PROSPECTS FOR INSTITUTIONAL CHANGE IN THE BLACK SEA CATCHMENT TO ADDRESS WATER QUALITY PROBLEMS

by

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B. S. Geography, University of Montreal 1999

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF RESOURCE MANAGEMENT

In the School

of

Resource and Environmental Management

Report No. 304

SIMON FRASER UNIVERSITY

August 2002

APPROVAL

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DEGREE: Master of Resource Management

PROJECT TITLE: Prospects for Institutional Change in the Black Sea Catchment to Address Water Quality Problems

PROJECT NO: 304

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ABSTRACT

The Black Sea is one of the world's most polluted bodies of water. Many years of unsustainable development and inadequate water management led to the catastrophic

ACKNOWLEDGEMENTS

This work would not have been possible without the

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LIST OF ABBREVIATIONS

A	Austria
BG	Bulgaria
BH	Bosnia-Herzegovina
BS-SAP	Strategic Action Plan for the Rehabilitation and Protection of the Black Sea
BSEP	Black Sea Environmental Program
BSNN	Black Sea NGO Network

IWM	Integrated Water Management
MD	Moldova
N	Nitrogen
NIS	Newly Independent States
NGO	Nongovernmental Organization
NPCI	National Per Capita Income
P	Phosphorus
PMTF	Project Management Task Force
RAC	Regional Activity Center
REC	Regional Environmental Center
RO	Romania
SAP	Strategic Action Plan
SK	Slovakia
SLO	Slovenia
TAR	Transboundary Analysis Report
TDA	Transboundary Diagnostic Analysis
UA	Ukraine
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UWWT	Urban Waste Water Treatment
WFD	Water Framework Directive

CHAPTER 1: INTRODUCTION

1.1 Background and Rationale

The need for adopting an integrated and coordinated approach to water planning and development has become increasingly evident during

Despite the necessity of applying IWM in internatio

1.2 Statement of Purpose

General objective: Examine the nature of institutional arrangements for the protection and rehabilitation of the Black Sea.

Specific objective: Assess prospects for change associated with the E

CHAPTER 2: LITERATURE REVIEW

This chapter provides a review of the literature related to the application of integrated and coordinated strategies in international drainage basins. The first section presents the general problems associated with the management of common-pool resources. A special emphasis is given to collective action theories. The following section defines the concept of integrated water resource management, and gives a brief account of the management implications associated with the application of this approach. The third section describes the nature and characteristics of international drainage basins, and presents the challenges and opportunities inherent in their management. The chapter concludes with a discussion on the role of institutions.

2.1 Common-Pool Resources

Throughout the literature, natural resources are divided into four broad types of goods, identified as private, public, and toll goods, and common-pool resources (e.g. Wade 1987, Oakerson 1992). Each of these four types differs in terms of its degree of subtractability and excludability. The former refers to the relative capacity of the resource to support multiple users without diminishing the overall level of benefits available to the group. The latter indicates the extent to which a particular resource may be controlled through limitation of its access (Ostrom, Gardner, and Walker 1994). By contrast with other types

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(Wade 1987). In such cases, individual rationality can lead to irrational outcomes for the group. This report refers to the term – actor- to describe all individuals and organizations that have become participants in a CPR situation.

In his book The logic of collective action, Mancur Olson (1965, 110) argues that "in large groups deprived of devices to make individuals act in their common interest, rational, self-interested individuals will not act to achieve their common group interests". Since no mechanisms can ensure that a rational common objective will be implemented by all, some actors prefer to settle for suboptimal, but more reliable and independent, outcomes. Applying this principle to herders sharing a common pasture, Hardin's " tragedy of the commons" illustrates how environmental degradation can occur when individuals use scarce resources in common (Hardin 1968). In the absence of mechanisms internalizing the costs of deteriorating a resource and ensuring compliance within a group of appropriators, users are condemned to act in their own short-term self-interest (Pinkerton and Weinstein 1995). Despite the collective and long-term rationale for resorting to cooperative strategies, and internalizing the costs of environmental degradation, some appropriators will choose to use as many resource units as they can now rather than taking the risk of letting other users gain from their restrained consumption.

Fortunately, users sharing common resources have on numerous occasions succeeded in overcoming the tragedy of the commons. In practice, such tragedies occurs in extreme cases where resource appropriators cannot communicate effectively with one another, which compromises their capacity to establish and enforce common strategies. Extending Hardin and Olson's work, Elinor Ostrom refers to the notion of a CPR dilemma, when appropriators' strategies lead to suboptimal outcomes but institutionally feasible alternatives exist to prevent such losses (Ostrom, Gardner, and Walker 1994). Coordination of the appropriators' strategies represents the key to solving this kind of CPR dilemma. While coordination can be attained spontaneously through a learning and incremental process over time, coordination can also be induced more proactively by changing the rules affecting the structure of the situation (Ostrom, Gardner, and Walker 1994). Rules refer to "agreed upon and enforced prescriptions that require, forbid or

permit specifications for more than a single indivi

integrated management should account for interconnections between freshwater and saltwater systems (Alexander 1993). Sherman and his team (1993) describe marine catchment basins as large marine ecosystems “encomp

might be inconsistent between and across levels of governments, or lead to duplications of responsibilities (Imperial 1999a).

Over the last decades numerous attempts have been made at all scales to better coordinate management functions among stakeholders within drainage basins. Thus far, practical experience has yield mixed results (Watson, Mitchell, and Mulamoottil 1997). The implementation of integrated strategies proves to be hindered by a series of constrains including inadequate financial provision, weak legislation, fragmented administrative structures, entrenched organizational cultures, and limited public participation (Watson, Mitchell, and Mulamoottil 1997). In international drainage basins, cooperative solutions are further impeded by the large number and heterogeneity of stakeholders, the sovereignty of national actors, and the unidirectional distribution of externalities (Waterburry 1997).

2.3 International Drainage Basins

As an example of a common-pool resource, international watercourses and regional seas are characterized by the subtractable nature of the resource. In such systems, all resource appropriators are interconnected. Any alteration made by one user diminishes the quantity or quality of shared resources available to other users. In international drainage basins, the efficient use and effective conservation of water resource requires cooperation among all countries within a catchment basin (Nakayama 1997). Applying integrated water management in international drainage basins proves to be difficult because of sovereignty issues and the different patterns of incentives affecting users (le Marquand 1977). Most international drainage basins are not governed by any comprehensive agreement (Milich and Varady 1997).

In international drainage basins, riparian and coastal countries are confronted with different incentives to cooperate . Since water flows unidirectionally, externalities associated with water consumption are distributed asymmetrically among the basin countries (Linnerooth 1990). In general, upstream countries have the opportunity to export their externalities downstream, which results in a mismatch between the costs and

decide to undertake actions that do not represent their best interest, but that will make a

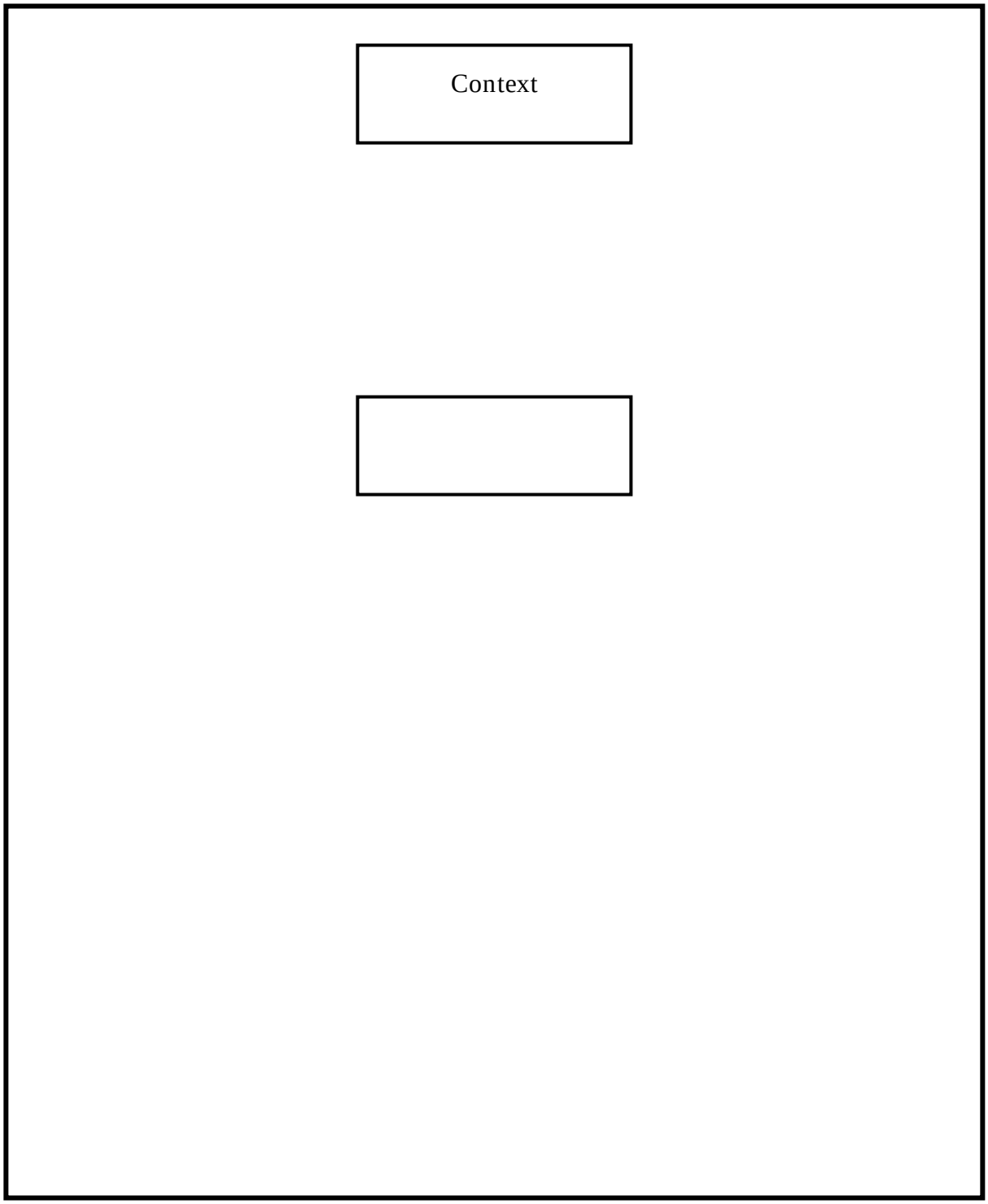
The logic of institutional theory is based on the assumption that the environment in which

common expectations facilitates the interpretation process by decreasing uncertainty (Imperial 1999b).

As an element of social construction, institutions are developed to structure relationships among actors in order to achieve collective outcomes (Adler 1997). The literature demonstrates that the process of crafting institutions to create new forms of relationships has been utilized and studied in a variety of settings to address a wide range of problems. In regard to CPR systems, institutions have been developed to control small-scale irrigation systems such a 23:4wVkLeFV344V::4Y©YLzFme n

In the end, the challenge of crafting institutions to resolve CPR problems is to ensure that institutional arrangements are designed to match the physical and social context. Unless institutions reflect the attributes of the CPR and its community of users, they cannot produce the incentives required to change the actors' behaviour. In international catchments, institutions crafted to apply IWM must adopt the drainage basin as the basis for planning, account for the unidirectional distribution of externalities among users, and respect the states desire to protect their sovereignty. The next chapter presents this study analytical approach and research methods.

Figure 3.1: Institutional Analysis and Development framework



Source: Ostrom, Gardner, and Walker 1994

The IAD approach suggests that to be effective, institutional arrangements must be compatible with the underlying physical and technical setting (Oakerson 1992). Indeed, physical-technical properties constitute hard constraints to which human beings must adapt (Adler 1997). For this reason, institutional analysis starts with the definition of the physical-technical variables that limit the actors choices. In regard to common-pool resource situations, these constraints stem mainly from a resource's degree of subtractability and open-access. Defining the nature of the problem implies specifying the capacity of the resource to support multiple users and determining the conditions and degree to which the resource can be controled by limiting access to it(Coccossis, Burt, and Van Weide 1999). The definition of the physical setting includes all other relevant geographical and biological attributes that may represent constraints or opportunities for users and planners (Imperial 1999b). Given the large size of some resource systems and the heterogeneous distribution of resource units within resource systems, it is necessary to identify physical boundaries dividing a resource system (Ostrom 1999). Other situational variables such as the state and the size of the resource system must also be accounted for.

Institutional arrangements are by their nature social constructions reflecting identities and interests of communities (Adler 1997). Given that common understandings and shared

3.1.2 Decision Space

This institutionalist approach refers to the notion of decision space to describe the social

strategies. In the process of defining an actor's motivations, special attention should be given to an actor's financial capacity to implement

operational level relates to the set of rules that apply immediately to the physical world and affect decisions on a day-to-day basis (Pinkerton and Weinstein 1995). In regards to CPRs, operational rules can take the form of prescriptions that specify the type of uses

3.2 Research Methods

Given the limitations and biases inherent to all re

regarding water management programs in the Black Sea catchment. Interviews were conducted with key officials of the main water agencies, ministries, research institutes, and NGOs dealing with the subject (appendix I). For representativity, at least one respondent was interviewed from each geographical subdivision and for each administrative level (Seidman 1991).

This research uses focused interviews to structure data collection. Unlike standardized interviews for which questions are precisely worded, focussed interviews are essentially goal oriented (Adams and Jay 1989). Assuming that all respondents share some common knowledge, the interviews focus on attaining the research objectives. In order to fulfill these objectives, an interview guide was designed. The interview guide used for this research is presented in appendix II. As defined by Patton (1990), the interview guide consists of " a list of questions or issues that are to be explored in the course of an interview". Basically, the interview guide serves as a checklist to ensure that all respondents cover the same material. Hence, the interview guide makes interviewing across different respondents more systematic and comprehensive (Patton 1990).

Even though there are no fixed rules for conducting focused interviews, Patton (1990) recommends developing the interview guide based on a format of open-ended, single, and neutral questions. Open-ended questions offer the advantage of letting a respondent reveal what he or she thinks is important, and the amount of information necessary to cover a topic (Stewart and Wash 1978). By treating one idea at a time, without presuppositions, single and neutral questions avoid confusion and reduce biases (Patton 1990). In order to structure and facilitate the exchange of information between a respondent and the researcher, interview guide uses a funnel sequence (Steward and Wash 1978). All interviews started with broad questions and ended with specific and more sensitive questions. This funnel structure is further emphasized by using primary and secondary questions. The former introduces the topics to be discussed, and the later elicitated further information (Steward and Wash 1978).

In all cases, a consent form is presented to respondents before starting an interview (appendix III). The consent form specifies the research objectives and clarifies how the information generated from the interviews would be used. Given the cross-cultural nature of these interviews, and the sensitive political situation in numerous countries in Central and Eastern Europe, interviews were not recorded on tape, but by taking notes of key phrases and major points of respondents' answers (Shipley and Wood 1996). Prior to the interviews, a system of abbreviation was developed to facilitate note taking. On occasion, after reviewing the notes, respondents were contacted to clarify ambiguities and uncertainties.

As with all research methods, there are numerous problems associated with focused interviews (Adams and Jay 1989). First, given the open-ended nature of questions, it is difficult to compare systematically respondents' answers (Singleton and Straits 1999). Second, by focusing on respondent's personal perceptions, interviews convey a respondent's biases (Patton 1990). Third, in order to constitute data, the respondents' answers need to be interpreted by the researcher. Accordingly, the information generated from interviews reflects a researcher's personal interpretation of the interviewees' answers (Yin 1994). Therefore, to support or refute these findings, the interview results were corroborated with another information source.

Concurrently with the interviews, official documents were collected in all government offices and research institutes visited. Besides providing a mechanism to cross-check findings from other sources, official documents provide key information to a researcher. In many sectors, especially in the policy field, official documents often constitute the most direct and recent secondary source of information (Patton 1990). However, given the inherent biases and inaccuracies associated with such publications, all documents must be evaluated on the basis of an author's credential, date of publication, and intended audience (Bourner 1996). The following chapter presents the results obtain from all three research methods.

CHAPTER 4: RESULTS

The Black Sea is one of the most polluted inland sea in the world. Its water quality depends upon the actions of all states included in the Black Sea catchment, especially the Danube River basin countries. Over the last decade, the Danube and Black Sea countries

Although pollutant concentrations might be low, the

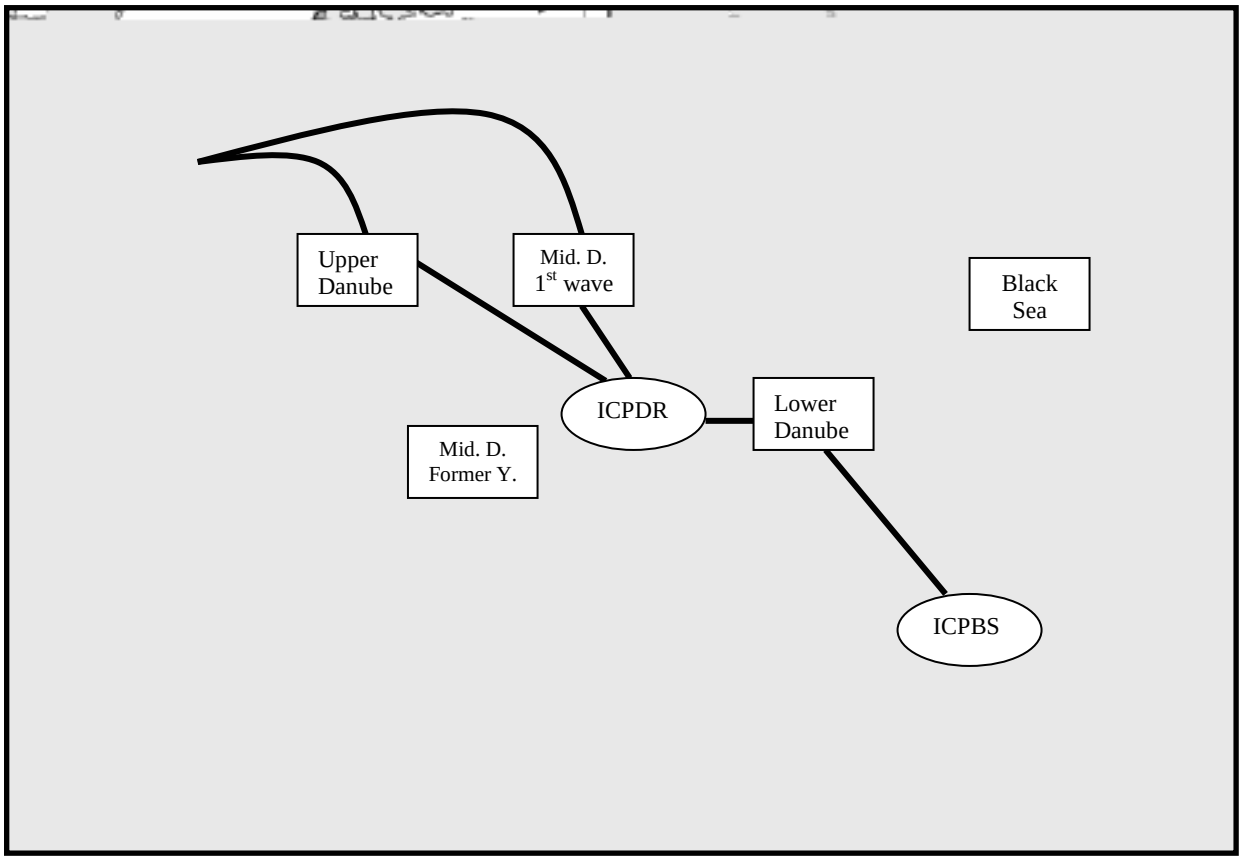
U.S. in Germany to $6.4 billion U.S. in Bosnia-Herzegovina (table 4.1). In 1999, the German's and Austrian's national per capita income (NPCI) exceeded $22,000 U.S. In Bosnia-Herzegovina, Bulgaria, Federal Republic of Y

run, all the effects of the transition have not been positive. In all countries, the transition was marked by important declines in output, high unemployment, and strong inflation. In numerous Central and Eastern European countries, dissatisfaction led to the democratic return of communists (Cordellier et al. 2000). Although the Czech Republic, Croatia, Hungary, Slovakia, and Slovenia basically rejected their political former systems, most countries in the region still retain structures from communism and central planning (Klarer and Moldan 1997).

For a majority of the NIS, the break up of the Soviet system provided the opportunity to renew their economic and political ties with Europe (Smith 2000). Throughout Central and Eastern Europe (CEE), the accession to the European Union (EU) has become a top priority. Besides marking their departure from the Soviet sphere, a successful accession to the EU would mean that the new members would be eligible to increased financial assistance, and more importantly benefit from open-access to the EU Single Market (Grabbe and Hughes 1998). For Germany and Austria, both members of the European Community, the eastward enlargement would contribute to stabilize the former communist region and facilitate economic trade between the two regions (Smith 2000). Among the EU members, Germany is one of the strongest supporters of enlargement. Indeed, each year, Germany accounts for more than 50% of EU exports to CEE countries (Grabbe and Hughes 1998).

The EU officially committed itself to the enlargement during the 1993 European Council held in Copenhagen. There, the Council established that countries would be allowed to become full EU members of the EU provided they satisfy specific economic and political criteria. As defined by the Council, the Copenhagen Criteria require: the establishment of a pluralist democracy with full respect for human rights and protection of minorities; the creation of a functioning market economy and the ab

Figure 4.2 Geographical distribution and relations among actors involved in the Black Sea situation



States

Throughout the Black Sea catchment, the primary responsibilities for environmental and water management lies with the national governments (ICPDR 1999c). Apart from Austria and Germany, the administrative and legal jurisdiction of local and regional governments usually is quite restricted. In Central and Eastern Europe, the role of regional water authorities and inspectorates is often limited to operational functions such as monitoring and sanctioning (ICPDR 1999c). Even though all countries have established a Ministry of Environment over the last decade, the lead responsibility for water management rarely lies with the ministry itself, but rather with older ministries (ICPDR 1999a). Special matters including irrigation, hydro-electricity, waterway infrastructure, and bathing and drinking water are still largely invested in ministries of

agriculture, industry, transport, and health. Recent reorganization efforts to promote a more integrated approach to water management are often obstructed by interministerial conflicts over budget allocations (Klarer and Moldan 1997).

Beyond these common administrative problems, the water management situation in the Black Sea countries is extremely diverse and varies widely in terms of the states' priorities, and resources available to address water pollution issues. Based on the countries' positions in the Black Sea system, and t

four countries have reached medium economic develop

potential EU accession countries, Bulgaria and Romania are expected to devote more resources to environmental protection in order to comply with the EU environmental standards and directives (European Commission 1997). Having important tourist destinations on the Black Sea Coast, both countries would benefit directly from the rehabilitation and protection of the Black Sea ecosystem (World Bank 2000).

(v) Black Sea and EU applicants

Aside from Ukraine whose western border drains into the Tisza River and the Danube Delta, Georgia, Russia and Turkey are strictly Black Sea coastal countries. Although, the European Commission accepted Turkey's candidacy in the late 1999, all four countries remain somewhat on the margin of the European integration process (The Economist 2001). In comparison with Turkey, the former Soviet Republics demonstrated limited interest in the protection and rehabilitation of the Black Sea. For Turkey, the collapse of the anchovy fisheries in the early 1990s had disast

1997). As a result, two international commissions were instituted to oversee implementation of the regional legal instruments and policy tools.

The International Commission for the Protection of the Danube River (ICPDR) came into operation in 1998, with the entry into force of the Danube River Protection Convention (DRPC). Out of the 13 countries eligible to join ICPDR, only Ukraine and FRY have not joined the commission (ICPDR 2000). Established to strengthen regional cooperation and set a common platform for integrated river basin management, ICPDR constitutes the main steering and decision-making body under DRPC (ICPDR 1999b). ICPDR is composed of a Permanent Secretariat and a Project Management Task Force (PMTF), which are responsible for coordinating technical and administrative support between the contracting parties, and developing financial mechanisms for projects with transboundary relevance. The commission also comprises six experts groups to strengthen cooperation between the Danube countries in fields such as emission control, monitoring, accidental pollution and river basin management (UNDP/GEF 2001b)

In December 2000, the International Commission for the Protection of the Black Sea (ICPBS) officially replaced the BSEP Program Implementation Unit (UNDP/GEF 2001a) . Like ICPDR, ICPBS is responsible for implementing the Black Sea environmental convention, namely the Convention for the Protection of the Black Sea Against Pollution (1992). As stated in the convention, the commission's Permanent Secretariat assumes the responsibilities for coordinating implementation of the Black Sea Strategic Action Plan, operating and maintaining the electronic communication system, seeking the technical and financial support from International financing agencies, and managing the six regional activity centers (RAC) (BSEP 1996). The RACs were created to provide the commission with information on the key topics related to the protection of the Black Sea, including the safety aspects of shipping, pollution monitoring, integrated coastal management, land-based pollution sources, and biodiversity.

Aware that the protection of the Black Sea can only be assured through regional cooperation, ICPDR and ICPBS created an ad-hoc technical working group to analyze the

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National Water Law

Over the last decade, most Danube and Black Sea countries developed environmental and water policies reflecting each country's environmental problems and economic capacities to finance sustainable development. Apart from Bosnia-Herzegovina and FRY, all countries prepared a national environmental plan, or a similar document, to outline basic principles of government policy towards environmental protection (ICPDR 1999a). Despite the diversity of environmental problems in the region, most countries share similar values and principles relating to environmental protection. Planning measures

processes to ensure the implementation of the Bucharest Convention and DRPC. First, the Danube and Black Sea countries each produced a transboundary analysis to identify causes and effects of land-based pollution sources on receiving waters and Black Sea ecosystems. Second, two regional strategic action plans were elaborated to set the policy plan and action program for the protection of the Black Sea and Danube. Third, the Danube countries prepared a pollution reduction program to assess priority projects and measures addressing major pollution problems. Finally, GEF recently proposed two regional projects to reinforce the capacity of participatory countries to implement the three aforementioned mechanisms.

Transboundary Diagnostic Analysis

As part of the GEF process on international waters, countries seeking GEF assistance must produce a transboundary diagnostic analysis (TDA) to describe the nature of the problem and identify opportunities for its remediation (Duda and La Roche 1997). Completed in June 1996, the Black Sea TDA presents major problems associated with the degradation of the Black Sea, their root causes, and areas where actions can be taken to resolve these problems (BSEP 1996). Based upon the work of a group of specialists cooperating through BSEP network, the TDA indicates that major problems relate to:

- the decline in Black Sea commercial fish stocks
- loss of habitats supporting biotic resources
- loss of endangered species and their genomes
- replacement of indigenous species with exotic species
- degradation of Black Sea landscapes
- unsanitary conditions on many beaches

TDA concludes that Black Sea degradation is in large part attributed to inadequate planning measures, poor legal frameworks, and ineffective financial mechanisms (UNDP/GEF 2001). TDA also supports the hypothesis that the Danube is responsible for well over half of total loads of nutrients discharged into the Black Sea (BSEP 1996). These findings were estimated by applying the World Health Organization's Rapid Assessment Technique presented in table 4.2.

Table 4.2 Distribution of nitrogen and phosphorous loads among Black Sea coastal countries (1996)

SOURCES	Nitrogen (kt/y)	Phosphorus (kt/y)
National		
Bulgaria	75.467	1.125
Georgia	1.585	0.435
Romania	45.373	0.528
Russia	13.491	1.037
Turkey	38.008	5.857
Ukraine	42.830	4.638
Total (national)	216.754	13.620
International		
Danube	345.660	25.440
Dnieper	11.180	3.970
Dniester	22.750	0.980
Don	7.048	3.386
Sea of Azov	43.900	3.100
Total (international)	430.538	36.876
Total	647.292	50.496

Source: BSEP 1997

Because of economic disparities among Danube countries, the elaboration of the Danube TDA extended over a period of six years (Duda and La Roche 1997). In 1999, ICPDR published the Danube Transboundary Analysis Report (TAR) integrating results compiled in national review reports prepared by all Danube countries. In line with GEF Operational Strategy, TAR presents the state of water resources in the Danube River basin and identifies sources and causes of pollution (UNDP/GEF 1999). The assessment of water quality was based on the application of the Danube Water Quality Model (DWQM), which accounts for both point sources and diffuse sources of pollution (ICPDR 1999c). The results presented in table 4.3, were derived from "Hot spot" emissions along the Danube and its tributaries, and national consumption of mineral fertilizers. As demonstrated in TAR, the direct causes of the Danube pollution stem from inadequate wastewater and solid waste management, ecologically unsustainable industrial and mining activities, and improper land management and agricultural practices (ICPDR 1999c). Ultimately, remediation of these problems will require structural and nonstructural interventions in municipal, industrial, and agricultural sectors.

Table 4.3 Distribution of nitrogen and phosphorus loads among Danube countries (1997)

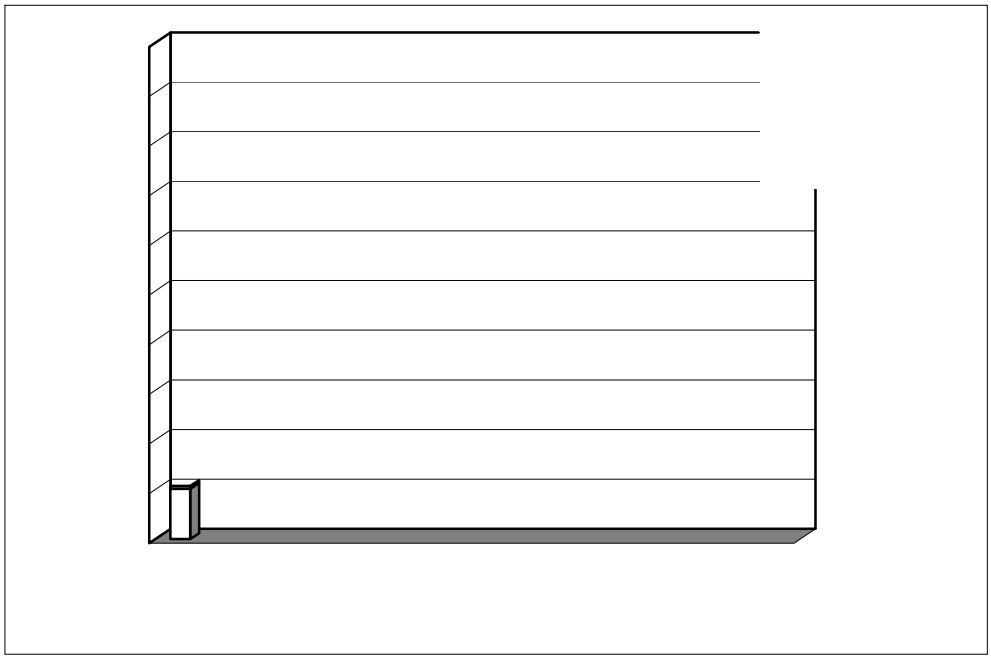
COUNTRY	Nitrogen (kt/y)		Phosphorus (kt/y)	
	Point Source	Diffuse Source	Point Source	Diffuse Source
Germany	20	100	1.2	5.8
Austria	24	72	2.2	4.6
Czech Republic	13	19	2.6	0.8
Slovakia	14	40	3.0	2.6
Hungary	19	63	5.4	7.8
Slovenia	12	12	1.5	1.3
Croatia	8	27	1.4	2.7
Bosnia-Herzegovina	8	29	3.2	1.9
Yugoslavia	32	74	9.8	7.9
Romania	74	157	12.0	15.6
Bulgaria	18	16	3.6	2.5
Moldova	1	12	0.2	2.0
Ukraine	3	31	1.1	4.6
Total	246	652	47.2	60.1

Source: ICPDR 1999c

Strategic Action Plans

The Strategic Action Plan for the rehabilitation and protection of the Black Sea (BS-SAP) was finalized and signed by all six coastal countries during the 1996 Istanbul Ministerial Conference (Mee 1999). Developed over a period of two years, BS-SAP provides a clear statement of priority issues to be addressed and actions required for addressing them (UNDP/GEF 2001a). By signing BS-SAP, the coastal countries engaged themselves in adopting policy measures to reduce pollution from land-base sources, improve living resource management, encourage sustainable development practices, and take steps to improve financing for environmental projects. The most significant feature of BS-SAP relates to its emphasis on applying integrated water resource management, enhancing protection status for sensitive coastal and marine habitats, and adopting economic instruments to regulate existing sources of pollution. Due to economic difficulties and delays associated with the establishment of the Black Sea Commission, the implementation of BS-SAP does not respect the intended deadlines (UNDP/GEF 2001a). However, during the 2001 Conference of the Parties, the coastal countries reiterated their commitment to oversee the implementation of BS-SAP.

Figure 4.3 Distribution of capital requirements among Danube countries



5.1.1 Process Evaluation

issues important to decision-makers. Over the years, BSEP and EPDRB mobilized thousands of experts and supported research in sectors ranging from wetland rehabilitation to coastal zone management (EEA 1999). Early in the process, an electronic communication system was established to facilitate communication between participants involved in the institutional network. It is through this system that the Romanian authorities informed downstream countries of the cyanide spill that occurred at Baïa Mare on January 2000 (UNEP 2000). Perhaps the most significant information costs relate to errors resulting from incomplete information (Imperial 1999b). Most of the research conducted within the framework of BSEP and EPDRB assumes that reductions of nitrogen and phosphorus are desirable. Neither

made by the contracting parties in implementing the Danube Strategic Action Plan (D-SAP) are assessed by an expert group on monitoring laboratory and information management (ICPDR 1999b). The Black Sea coastal countries also created an advisory group on pollution monitoring and assessment, but this has been less successful. Ever since its institution, this advisory group's financial situation has been reported as rather weak (UNDP/GEF 2001a).

Strategic costs

Strategic costs also appear relatively low. Apart from FRY and Bosnia-Herzegovina, all Danube and Black Sea countries participated and devoted resources to the planning process for improving water quality in the region. There are several explanations for this

institutions' success can be evaluated on the basis of their likelihood to achieve desired outcomes. As described in an earlier chapter, the I

Equity

In the Black Sea catchment, considerations of fiscal equivalence transcend concerns for redistributional fairness. Established in the impetus of the 1992 Earth Summit, BSEP and EPDRB were both designed to respect the polluter pa

5.2 Prospects for Changes

Over the last decades, Western societies came to recognize the necessity of protecting natural resources from depletion and pollution. In Europe, especially in the Northern states, environmental protection is now well integrated into social and economic development. In Central and Eastern Europe, the hard reality of the economic and political transition pushed environmental issues down the political agenda (Klarer and Moldan 1997). In most Danube and Black Sea countries, environmental protection is commonly perceived by the public as a drain of financial resources and an obstacle to economic development. Although legal and policy instruments were crafted to ensure the sustainable development of water resources in the region, in most cases these institutional arrangements still need to be implemented. Unless the pollution reduction measures identified during the planning process are fully implemented, the Danube and Black Sea ecosystems will continue to deteriorate.

According to many accounts, the remediation of environmental problems in the CEE region will depend on progress made in the economic sphere (e.g. European Commission 1997, Van Brandant 1999, Slocock 1999). Inspired by Ireland's astounding economic growth since its integration into the European Union, most CEE countries aspired to join the EU (The Economist 2001). However, in order to become full members, applicant countries are required to take on the obligations of membership, which entails implementing the EU environmental policy. As the enlargement moves forward, applicant countries are confronted with the necessity of inte

the European Commission developed a pre-accession strategy to facilitate the applicants'

White Paper

Formally defined as Preparation of Associated Countries of Central and Eastern Europe

Accession Negotiations

this legislative and institutional deficit. Drawing upon the experience of Western European countries, CEE countries make up for this policy deficit through the adoption of legislation borrowed from the EU (ICPDR 1999c). In most CEE countries, especially in the Middle Danube countries, the EU water policy provides the main framework for water management.

Water policy is one of the oldest and most regulated issues in EU environmental policy. The development of common water policies dates back to the First Action Program on the Environment (1973), when member states identified water pollution as an issue requiring priority action (Holl 1995). From the start, member states recognized that water policy was a sector demanding that some actions be taken at the community level. Over the years, the Council ratified more than 20 directives dealing directly with water pollution, the most important being the Drinking Water, Bathing Water, Dangerous Substant2c

River Basin District extends beyond the territory o

regulations. Unlike regulations that are directly applicable, directives require formal adoption and integration into national law (Grant, Matthews and Newell, 2000). States are responsible for the implementation, practical application, and enforcement of all directives adopted by the Council. In the eventuality that a member state fails to implement or apply adequately a directive, the Commission has the right to bring the refractory member before the Court of Justice (Williams 2000). As the Commission is more inclined towards administrative settlements than judicial procedures, prior to resorting to the Court of Justice , it issues a reasoned opinion to specify the inadequacy of the member's actions. If the 2wLpFm©3YYV©XLrF23V:w©YLoFm43XwkY©:LcFV344k2VLeFV34©

countries, there has been much progress. Most governments are now democratically elected, market forces interact relatively freely, and environmental legislation has been enacted in several sectors. Nevertheless, the transition is far from being completed, and as the accession process moves forward, progresses become increasingly expensive and hard to achieve (The Economist 2001). The reality is that in most applicant countries, the governments' capacity to implement new legislation is still affected by structures and processes inherited from the communist system. Although the adoption of the EU institutional framework by the applicant countries constitutes the best available alternative to overcome this problem, the EU structure has its weaknesses, especially in the environmental sector. This section discusses the impacts of former communist structures on environmental protection, and examines the problems associated with the EU environmental policy.

5.3.1 Legacy of the Past

Throughout the accession negotiations, CEE countries confirmed their adoption of the capitalist and democratic models. Although applicants can now draw upon the experience of Western states to restructure their economic and political systems, CEE countries are bounded in the short term by structures they inherited from the communists (Klarer and Moldan 1997). While the Czech Republic, Hungary, Slovakia, and Slovenia have overcome to a great extent the former central planning system, most countries in the region are still deeply rooted into communism and central planning (European Commission 1997). The Soviet legacy in former socialist countries is typically identified by four characteristics.

First, all CEE countries inherited of the Soviet industrial structure. Based on the socialist idea of substituting local intelligentsia and peasantry with heavy industrial workers, the communist system favoured the creation of large-scale heavy industries (Klarer and Moldan, 1997). Since the cost of rehabilitating the entire industrial sector is prohibitive, the former socialists countries have no other alternative than to use the existing industrial infrastructure to revive their economies (Grabbe and Hughes 1998). The states dependency on their inherited heavy industry is further stressed by the importance of the

sector as a major source of employment (Welfens 1999). In this period of crisis, politicians cannot justify the closing of industries for environmental or even public health concerns. Under the communist regime, job security was one of the governments' top priorities.

Second, the indebtedness of CEE states constitutes another obvious legacy of the past that constrains the states' actions today. In the mid-1970s and mid-1980s, several communist governments offered subsidies and created tax havens to earn hard currency without giving any consideration to efficiency and profitability criteria (Van Brabant, 1999). As a result, the new governments, especially those of Poland, Hungary, and Bulgaria, inherited colossal debts that considerably affect their capacity to deal with environmental problems. Compelled to devote all their available resources to earn hard currencies, the new governments have few resources left to develop restoration and protection programs (Klarer an Moldan 1997). Without resources, it is impossible for CEE states to implement the structural changes necessary to restore the environment.

Third, as a result of the communists' absolute control over the political and economic scene, former socialist countries are characterized by a lack of public participation in environmental planning and management (Lang 2000). In the environmental sector such disengagement is problematic, since the public usually constitutes the key supporters of environmental causes due to their close contact with the problem (Chiras 1994). Given that political mentalities change very slowly, especially when determined coercively, it will take more than a symbolic acceptance of the democratic model to truly transform popular attitudes.

Finally, the development of effective environmental policies is affected by the centralized nature of governments in post-Soviet states. Subje

Now that governments have implemented reforms that meet the needs of the population, decentralization is no longer a priority (Welfens 1999). As with other political and economic constraints inherited from communist institutions, this tradition of central planning inevitably affects the states' capacity to adopt sound environmental practices.

5.3.2 Weaknesses of EU Environmental Policy

With the environment, a policy is considered effective when it achieves environmental improvement (Blomquist 1992). In order to achieve such a goal, a policy must pass successfully through all stages of the policy cycle, which involves the policy being conceived, drafted, adopted, implemented, applied, and enforced (Grant, Matthews, and Newell 2000). Ultimately, policy effectiveness is assessed in respect of the legislation's capacity to change the behaviours of the relevant actors, and not by the quality of the legislative output alone (Imperial 1999a). Due to the rigidity of the EU decision making process, and the weakness of its enforcement regime, the EU system reveals flaws in all stages of the policy cycle. It is doubtful that the accession of ten new members with

protection of each member's interests, intergovernmental negotiations within the Council constantly dilute the new policy proposed by the Co

Sea demonstrated, the main problem associated with environmental protection and resource management in the CEE countries lies with

CHAPTER 6: SUMMARY AND CONCLUSIONS

Applying integrated water management in international drainage basins proves to be extremely complex. In many cases, considerations of national sovereignty and concerns over distribution of payoffs between upstream and downstream countries present real obstacles to the implementation of integrated strategies. However, the experience to date suggests that cooperation problems can partly be overcome through the development of joint institutions. Through their effect on incentives, institutions can change patterns of interaction among participants involved in a common situation. Institutional arrangements, such as those established in the Black Sea catchment, provide opportunities for riparian and coastal countries to create neutral ground for building trust and arrange joint mechanisms for addressing common environmental problems. When offered proper

have been strengthened considerably during the last ten years. Since the collapse of USSR, CEE countries have established an operational basis for integrated water management in the Danube/Black Sea basin. Nationally, most CEE countries have developed water regulations and policies, and created legal and administrative institutions to oversee their implementation. Regionally, Danube and Black Sea countries agreed to address common water pollution problems based on integrated management strategies and joint mechanisms. Recognizing their effect on Black Sea eutrophication, Danube countries committed themselves to reduce nutrients loads entering the Black Sea. In the long term, the improvement of water quality in the Black Sea catchment will depend on how and when measures included in the strategic action plans are implemented.

Since the signing of the first Europe Agreements, the EU has become a key player in the Black Sea situation. Through the accession process, the EU provided a framework for applicant countries to restructure their economic and political systems, but also supported the institutionalization of environmental protection in Central and Eastern Europe. Considering the seriousness of the economic crisis in CEE countries, it is unlikely that resource management would have been given as much importance if it had not been linked to the accession negotiations. The argument is that the accession process provides a strong incentive for applicant countries to devote more resources to environmental protection. In order to obtain the benefits associated w acia

However, as the tragedy of the Aral Sea reminds us, the cost of inaction is even greater. Given the critical state of the Black Sea ecosystem, it is important that CEE countries seize the opportunity offered by the transition and the accession process to establish new patterns of environmental management in the process of restructuring their political and

APPENDIX I : RESPONDENTS

Distribution of interviews

Geographical and sector by sector distribution

	Black Sea	Lower Danube	Middle Danube	Upper Danube
International Organisations			≠	
Governments				
Research Institutes	≠			
Nongovernmental Organisations				≠

Interviews conducted

Black Sea

Turkey:

Dr. Radu Mihnea
Coordinator
Black Sea Environmental Programme

Ms. Sema Acar
Head of Department
Ministry of Environment, Department of international relations

Dr. Tanay Sidki Uyar
Chairman
Black Sea NGO Network

Lower Danube

Bulgaria:

Ms. Dafina Gercheva
Environmental Policy Specialist
United Nation Development Program

Dr. Nikolai Kouyumdzhiev
Head of Department
Ministry of Environment and Water, Department of Water Protection

Dr. Atanas Santourdjian
Director
Bulgarian Academy of Sciences, Institute of Water Problem

Dr. Jordan Kosturkov
Research Fellow
Bulgarian Academy of Sciences, Institute of Water Problem

Dr. Ivanka Dimitrova
Associate Professor

Mr. David Sinclair
Volunteer
Voluntary Service Oversea, CIER
Ms. Jennifer Rachels
Volunteer
US Peace Corp, Eco Counseling Centre
Ms. Petruta Moisi
President
Danube Environmental Forum

Middle Danube

Hungary:
Ms. Olinka Gjigas
Project-manager
Regional Environmental Center for Central and Eastern Europe, Headquarter
Dr. Maria Galambos
Senior Expert
Ministry for Environment & Regional Policy, Dept for International Relations
Dr. Zsuzsa Steindl
Water Expert
Ministry for Environment & Regional Policy, Dept for International Relations
Dr. Ferenc Laszlo
Director
Water Resource Research Center, Institute for Water Pollution Control
Dr. Gyorgy Pinter
Water Expert
Water Resource Research Center, Institute for Water Pollution Control

Upper Danube

Austria:
Dr. Mihaela Popovici
Technical Expert-Water Management and pollution Control
UNDP/GEF
Dr. Hellmut Fleckseder
Technical Expert
International Commission for the Protection of the Danube River
Mr. Richard Stadler
Head of Department
Ministry of Environment, Department of International Waters
Dr. Hellmut Kross
Director
Technical University of Vienna, Institute of Planning

3. Among many criteria, it is often accepted that the successful management of transboundary resources necessitates the commitment of a group of states that are most particularly dedicated to the remediation of pollution. In order to lead the way, such states are willing to adopt environmental measures for which benefits will transcend their boundaries. How, if at all, might this generalization be applied to the Black Sea Basin?

a) As Danube riparian and Black Sea coastal countries could Bulgaria and Romania eventually play such leading function? Why do you feel this way?

b)

APPENDIX III: INTERVIEW CONSENT FORM

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The purpose of this form is to request your consent

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