complete:

- For three countries (Slovakia, Slovenia and Yugoslavia) explicit figures are at the time being not available;
- For two countries (Czech Republic and Ukraine) the figures are not for the whole country, but for the country specific part of the DRB;
- For one country (Bulgaria) figures are not available for the year 1998 and the figures for the year 1997 are extraordinary low, due to the critical economic situation in that year and due to the unrealistic exchange rate between BGL and USD;
- In addition there are some indications that also the provided investment data do certainly not comprise all investment for water sector related programmes and projects.

Taking into account these basic deficiencies the aggregated "investment portfolios for water quality and water management programmes and projects" of the eight DRB countries, for which any data are available from the National Review Reports, amount to about USD 1.1 billion for the "2-year period 1997/1998".

The corresponding 2-year investment portfolios for Austria and the DRB area of Germany which have been provided additionally for the purpose of comparison, amount to USD 2.6 billion (Austria), respectively USD 3.1 billion (Germany).

The country specific "annual investment portfolios" are illustrated in FIG 6.1-1 and can be summarized as follows:

Actual water sector investment portfolios of DRB countries for the 2-year-period 1997/98:				
	Country Specific Average Annual Investment Portfolio		Annual Investment per Capita	Annual Investment in % of GDP per Capita
	(Million USD)	(%)	USD/Capita	(%)
BiH	56	10 %	14.7	1.4 %
Bulgaria (*)	4	0 %	0.5	0.0 %
Croatia	50	9 %	10.5	0.2 %
Czech Repub.(**)	38	7 %	13.6	0.3 %
Hungary	280	50 %	27.4	0.6 %
Moldova	14	2 %	3.2	0.6 %
Romania	92	17 %	4.1	0.3 %
Slovakia	--	--	--	--
Slovenia	--	--	--	--
Ukraine (**)	26	5 %	8.4	0.9 %
Yugoslavia	--	--	--	--
Sub-total	560	100%		
Germany (**)	1539	--	169	0.7 %
Austria	1291	--	159	0.6 %
Total	3390			
(*) figures are only for year 1997; (**) figures are only for DRB area;				

Excluding Germany and Austria the investment portfolio of Hungary makes up 50% of the aggregated portfolios of the DRB countries for which figures are available.

Apart from Germany and Austria the "average annual investment portfolios" of the other countries are in a range between USD 4 million (Bulgaria) and USD 280 million (Hungary). According to the figures provided the actual annual investment in water sector programmes and projects varies between USD 0.5 per capita (Bulgaria) and USD 27.4 (Hungary). In Germany and Austria the annual investment per capita is USD 169 respectively USD 159.

Apart from Bulgaria and BiH, two countries which were in an extraordinary situation during the period 1997/98, the annual investments in water sector programmes and projects vary between 0.2 % of the annual GDP per capita (in Croatia) and 0.9% (in Ukraine). In Germany and Austria the annual investments make up 0.7% respectively 0.6% of the annual GDP per capita.

The sectoral structure of the "aggregated investment portfolios" of the eight DRB countries - excl. Germany and Austria - is illustrated in FIG 6.1-3 and can be summarized as follows:

Sector structure of the "aggregated annual water sector investment portfolios" of eight DRB countries - excluding Germany and Austria:		
	(Million USD) / Year	
Municipal wastewater systems and treatment	375	67.2 %
Industrial wastewater treatment / pre-treatment	14	2.4 %
Water supply systems	43	7.7 %
Water resources, water control	47	8.5 %
Solid waste, industrial, agricultural water pollution	43	7.6 %
Wetlands, protected areas	1	0.2 %
Others, not specified	34	6.0 %
Non-structural projects	3	0.4 %
Total	560	100 %

According to the figures provided, about two thirds of the aggregated investment portfolios is dedicated to municipal wastewater systems and treatment plants, and not more than about USD 1 million per year to wetlands and protected areas.

The structure of the "aggregated investment portfolios" of the eight DRB countries by funding sources" is illustrated in Figure 6.1-4 and can be summarized as follows:

Structure of the "aggregated water sector investment portfolios" of eight DRB countries by funding sources - excluding Germany and Austria:		
	(Million USD)/Year	
Equity/own sources	95	17 %
Environmental Funds	37	7 %
Water Management Funds	17	3 %
Central budget loans	60	11 %
Regional budget loans	4	1 %
Central budget grants	169	30 %
Regional and local budget grants	11	2 %
Commercial bank loans	19	3 %
Other national sources	5	1 %
International grants	52	9 %
International loans	26	5 %
Not specified funding portions	65	12 %
Total	560	100 %

TABLE 6.1/1
ACTUAL INVESTMENT PORTFOLIOS FOR WATER QUALITY AND MANAGEMENT PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES
(Million USD, Values for 2-Year-Period 1997/1998)

Country		Category of Projects and Programmes	Number of Projects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
Bosnia and	(a)	Municipal waste water / treatment																		
Herzegovina	(b)	Industrial waste water / treatment																		
Total Country	(c)	Water supply	119	83,7																
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified (1)	40	27,9													Various	88,3	23,3	
	(h)	Non-structural projects/programmes																		
		Total	158	111,6	1997/98	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		88,3	23,3	0,0
Bulgaria	(a)	Municipal waste water / treatment	15	2,1																
Total country	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified		1,5																
	(h)	Non-structural projects/programmes																		
		Total	15	3,6	1997	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	3,6
Croatia	(a)	Municipal waste water / treatment	10	90,9		3,9		6,5	1,4			0,2	1,4	2,2			IBRD	4,0		
Total Country	(b)	Industrial waste water / treatment	2	1,4		0,4		0,6												
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	2	8,4																
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes	2	0,1																
		Total	16	100,8	1997/98	4,3	0,0	7,2	1,4	0,0	0,0	0,2	1,4	2,2	0,0	0,0		4,0	0,0	80,2
Czech Republic	(a)	Municipal waste water / treatment	4	38,6	1997/98		2,8		6,7			15,4	2,8			6,4	PHARE	4,6		
DRB Area only	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified		37,4	1997		26,7		10,2							0,5				
	(h)	Non-structural projects/programmes																		
		Total	4	76,0	1997/98	0,0	29,5	0,0	16,8	0,0	0,0	15,4	2,8	0,0	0,0	6,9		4,6	0,0	0,0
Hungary	(a)	Municipal waste water / treatment		467,0		141,4	39,0	18,6				238,5			24,0		PHARE	5,6		
Total County	(b)	Industrial waste water / treatment																		
	(c)	Water supply		1,7								1,7								
	(d)	Water resources, water control		47,9								47,9								
	(e)	Solid waste, industry, agriculture		39,4			4,9					25,3			9,3					
	(f)	Wetlands, protected areas		2,3								2,3								
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes		1,4		0,1		0,9				0,2					PHARE	0,3		
		Total	69	559,8	1997/98	141,5	43,9	19,4	0,0	0,0	0,0	315,9	0,0	0,0	33,3	0,0		5,8	0,0	0,0
Remarks:		(1) BiH: completed and ongoing projects specified in the "BiH Reconstruction Programme" as compiled by the WB; assumption: 75% of investment is for rehabilitation of water supply;																		

TABLE 6.1/2
ACTUAL INVESTMENT PORTFOLIOS FOR WATER QUALITY AND MANAGEMENT PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES
(Million USD, Values for 2-Year-Period 1997/1998)

Country		Category of Projects and Programmes	Number of Projects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
Moldova (1)	(a)	Municipal waste water / treatment	1	27,2													EBRD		27,2	
Total Country	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes																		
		Total	1	27,2		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	27,2	0,0
Romania	(a)	Municipal waste water / treatment	8	122,1					101,3	7,0			13,8							
Total Country	(b)	Industrial waste water / treatment	6	24,2		18,9									3,0	2,3				
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	6	35,6		25,1		6,3				3,1				1,1				
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes	5	1,8				0,2				1,6								
		Total	25	183,7	1997/98	44,0	0,0	6,5	101,3	7,0	0,0	4,7	13,8	0,0	3,0	3,4	0,0	0,0	0,0	0,0
Slovakia (2)	(a)	Municipal waste water / treatment																		
	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes																		
		Total	0	0,0		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
Slovenia (2)	(a)	Municipal waste water / treatment																		
	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes																		
		Total	0	0,0		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
Ukraine	(a)	Municipal waste water / treatment	2	0,8	1998				0,1	0,0			0,0							
DRB Area only	(b)	Industrial waste water / treatment	1	1,4		0,6														
	(c)	Water supply																		
	(d)	Water resources, water control	7	46,4			0,6		0,2			1,5								
	(e)	Solid waste, industry, agriculture	1	1,7										0,5					1,2	
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes	3	1,5	1997/98		0,4		0,0										0,3	
		Total	14	51,7	1997/98	0,6	0,9	0,0	0,3	0,0	0,0	1,5	0,0	0,5	0,0	0,0		0,0	1,5	46,5
Remarks:		(1) Moldova: Reconstruction of Chisinau water supply system in progress; total investment figures not available; (2) Figures on actual investment portfolio not available;																		

TABLE 6.1/3
ACTUAL INVESTMENT PORTFOLIOS FOR WATER QUALITY AND MANAGEMENT PROGRAMMES AND PROJECTS IN THE DRB COUNTRIES
(Million USD, Values for 2-Year-Period 1997/1998)

Country		Category of Projects and Programmes	Number of Projects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
Yugoslavia	(a)	Municipal waste water / treatment																		
	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes																		
		Total	0	0,0		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
TOTAL	(a)	Municipal waste water / treatment	40	**748,7**	**67,2%**	145,3	41,8	25,1	109,4	7,0	0,0	254,1	18,0	2,2	24,0	6,4	0,0	14,1	27,2	
FOR EIGHT	(b)	Industrial waste water / treatment	9	**27,0**	**2,4%**	20,0	0,0	0,6	0,0	0,0	0,0	0,0	0,0	0,0	3,0	2,3	0,0	0,0	0,0	
COUNTRIES	(c)	Water supply	118,5	**85,4**	**7,7%**	0,0	0,0	0,0	0,0	0,0	0,0	1,7	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	(d)	Water resources, water control	7	**94,3**	**8,5%**	0,0	0,6	0,0	0,2	0,0	0,0	49,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	(e)	Solid waste, industry, agriculture	9	**85,0**	**7,6%**	25,1	4,9	6,3	0,0	0,0	0,0	28,4	0,0	0,5	9,3	1,1	0,0	0,0	1,2	
	(f)	Wetlands, protected areas	0	**2,3**	**0,2%**	0,0	0,0	0,0	0,0	0,0	0,0	2,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
	(g)	Others / not specified	39,5	**66,8**	**6,0%**	0,0	26,7	0,0	10,2	0,0	0,0	0,0	0,0	0,0	0,0	0,5	0,0	88,3	23,3	
	(h)	Non-structural projects/programmes	10	**4,8**	**0,4%**	0,1	0,4	1,1	0,0	0,0	0,0	1,8	0,0	0,0	0,0	0,0	0,0	0,3	0,3	
		Total (Million USD)	302	**1114,3**	**100,0%**	190,4	74,3	33,1	119,8	7,0	0,0	337,6	18,0	2,7	36,3	10,3	0,0	102,7	52,0	130,2
		Total (%)		**100%**		17%	7%	3%	11%	1%	0%	30%	2%	0%	3%	1%		9%	5%	12%

Germany	(a)	Municipal waste water / treatment		2400,8																
DRB Area only	(b)	Industrial waste water / treatment																		
	(c)	Water supply		465,0																
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified		212,2																
	(h)	Non-structural projects/programmes																		
		Total	0	3078,0	1997/98	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
Austria	(a)	Municipal waste water / treatment		1349,7																
Total Country	(b)	Industrial waste water / treatment		130,1																
	(c)	Water supply		1102,4																
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(g)	Others / not specified																		
	(h)	Non-structural projects/programmes																		
		Total	0	2582,2	1997/98	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
TOTAL	(a)	Municipal waste water / treatment		**4499,1**	**66,4%**															
FOR TEN	(b)	Industrial waste water / treatment		**157,0**	**2,3%**															
COUNTRIES	(c)	Water supply		**1652,8**	**24,4%**															
	(d)	Water resources, water control		**94,3**	**1,4%**															
	(e)	Solid waste, industry, agriculture		**85,0**	**1,3%**															
	(f)	Wetlands, protected areas		**2,3**	**0,0%**															
	(g)	Others / not specified		**279,0**	**4,1%**															
	(h)	Non-structural projects/programmes		**4,8**	**0,1%**															
		Total (Million USD)		**6774,5**	**100,0%**															

FIG 6.1-1: ACTUAL WATER SECTOR INVESTMENT PORTFOLIOS OF THE DRB COUNTRIES

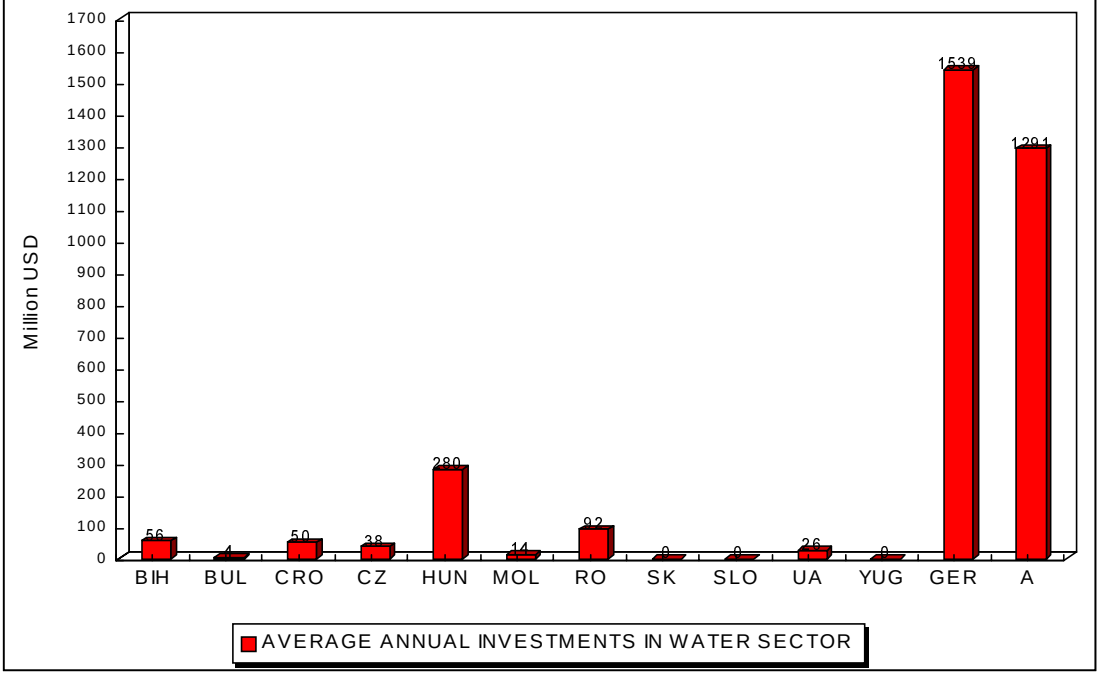


FIG 6.1-2: ACTUAL WATER SECTOR INVESTMENT PORTFOLIOS OF THE DRB COUNTRIES

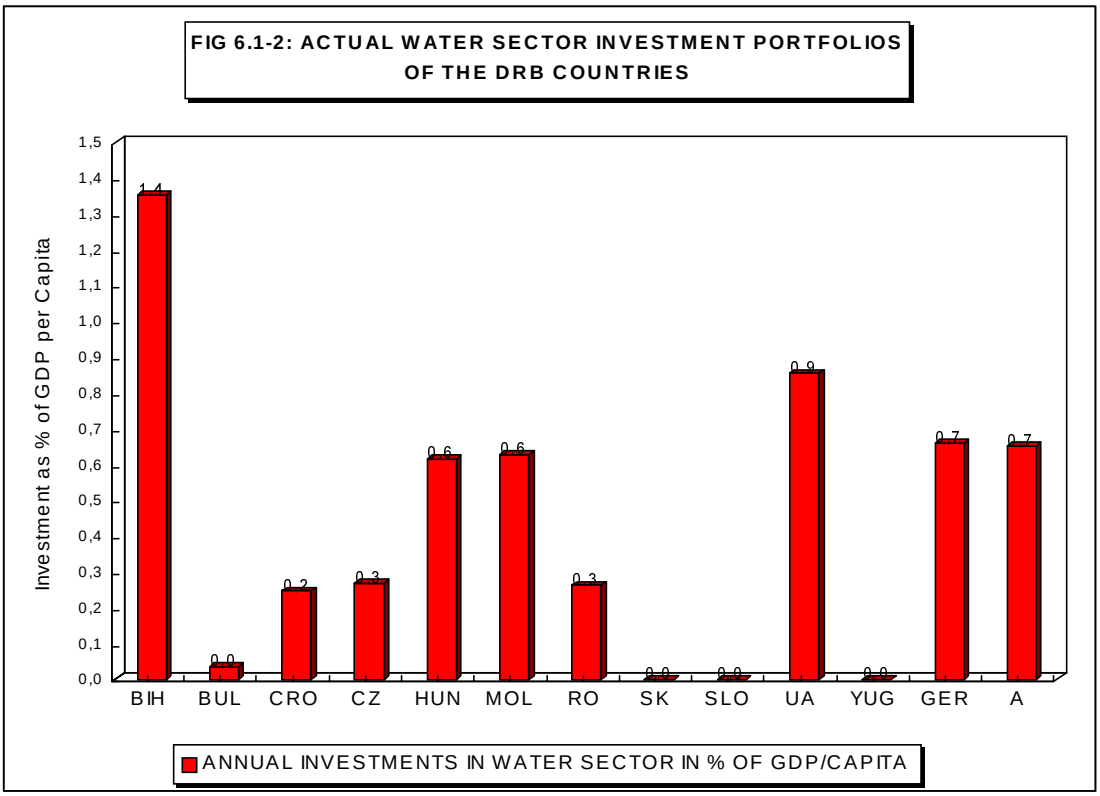


FIG 6.1-3: ACTUAL WATER SECTOR INVESTMENT PORTFOLIOS OF EIGHT DRB COUNTRIES - WITHOUT GERMANY AND AUSTRIA

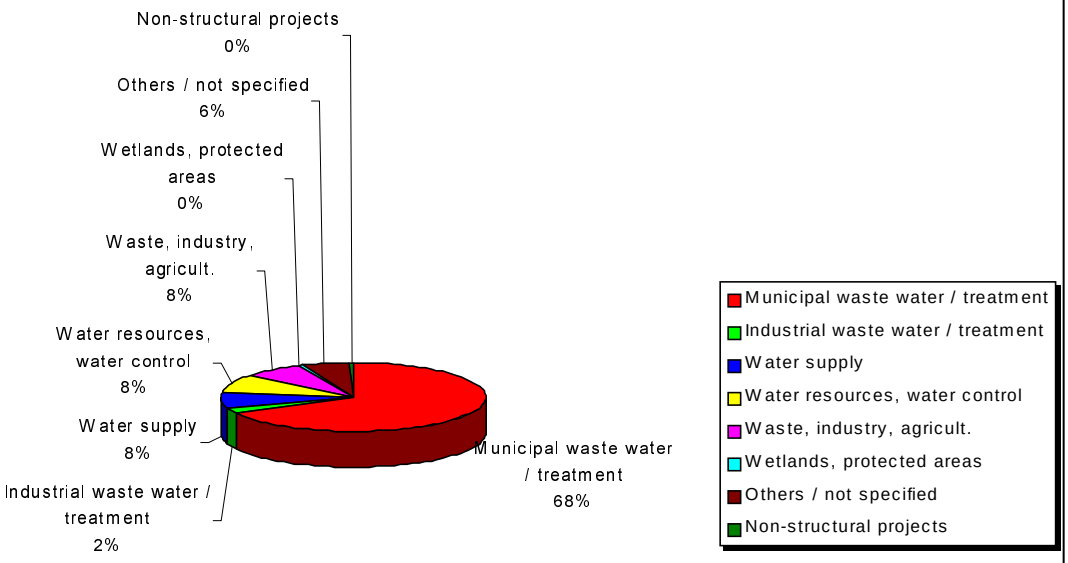
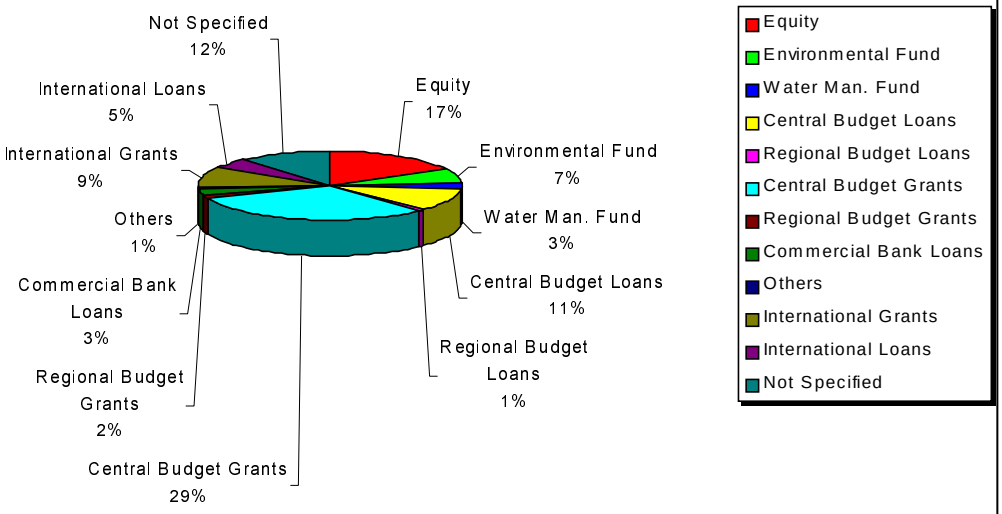


FIG 6.1-4: ACTUAL WATER SECTOR INVESTMENT PORTFOLIOS OF EIGHT DRB COUNTRIES - WITHOUT GERMANY AND AUSTRIA



6.2. Planned Investment Portfolios

The planned investment portfolios of the DRB countries follow exactly the structure of the actual portfolios and are presented in the same format. They should be stated on an annual basis and at least cover the years 1999 and 2000. Apart from Bulgaria all countries have provided figures on the planned "investment portfolios for water quality and water management programmes and projects".

From the country specific portfolios which are compiled in Table 6.2 and illustrated in Figure 6.2-1 it turns out that most of the DRB countries have problems to provide adequate portfolios on an annual basis and especially regarding potential funding sources.

Most of the countries have provided compilations of programmes and projects envisaged for implementation during the forthcoming period of about 2 to 5 years, but not further specified on an annual basis.

Taking into account this fact the aggregated "investment portfolios for water quality and water management programmes and projects" of the ten DRB countries, for which data are available from National Review Reports, amount to about USD 4.290 billion for the years 1999/2000 ... 2005.

The planned country specific investment portfolios of these ten countries, as well as the corresponding figures for Germany and Austria for the forthcoming period of 2-5 years are illustrated in FIG 6.2-1 and can be summarized as follows:

Planned water sector investment portfolios of DRB countries for the "forthcoming period of 2-5 years":				
	Planned Investment for 2-5 year period		Planned Investment per Capita for 2-5 year period	Planned Investm. for 2-5 year period (in % of GDP per Capita in 1997)
	(Million USD)	(%)	(USD per Capita)	(%)
BiH	89	2 %	23	2.2 %
Bulgaria (*)	--	--	--	--
Croatia	605	14 %	126	3.0 %
Czech Rep. (**)	68	2 %	24	0.5 %
Hungary	1295	30 %	127	2.8 %
Moldova	90	2 %	21	4.1 %
Romania	406	9 %	18	1.2 %
Slovakia	280	7 %	52	1.4 %
Slovenia	707	16 %	353	3.9 %
Ukraine (**)	104	2 %	34	3.4 %
Yugoslavia	645	15 %	62	4.2 %
Sub-total	4290	100 %		
Germany (**)	3078	--	338	1.3 %
Austria	1935	--	239	1.0 %
Total	9303			
(*) no data available; (**) only for DRB area;				

The figures in the last column of the compilation are "synthetic" figures. They just indicate the relation between the planned investment portfolio of a particular country for a not further specified period of about 2-5 years and the annual per capita income of the year 1997.

The planned sectoral structure of the aggregated investment portfolios of ten DRB countries for the forthcoming period of 2-5 years are illustrated in FIG 6.2-2 and can be summarized as follows:

Sectoral structure of the planned "water sector investment portfolios" of ten DRB countries for the "forthcoming period of 2-5 years" - excluding Germany and Austria:		
	(Million USD)	
Municipal wastewater systems and treatment	2875	67 %
Industrial wastewater treatment / pre-treatment	166	4 %
Water supply systems	702	16 %
Water resources, water control	198	5 %
Solid waste, industrial, agricultural water pollution	296	7 %
Wetlands, protected areas	4	0 %
Others, not specified	0	0 %
Non-structural projects	48	1 %
Total	4290	100 %

The figures of this compilation indicate that also in the forthcoming period the investments in municipal wastewater systems and treatment plants will remain the dominating investment category, followed by investments in water supply systems.

The envisaged structure of the "aggregated investment portfolio by funding sources" can be seen in detail from Table 6.2. According to the figures provided, a portion of 40% is not yet specified, and also the other figures on funding sources have to be considered as relatively tentative.

TABLE 6.2/1

PLANNED INVESTMENT PORTFOLIOS FOR WATER QUALITY AND MANAGEMENT PROJECTS AND PROGRAMMES IN THE DRB COUNTRIES

(Million USD, Values for Period 1999/2000/...)

Country		Category of Projects and Programmes	No. of Pro-jects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
BIH	(a)	Municipal waste water / treatment	4	2,7	Not															
Total Country	(b)	Industrial waste water / treatment			specified															
	(c)	Water supply	62	61,5																
	(d)	Water resources, water control	9	8,6																
	(e)	Solid waste, industry, agriculture	1	2,0																
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes	5	13,8																
		Total	81	88,6		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	88,6
Bulgaria	(a)	Municipal waste water / treatment																		
Figures	(b)	Industrial waste water / treatment																		
not yet	(c)	Water supply																		
available	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total	0	0,0		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
Croatia	(a)	Municipal waste water / treatment	31	564,3	Not															
Total Country	(b)	Industrial waste water / treatment	5	4,2	specified															
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	12	36,3																
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total	48	604,7		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	604,7
Czech Republic	(a)	Municipal waste water / treatment	5	60,2								7,2		11,8		5,9		12,2	23,0	
DRB Area only	(b)	Industrial waste water / treatment																		
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	2	8,0												5,0		1,5	1,5	
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total	7	68,2	1999/2002	0,0	0,0	0,0	0,0	0,0	0,0	7,2	0,0	11,8	0,0	10,9		13,7	24,5	0,0
Hungary	(a)	Municipal waste water / treatment		610,5		230,9	54,1	38,5				228,6			58,5					
Total Country	(b)	Industrial waste water / treatment																		
	(c)	Water supply		519,5								519,5								
	(d)	Water resources, water control		78,2								78,2								
	(e)	Solid waste, industry, agriculture		79,5			9,7					49,8			20,0					
	(f)	Wetlands, protected areas		3,7			2,4					1,3								
	(h)	Non-structural projects/programmes		3,5				1,3				2,2								
		Total	69	1295,0	1999/2000	230,9	66,3	39,8	0,0	0,0	0,0	879,6	0,0	0,0	78,5	0,0		0,0	0,0	0,0

TABLE 6.2/2

PLANNED INVESTMENT PORTFOLIOS OF FOR WATER QUALITY AND MANAGEMENT PROJECTS AND PROGRAMMES IN THE DRB COUNTRIES

(Million USD, Values for Period 1999/2000/...)

Country		Category of Projects and Programmes	No. of Pro-jects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
Moldova	(a)	Municipal waste water / treatment			Not															
Total Country	(b)	Industrial waste water / treatment			specified															
	(c)	Water supply	4	78,7		14,0			10,0		3,0					5,8		15,9	30,0	
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes	6	11,6														11,6		
		Total	10	90,3		14,0	0,0	0,0	10,0	0,0	3,0	0,0	0,0	0,0	0,0	5,8		27,5	30,0	0,0
Romania	(a)	Municipal waste water / treatment (	1	250,0	Not	50,0			200,0											
Total Country	(b)	Industrial waste water / treatment	4	29,3	specified	29,0						0,3								
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	9	117,0								14,2	0,8			2,0				
	(f)	Wetlands, protected areas	1	0,7								0,7								
	(h)	Non-structural projects/programmes	11	8,7		0,3		0,1				5,4	2,9							
		Total	26	405,7		79,3	0,0	0,1	200,0	0,0	0,0	20,6	3,7	0,0	0,0	2,0		0,0	0,0	100,0
Slovakia	(a)	Municipal waste water / treatment	22	138,5	Not	24,4	24,8	10,5	62,0	2,3					0,1	0,3				
Total Country	(b)	Industrial waste water / treatment	10	98,3	specified	15,9	38,6						43,5						0,7	
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture	6	43,4																
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total	38	280,2		40,3	63,3	10,5	62,0	2,3	0,0	0,0	43,5	0,0	0,1	0,3		0,0	0,7	57,2
Slovenia	(a)	Municipal waste water / treatment	18	524,7	Not															
DRB Area only	(b)	Industrial waste water / treatment	3	28,5	specified															
	(c)	Water supply	3	42,1																
	(d)	Water resources, water control	3	103,1																
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes	10	9,0																
		Total	37	707,4		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	707,4
Ukraine	(a)	Municipal waste water / treatment		81,6		0,8	0,0		19,3	3,0	14,7	8,0	3,3	2,6				0,3	28,5	
DRB Area only	(b)	Industrial waste water / treatment	2	3,7		1,5			1,6	0,4	0,2									
	(c)	Water supply																		
	(d)	Water resources, water control	5	8,2					7,1	0,6	0,3									
	(e)	Solid waste, industry, agriculture	2	10,0																
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes	1	0,9																
		Total	10	104,4	1998/2005	2,3	0,0	0,0	28,0	4,0	15,2	8,0	3,3	2,6	0,0	0,0		0,3	28,5	12,3
Remarks:	(1) WWTP Bucharest																			

TABLE 6.2/3

PLANNED INVESTMENT PORTFOLIOS FOR WATER QUALITY AND MANAGEMENT PROJECTS AND PROGRAMMES IN THE DRB COUNTRIES

(Million USD, Values for Period 1999/2000/...)

Country		Category of Projects and Programmes	No. of Pro-jects	Total Capital Require-ments	Funding Period	National Funding Sources											International Funding			Not Speci-fied Funding Portions
						Equity	Environ-mental Fund	Water Manag. Fund	Public Loans			Public Grants			Comm. Bank Loans	Others	Organi-sation	Grant	Loan	
									Central Budget	Reg. Budget	Local Budget	Central Budget	Reg. Budget	Local Budget						
				M USD		M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		M USD	M USD	M USD
Yugoslavia	(a)	Municipal waste water / treatment		642,5	Not		191,3	143,7					136,5	7,2						
Total Country	(b)	Industrial waste water / treatment		2,4	specified		1,0	0,7					0,7	0,0						
	(c)	Water supply																		
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total		644,9		0,0	192,3	144,4	0,0	0,0	0,0	0,0	137,2	7,2	0,0	0,0		0,0	0,0	163,8
TOTAL	(a)	Municipal waste water / treatment	81	2875,0	67,0%	306,1	270,2	192,7	281,3	5,3	14,7	243,8	139,8	21,6	58,5	6,2		12,5	51,5	
FOR TEN	(b)	Industrial waste water / treatment	24	166,4	3,9%	46,4	39,5	0,7	1,6	0,4	0,2	0,3	44,2	0,0	0,0	0,0		0,0	0,7	
COUNTRIES	(c)	Water supply	69	701,8	16,4%	14,0	0,0	0,0	10,0	0,0	3,0	519,5	0,0	0,0	0,0	5,8		15,9	30,0	
	(d)	Water resources, water control	17	198,2	4,6%	0,0	0,0	0,0	7,1	0,6	0,3	78,2	0,0	0,0	0,0	0,0		0,0	0,0	
	(e)	Solid waste, industry, agriculture	32	296,1	6,9%	0,0	9,7	0,0	0,0	0,0	0,0	64,0	0,8	0,0	20,0	7,0		1,5	1,5	
	(f)	Wetlands, protected areas	1	4,4	0,1%	0,0	2,4	0,0	0,0	0,0	0,0	1,9	0,0	0,0	0,0	0,0		0,0	0,0	
	(h)	Non-structural projects/programmes	33	47,5	1,1%	0,3	0,0	1,4	0,0	0,0	0,0	7,6	2,9	0,0	0,0	0,0		11,6	0,0	
		Total (Million USD)	326	4289,5	100,0%	366,8	321,9	194,8	300,0	6,3	18,2	915,4	187,7	21,6	78,5	19,0		41,4	83,7	1734,1
		Total (%)		100%		9%	8%	5%	7%	0%	0%	21%	4%	1%	2%	0%		1%	2%	40%
Germany	(a)	Municipal waste water / treatment		2400,0																
DRB Area only	(b)	Industrial waste water / treatment																		
	(c)	Water supply		465,0																
	(d)	Water resources, water control		213,0																
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total		3078,0	1999/200	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
Austria	(a)	Municipal waste water / treatment		1350,0																
Total Country	(b)	Industrial waste water / treatment		130,0																
	(c)	Water supply		455,0																
	(d)	Water resources, water control																		
	(e)	Solid waste, industry, agriculture																		
	(f)	Wetlands, protected areas																		
	(h)	Non-structural projects/programmes																		
		Total		1935,0	1999/200	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0	0,0	0,0
TOTAL	(a)	Municipal waste water / treatment		6625,0	71,2%															
FOR TWELVE	(b)	Industrial waste water / treatment		296,4	3,2%															
COUNTRIES	(c)	Water supply		1621,8	17,4%															
	(d)	Water resources, water control		411,2	4,4%															
	(e)	Solid waste, industry, agriculture		296,1	3,2%															
	(f)	Wetlands, protected areas		4,4	0,0%															
	(h)	Non-structural projects/programmes		47,5	0,5%															
		Total (Million USD)		9302,5	100,0%															

FIG 6.2-1:PLANNED WATER SECTOR INVESTMENT PORTFOLIOS OF THE DRB COUNTRIES

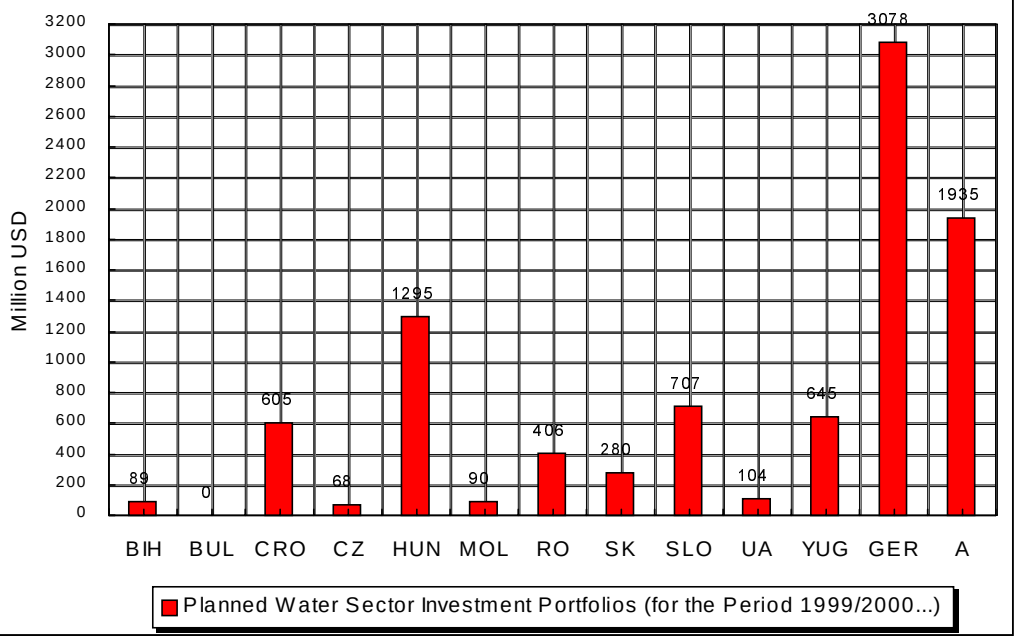
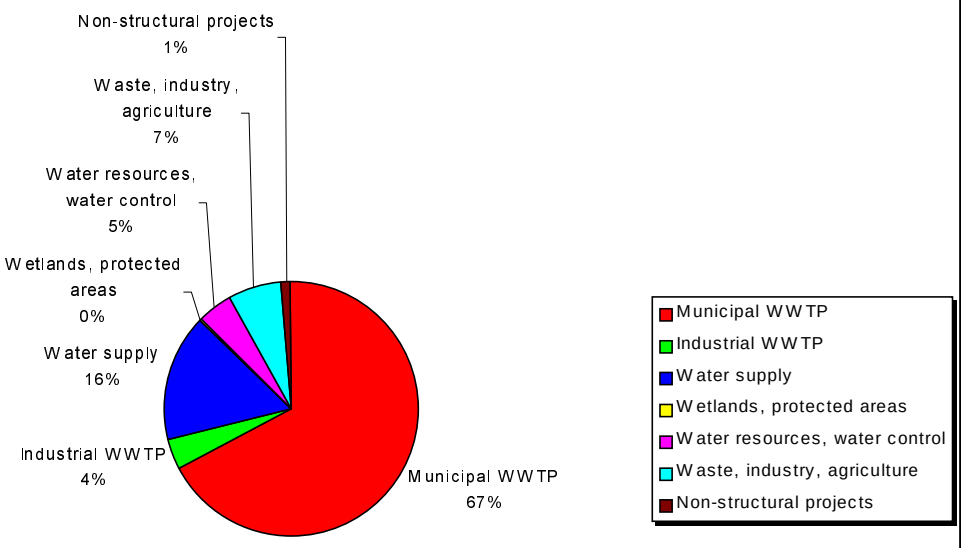


FIG 6.2-2: PLANNED WATER SECTOR INVESTMENT PORTFOLIOS OF TEN DRB COUNTRIES - EXCLUDING GERMANY AND AUSTRIA



Annexes

Annex 1.

Main Economic Indicators for the DRB Countries

The main economic indicators of the DRB countries are compiled in the table at the end of this Annex. The figures are mainly based on data published in the EIU Country Reports for 1997/1998, respectively EBRD, and on data provided by the National Review Reports. They have to be considered as approximate and are not exactly compatible, as they represent either average, mid-year or end-year values; and in some cases preliminary values.

(a) Gross Domestic Product (GDP)

In 1997 the GDP of the DRB countries (expressed for the purpose of comparison in USD) varied from USD 1.9 billion in Moldova to USD 2034 billion in Germany, that means by a factor of more than 1000.

Apart from Germany and Austria, the countries with the highest GDP (between USD 45 and USD 50 billion) are Czech Republic, Hungary and Ukraine.

In this context it has to be noted that the GDP figures expressed in USD are calculated on the basis of the official USD exchange rates and do not really reflect the country specific "purchasing power parity". For this reason especially in the countries Ukraine, Moldova, Bulgaria and Romania the GDP figures expressed in USD do not fully represent the real value for the population in the countries.

(b) Composition of Gross Domestic Product (GDP) by Main Economic Sectors

In 1996, the most recent year for which a complete set of data is available, the composition of GDP by main economic sectors is extremely different from country to country and can be summarized as follows:

- The share of the agricultural sector (usually including forestry and fishery) varies between 1% in Germany and 34% in Romania.
- The share of the industrial sector (usually including mining and in some countries construction) varies between 19% in Romania and 45% in Ukraine.
- The share of the "tertiary sector" (including all residual sub-sectors) varies between 37% in Ukraine and 70% in Austria.

(c) GDP per Capita

In 1997 the GDP per capita (expressed in USD and therefore, as outlined above, not really reflecting the country specific "purchasing power parity") varied in the 13 DRB countries between USD 512 per annum (Moldova) and USD 25600 (Germany), that means by a factor of about 50.

The development of the country specific "GDP per capita in USD" between 1996 and 1997 (reflecting both the economic development in the country and the variation in the exchange rate between the national currency and the USD) can be summarized as follows:

- 3 countries with significantly increasing GDP/capita (between 10% and 40%):
  BiH, Moldova, Ukraine
- 8 countries with approximately stagnating GDP/capita (between -1.0% and +3.5%):
  Bulgaria, Croatia, Czech Republic, Hungary, Romania, Slovakia, Slovenia, Yugoslavia;
- 2 countries with decreasing GDP/capita of about 11% (mainly resulting from variation in exchange rates):
  Germany and Austria.

(d) Inflation Rates

Regarding the development of the annual "consumer price inflation rates" for the period 1995 to 1997 the 13 DRB countries can be categorized as follows:

- Two countries with extremely high inflation rates:
  - Bulgaria, with an increase from 62% to 1083%; (followed by a significant recovery with an expected rate of 30% in 1998);
  - Romania, with an increase from 32% to 155%;
- Four countries (BiH, Croatia, Czech Republic and Germany) with approximately stagnating inflation rates; varying actually between 2% and 9%;
- Seven countries with decreasing inflation rates; varying actually between 1.3% and 18.5%.

Regarding the actual inflation rates in 1997 the countries can be categorized as follows:

- Four countries with actually low inflation rates of less than about 4%:
  BiH, Croatia, Germany and Austria;
- Three countries with medium inflation rates between 6% and 8.5%:
  Czech Republic, Slovakia and Slovenia;
- Six countries with unacceptably high inflation rates of more than 11%:
  Bulgaria, Hungary, Moldova, Romania, Ukraine and Yugoslavia.

(e) Exchange Rates between National Currencies and USD

During the period 1995 -1997 all DRB countries experienced a devaluation of their national currencies against the USD.

For seven countries (Croatia, Czech Republic, Moldova, Slovakia, Yugoslavia, Germany and Austria) this devaluation was less than 25%.

For the other countries the devaluation was partly significantly higher, for Bulgaria and Romania extremely high.

(f) Minimum Wages

The available data on "minimum wages" indicate that they are very different from country to country (e.g. USD 4.0 per month in Moldova and USD 200.0 in Croatia). In some countries the minimum wages (usually determined by law or government degree) really reflect the "existence minimum", and can therefor be considered as a criterion for the assessment of what the lowest income segment of the population can afford to pay for public services.

Country	Gross Domestic Product 1997	GDP by Main Sectors 1996			GDP/Capita (*)		Annual Inflation Rates			Exchange Rates: National Currencies to US$					Minimum Wage 1996/ 1997
		Agri-culture	Industry Mining	Services Others	1996 (**)	1997 (***)	1995	1996	1997	Name of National Currency	1995	1996	1997	1998 January/ May	
	Billion USD (*)	%	%	%	USD/ Capita	USD/ Capita	%	%	%	(NC)	NC/USD	NC/USD	NC/USD	NC/USD	USD/ Month
BiH (****)	4,1	--	--	--	776	1087	-12,0	3,0	3,0	KM	–	–	1,8	–	40-85
Bulgaria	9,9	11,7	28,3	60,0	1114	1227	62,0	123,0	1082,6	BGL	67,1	177,9	1717,7	–	77
Croatia	18,8	10,3	20,3	69,4	4243	4267	2,0	3,5	3,6	HRK	6,0	5,4	6,4	6,5	200
Czech Republic	48,9	5,0	33,8	61,2	5063	5050	9,1	8,8	8,5	CZK	26,5	27,0	31,7	–	76
Hungary	44,5	3,0	30,3	66,7	4308	4462	28,2	23,6	18,3	HUF	125,7	152,6	186,8	205,2	91
Moldova (****)	1,9	30,0	25,0	45,0	455	504	29,9	23,5	11,8	MDL	4,5	4,6	4,6	–	4
Romania	34,6	34,2	19,1	46,7	1569	1549	32,2	38,8	154,8	LEI	2600,0	3800,0	7200,0	8478,0	–
Slovakia	19,5	5,3	27,0	67,7	3531	3624	9,9	5,8	6,1	SK	29,7	30,7	33,7	34,4	87
Slovenia	17,4	5,2	36,1	58,7	9254	9101	13,4	9,9	8,3	SIT	118,5	135,4	159,7	–	–
Ukraine (****)	49,7	17,8	44,8	37,4	880	976	377,0	80,0	16,0	HRN	1,5	1,8	1,9	2,1	27
Yugoslavia	15,5	19,9	37,8	42,3	1477	1462	74,1	93,1	18,5	YUD	4,7	5,1	5,9	10,6	36
Germany	2034,1	1,1	31,9	67,0	28790	25606	1,8	1,5	1,8	DM	1,4	1,5	1,7	1,8	–
Austria	195,7	2,1	27,6	70,3	27950	24691	2,2	1,9	1,3	ATS	10,1	10,6	12,2	12,4	–

(*) GDP and GDP/capita expressed in USD at official exchange rates between USD and national currencies

(**) Source: EIU Country Reports, (The Economist Intelligence Unit Limited, 1997/1998)

(***) Source: EBRD

(****) GDP/capita 1996 for Moldova and Ukraine own estimates; GDP for BiH 1997: GDP/ capita multiplied by number of domestic population;

Annex 4.4

Water and Wastewater Tariffs in the DRB Countries (in national currencies)

Country	Tariff Level	Currency	Year	Water Tariffs			Waste Water Tariffs			Total Tariffs		
				Domestic	Budget Organisations	Industry, Others	Domestic	Budget Organisations	Industry, Others	Domestic	Budget Organisations	Industry, Others
Bosnia and Herzegovina	- Average (x)	KM/m3	1997	0,58	--	1,72	0,23	--	0,35	0,78	--	2,50
	- Minimum	KM/m3	1997	0,12	--	0,42	0,12	--	0,21	0,40	--	1,98
	- Maximum	KM/m3	1997	1,04	--	3,02	0,33	--	0,49	1,16	--	3,02
Bulgaria (1)	- Average (x)	BGL/m3	1998	503,00	509,00	649,00	116,00	117,00	565,00	619,00	626,00	1214,00
	- Minimum	BGL/m3	1998	231,00	243,00	243,00	79,00	79,00	171,00	0,00	0,00	0,00
	- Maximum	BGL/m3	1998	775,00	775,00	1054,00	153,00	155,00	959,00	0,00	0,00	0,00
Croatia	- Average	HRK/m3	1996	4,91	--	7,87	1,86	--	2,46	6,77	--	10,33
	- Minimum	HRK/m3										
	- Maximum	HRK/m3										
Czech Republic	- Average	CZK/m3	1997	11,86	15,85	15,85	9,31	13,34	13,34	21,17	29,19	29,19
	- Minimum	CZK/m3	1997	5,00	7,46	7,46	5,00	5,00	5,00	--	--	--
	- Maximum	CZK/m3	1997	19,07	31,30	31,30	16,40	31,30	31,30	--	--	--
Hungary	- Average (x)	HUF/m3	1997	96,50	328,50	328,50	94,85	446,35	446,35	191,35	774,85	774,85
	- Minimum	HUF/m3	1997	53,00	53,00	53,00	26,70	26,70	26,70	--	--	--
	- Maximum	HUF/m3	1997	140,00	604,00	604,00	163,00	866,00	866,00	--	--	--
Moldova (2)	- Average (x)	MDL/m3	1997	0,55	4,75	6,51	0,39	3,23	6,10	0,94	7,98	12,61
	- Minimum	MDL/m3	1997	0,10	0,80	0,62	0,07	0,45	0,91	--	--	--
	- Maximum	MDL/m3	1997	1,00	8,70	12,40	0,70	6,00	11,28	--	--	--
Romania (5)	- Average	LEI/m3	1998	6500,00	6500,00	6500,00	4000,00	4000,00	15000,00	10500,00	10500,00	21500,00
	- Minimum	LEI/m3	1998	3000,00	3000,00	3000,00						
	- Maximum	LEI/m3	1998	10000,00	10000,00	10000,00						
Slovakia	- Average	SK/m3	1997	6,00	14,81	14,81	4,00	11,08	11,08	10,00	25,89	25,89
	- Minimum	SK/m3										
	- Maximum	SK/m3										
Slovenia (3)	- Average	SIT/m3	1997	126,27	143,38	183,63	44,31	51,01	86,35	170,58	194,39	269,98
	- Minimum	SIT/m3										
	- Maximum	SIT/m3										
Ukraine (4)	- Average											
	- Odessa	Krb/m3	1996	12600,00	26760,00	83960,00	6900,00	14520,00	45540,00	19500,00	41280,00	129500,00
	- Mariupol	UAH/m3	1997	0,22	0,34	0,56	0,08	0,16	0,16	0,30	0,50	0,72
Yugoslavia	- Average	YUD/m3	1997	1,17	--	4,45	0,53	--	2,12	1,70	--	6,57
	- Minimum	YUD/m3	1997	0,42	--	0,74	0,11	--	0,11	--	--	--
	- Maximum	YUD/m3	1997	2,76	--	9,12	1,17	--	8,48	--	--	--

Remarks:

(1) Actual tariffs for industry are to be increased by a surcharge for waste water treatment depending on pollution content;
(2) Excluding a few extreme values of more than 3 US$ per m3 of water or sewage for industry and budget organisations
(3) Tariffs for budget organisations are increased by a surcharge of 60 SIT/m3 for taxes and public fees;
(4) Tariffs are for Vodokanal Odessa, April 1996; and for Vodokanal Mariupol, 01 January 1997;
(5) Approximate figures
(x) Average values not available: Simplifying assumption: Average = (maximum value plus minimum value) / 2;