Cooperation over International Water Resources: a Case from the Danube River Basin[1]

Milovan Vuković[2], Danijela Voza[3], Nada Štrbac[4], Ljiljana Takić[5]
University of Belgrade, Technical faculty in Bor, Serbia
University of Niš, Faculty of Technology, Leskovac, Serbia

Cooperation over International Water Resources: a Case from the Danube River Basin. This paper explores the dynamics of environmental conflict and cooperation under the conditions of relative power symmetry and involvement of various actors (not predominantly state-actors); especially, environmental groups. It analyzes the highly-contested water issue in the Danube river basin that refers to the multi-purpose "Gabcikovo-Nagymaros" project and its alleged detrimental impact on the environment. In order to present a thorough explanation of cooperative efforts, the paper discusses the Hungaria-Slovakian water conflict through following variables: (1) *structural variables* that include both (a) *regional power distribution* between disputants and regional countries, and, (b) *issue-power distribution*; (2) *type of conflict* (strategic versus symbolic); and (3) *linkage variables* that include a number of tactics to tie a particular water dispute to other issue/issues. The conflict analysis shows that the water dispute between Hungary and Slovakia involves dynamics that include a complex network of interactions between a number of domestic and international policy actors. It also indicates the conditions under which a voluntary mode of cooperation can produce unsatisfactory results.
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Introduction

In the last half-century there have evolved several theoretical perspectives that pointed out the importance of nature and society relationships. Environmental sociologists and other social scholars have assumed that deterioration of natural ecosystems could have harmful effects on social, political and ecological security. Shiva, for example, who has extensively studied the linkages between society, ecology and natural resource conflict, considers that the belief that technology reduces human dependence on natural ecosystems should be taken as a myth – namely, it overlooks the "long and indirect chain of resource utilization which leaves invisible the real material resource demands of the industrial processes" (Shiva 1991: 13). Consequently, the field of environmental security has emerged (since the 1990's), along with various

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[2] Address: Prof. dr Milovan Vuković, Technical faculty in Bor, V.J. 12, 19210 Bor, Serbia. mvukovic@tf.bor.ac.rs
[3] Address: MSc Danijela Voza, Technical faculty in Bor, V.J. 12, 19210 Bor, Serbia. dvoza@tf.bor.ac.rs
[4] Address: Prof. dr Nada Štrbac, Technical faculty in Bor, V.J. 12, 19210 Bor, Serbia. nstrbac@tf.bor.ac.rs
[5] Address: Prof. Dr. Ljiljana Takić, Faculty of technology, Leskovac, Serbia. lj_takic@yahoo.com

individual political and other scientists (e.g. Homer-Dixon 1991; Gleick 1993; Postel 1996; Wolf 1995; Homer-Dixon 1999; Vuković 2008). The subject of environmental security includes not only initially arisen issues – the effects of environmental deterioration (degradation and depletion) on violent conflict – but also the effects of interactions between the state of the physical environment and the general state of social, ecological and political well-being in societies (Green 2005).

Within environmental sociology, the theoretical approach suggested by Schnaiberg and Gould seems to be helpful since it specifies why groups may dispute natural resource issues (Schnaiberg – Gould 1994). These authors assume that international conflicts over natural resources will happen as a result of transboundary pollution and degradation of commonly used resources as well as inequitable sharing of commonly used resources.

More recently, Green has developed a theoretical model that can be applied to predict the likelihood of conflict or cooperation between societies or elements of societies over scarce resources (Green 2005). Building from an analysis of the theories and concepts mentioned above, Green identified six causal factors such as: 1) demographic change, 2) economic development, 3) natural resource scarcity, 4) social inequality, 5) social adaptability, and 6) social breakdown. Although all of these factors may cause natural resource conflict, some of them represent driving forces (factors 1, 2 and 4), while other have mediating effect on a conflict (factors 3, 5 and 6). Thus, according to Green, social inequality has "a positive direct effect and a positive indirect effect through natural resource scarcity on natural resource conflict" (Green 2005: 6).

Conflicts over fresh water resources between and within states pose an interesting dilemma for scholars and policymakers alike. Often these conflicts are intractable, due to competing claims over water and other economic and social goods, making cooperation difficult. The prevailing wisdom within the international community and international law is to maintain the existing territorial borders of states – the principle of territorial sovereignty.

Some scholars think that environmental threats have enough potential to create disputes over renewable resources (Gleick 1993; Lowi 2000). The initial assumption is: due to a rapid increase in demand for water, driven by a so-called "hydraulic imperative", a number of countries may try unilaterally to exploit their water resources, including international ones, with serious harm-effects on their neighbors (Nasrallah 1990). Regional security, thus, may be at stake.

Although the above assumptions about water conflict seem to be illuminating, there has been need of a more detailed explanation and understanding of cooperation over international rivers. In contrast to conflict,

cooperation – the dependent variable in this study – receives less analytic attention, and, consequently, it is less understood as a concept. At this point, the following definition of cooperation may be satisfactory; it states that cooperation means coordination of behavior among actors to realize at least some common goals (Frey 1993). Therefore, assuming that states cooperate, the central question of this study is to analyze conditions that determine the form and dynamics of cooperation over international fresh water resources. Cooperation can emerge either from *symbolically* or from *strategically* framed water conflict (Vuković 2008).

Theoretical framework

Because of the complexity of environmental water conflicts, we assume that cooperation is not something that is achieved (or missed) at a single given point in time. On the contrary, we analyze cooperation as a process through which states explore and act upon possibilities to establish a set of rules intended to guide the behavior of those involved in this issue area. Thus, international (including both bilateral and multilateral) cooperation in the area of international rivers, consists of a series of separate but interrelated activities *over time* [emphasis added] (Hanf 2000). Furthermore, we adopt a view that not only international or global concerns but also national (domestic) factors determine the willingness to cooperate and ultimately shape the form and extent of cooperation. These forms may be *voluntary*, *induced*, and *imposed* cooperation.

Voluntary cooperation refers to an integrated, holistic approach to water resources planning and management (Le Moigne 1996). The scope of the planning activity depends on the degree to which political entities can agree to share data and to develop options that, if implemented, could have significant impact on their jurisdictions. Thus, voluntary cooperation entails a reduction of sovereignty, and, consequently, makes it very difficult to achieve. In this study, however, the term *voluntary cooperation* refers to any content of common plans determined directly by the two parties in the aftermath of a conflict over allocation of international or transboundary-water resource.

The other two forms of cooperation ─ *imposed* and *induced* ─ may involve a third party. However, there is a significant difference between *imposed* and *induced* cooperation. In the case of *imposed cooperation*, the primary communication pattern is between parties and an arbiter, panel, or judge. Each party presents a case to the arbiter, panel, or judge, who makes a decision. The decision, however, may be binding or not binding.

Unlike *imposed* cooperation, *induced cooperation* always includes a third party through facilitation and/or mediation. Here, the objective is to encourage a direct communication pattern between the disputants. Through this form of

cooperation, the parties can jointly diagnose problems, create alternatives, and share agreements than own. Admittedly, the basic contribution of a third party is to separate the processes of dialogue and the content of dialogue (Priscoli 1996).

In this study the question of cooperation over international rivers is analyzed by using a three-fold set of independent variables: (1) *structural variables* that include both (a) *regional power distribution* between disputants and regional countries such as differences in military capabilities, economic performance, and relative geopolitical position), and, (b) *issue-power distribution* (such as hydro-geographical position, distribution of water resources, acceptance of international norms, rules, and institutions and so forth); (2) *type of conflict* (strategic versus symbolic) and (3) *linkage variables* that include a number of tactics to tie a particular water dispute to other issue/issues. Finally, the *involvement of international organization* is considered as an intervening variable.

Structural variables

Structural variables describe the distribution of power capabilities among units within a system. These permeate most aspects of transnational environmental water conflicts and may determine a particular form of cooperation as well as transition from one form to the other. Thus, in the case of *imposed cooperation*, a pattern of water use is designed by the dominant power (in terms of military, economic, and diplomatic resources) in the basin and imposed on the others. This reflects the hegemonic stability school of Neo-Realism, which argues that cooperation is most likely to occur when it is imposed by a dominant power (Krasner 1976; Keohane 1980; Kindleberger 1981; Gilpin 1987). Nevertheless, under the condition of complex interdependence, weaker parties can achieve the condition of *voluntary cooperation*, by relying on international existing regimes and various linkage tactics (Keohane – Nye 1989).

The type of conflict

Sharing of water is possible in many ways, as a market good or by governmental decision if it is a public good. The depth of this gap may vary from case to case. In symbolic conflicts, instead of tangible interests (strategic conflicts), non-material factors dominate; most frequently those expressed through images, perceptions, or frames. Under this condition, direct cooperation is less likely to occur, and this "dichotomy of perceptions" makes water negotiations very difficult (Rouyer 1997; Salman – Uprety 1999). In order to assess the character of a particular conflict we rely primarily on the content analysis of pertinent literature sources and governmental statements.

Linkage variables

Environmental water conflicts have a common theme: linkage – a process aspect of a system. In this study we address this aspect of international politics in terms of its effectiveness in regard to international environmental cooperation. This effect may be both detrimental (Mueller 1979; Schwarzer 1998) and beneficial (Tollison – Willet 1979) depending on the credibility of used linkages. In this study the following linkages are analyzed: (1) the *linkage of issue dimensions* (various water contested issues); (2) the *linkage across issue areas* (security, economy, environment); (3) the *domestic-international* (*bilateral*) *politics linkage*; and, the (4) *actor linkage* (variety of both state and non-state players acting domestically or internationally).

The third party involvement

The *induced* form of cooperation reflects the involvement of a third party (the intervening variable in this research design), but here as a mediator, in order to enhance cooperation and good will among riparian countries. Experience from the past has shown that the involvement of third parties in a negotiation process can facilitate dispute resolution, guide complex bargaining toward acceptable outcomes, and help maintain balance and commitment by riparian countries to the negotiation process. The role of mediator(s) can be played by international global-governance organizations, international financial organizations, regional organizations, or states not directly involved in an environmental conflict. The effectiveness of various mediators depends on a particular issue considered (long-term or short-term environmental impacts) and whether a technical problem-solving approach or wider context (including security concerns) is present (Horsman 2001).

Therefore, we assume that each of the four main variables elaborated so far can explain the form (*voluntary*, *induced*, and *imposed*) of cooperation and dynamics of cooperation. The aim of this study is to extend the above argument, laid down in our theoretical framework, to the case that explores the dynamics of environmental conflict and cooperation under the conditions of relative power symmetry and involvement of various actors (not predominantly state-actors).

This study analyzes the highly-contested water issue in the Danube River Basin that refers to the multi-purpose "Gabcikovo-Nagymaros" project and its alleged detrimental impact to the environment. The conflict analysis shows that the water dispute between Hungary and Slovakia involves dynamics that include a complex network of interactions between a number of domestic and international policy actors. It also indicates the conditions under which a voluntary mode of cooperation can produce not satisfying results.

The Danube River and origins of conflict between Hungary and Slovakia

The Danube River is, with a length of 2,780 km, the second largest river in Europe and drains an area of 817,000 km^2. The present population of the Danube Basin is about 90 million inhabitants (16 percent of the population of Europe). The Basin has high economic and social ─ as well as environmental ─ value (Nachtnebel 2000; Jansky – Murakami – Pachova 2004; Kliot – Shmueli – Shamir 2001). It supports drinking water supply, agriculture, industry, fishing, tourism and recreation, power generation, and navigation.

The Gabcikovo-Nagymaros project has generated widespread attention and controversy because of its vast size and implications for the Danube ─ one of Europe's most majestic and mythic rivers, and a deep and significant part of the European consciousness. The very beginning of the resistance to the Czechoslovak-Hungarian hydro-project grew from environmental concerns tied mainly to the *protection of biodiversity*. Despite small presence on the planet, fresh water resources are an extremely rich source of biodiversity. Some rivers in specific geographical regions have large numbers of unique species that are adapted to specific microhabitats. Many fresh water habitats are dammed, chanelized, eroded, drained, heated, and polluted with nutrients, salts, silt, and chemicals. Yet, the main sources of danger to aquatic species are not pollutants but dams.

Among European Rivers, the Danube in respect to biodiversity has the most important place. Thus, the latest built dam "Gabcikovo" (Slovakia) on the Danube River is considered as a salient international water conflict not only in the Basin but also in the world. The damming of a section of the middle Danube River and the building of channels there, the "Gabcikovo Project", has destroyed most of the roughly 57,000 acres of biologically rich wetlands in this region, the Danube's inland delta, the largest remaining wetland in Europe. As other larger water projects, the Gabcikovo Dam has caused a significant level of environmental controversy that includes scholars and lawyers.

The conflict between Hungary and Slovakia over the Danube intensified in 1992 when Hungary definitely abrogated (primarily on the basis of environmental concerns) the 1977 treaty with Czechoslovakia concerning construction of the Gabcikovo/Nagymaros hydro-power project. Benefits claimed for it by its Hungarian-Czechoslovak designers were hydroelectric power, improved flood control, and navigability. Slovakia, following the withdrawal by Hungary in the early 1990's, continued construction unilaterally, completed the dam, and diverted the Danube into a canal inside the Slovak territory. This diverting of the Danube River (so-called "Variant C") was the result of Hungarian termination of the agreement signed in 1977.

The Hungarian government has pointed out three environmentally related issues resulting from the Slovakian continuation of the project. These are: (1) the irreparable damage of an ecologically and agriculturally rich region of Hungary; (2) a threat to the water table underlying parts of Hungary, Slovakia, and Eastern Austria; and, (3) pollution of the waters of millions of people. Kurland, Fortunato and Barcus have offered a similar identification of environmental concerns: "The dam will result in lowering of the water table, the destruction of woodlands and wetlands, and the contamination of water supplies" (2002: 1).

Table 1. **A short history of the dam**

1920	Trianon Treaty fixes the Danube as the border between Hungary and Slovakia.
1952	First talks between Hungary and Czechoslovakia on a dam project.
1954	Hungarian Water Management Plan recommends a jointly-constructed power dam.
1958	Joint Protocol mandates studies.
1962 – 1977	Planning and studies.
1963	COMECON approves the principle of a dam.
1977	**Treaty signed (September 16)**.
1978	Construction begins (completion due in 1989).
1980 – 1981	Protests against the dam begin in Hungary.
1982	Hungary demands extension of the completion period.
1983	**Protocol extends completion to 1994**.
1985	Austrian financing agreed for the Hungarian part.
1986	Serious anti-dam protests and marches in Budapest.
1988	Hungary demands an acceleration of the project.
1989	**Protocol sets completion for 1992**.
1989	Hungarian Parliament takes note of the Hardi report and calls for reassessment of the project.
1990	Free elections in Hungary and Czechoslovakia.
1991	Slovakia invokes Variant C.
1991	Fruitless talks and Joint Commission meetings.
1992	**Variant C introduced**.
1992	EC brokers a standstill tripartite agreement.
1993	Slovakia and the Czech Republic separate.
1993	**Case referred to the ICJ in the Hague.**
1994	Memorials exchanged at the ICJ.
1995	**Basic Agreement signed in Paris** (March 1995).
1997	**The ICJ returned the case.**

Source: Fitzmaurice (1996: 11-12)

Apparently, this conflict entails both the quantity and quality attributes of an environmental conflict. In addition, Hungarian officials have expressed concern that water supplies to some ethnic Hungarian Danube villages will be cut off, while other would be flooded. Finally, the Hungarian side is very sensitive to the changed character of international border with its northern neighbor; on the other hand, the Slovak government tends to dismiss the environmental reports as alarmist and focuses on the benefits of the dam. A short list of the most important events related to the conflict is given in Table 1. The bolded entries

below represent the most important and crucial development in this long-lasting conflict.

Regional and issue power distribution in the water conflict between Hungary and Slovakia

The Slovakian-Hungarian water conflict has environmental as well as other aspects such as economic, social, and political. In contrast to the Middle East countries, water scarcity in Hungary and Slovakia is not driven by a mere fact of increasing population. Another difference is that these countries consume water mainly for industrial uses. Finally, the two countries – Slovakia and Hungary – need more energy supplies. In respect to this, Slovakia is in a somewhat better position than Hungary. Although the fraction of electricity produced by hydro-power in Slovakia approaches twenty percent, this country still has room to increase the hydro-electricity share in its total energy balance.

A quite different energy situation exists in Hungary. Due to its modern geopolitical borders, shaped primarily by the 1920 Trianon Treaty, all respectable sources of Hungarian hydro-power were left in newly created states (Winks – Adams 2003). Thus, hydro-power in Hungary accounts only for 0.1 percent of overall electricity, and, significantly narrows its scope of energy policy choices. Furthermore, Volgyes (1982) points out another economic problem ─ the process of growing metropolization of post-Trianon Hungary. In pre-1918 Hungary, the urban areas were well-developed and located in such a way as to include the surrounding countryside as part of their zone of influence. As Volgyes writes:

"A look at the map of historical Hungary shows a wheel-like pattern of rural-urban relationships. The axle of the wheel was the capital, Budapest, and at the end of each spoke was one major Hungarian city organizing the economic, cultural, and political life of the region. Starting from the northwest and moving in clockwise direction, the satellite cities were Pozsony (Bratislava), Kassa (Kosice) [*in Slovakia*], Kolozsvar (Kluj), Temesvar (Timisoara), Arad (Oradea) [*in Romania*], Ujvidek (Novi Sad) [*in Serbia and Montenegro*], and Eszek (Osijek) [*in Croatia*]. But the Treaty of Trianon divested Hungary of these major centers, leaving only extremely small cities to compete with Budapest (italics are added) (1982: 26)."

Volgyes argues that the consequence of this development was that Budapest, by the 1970's, accounted for more than twenty percent of Hungary's permanent population, employed around thirty percent of all active workers, and produced more than forty percent of Hungary's gross national product.

Similarly, Hungary, in terms of fresh water resources, has faced an extremely high level of what Keohane and Nye (1989) call vulnerability interdependence. Namely, Hungary is one of seven countries that receive more than 90 percent of their water from sources outside their own borders (95%) – only for Turkmenistan and Egypt these figures are slightly higher: 98% and 97%, respectively (Postel 1996).

Almost all the rivers of significance to Hungary have their springs abroad. For example, three quarters of Hungary's surface water resources are found in the channels of the Danube, Tisza, and Drava Rivers, while almost ninety percent of the total drinking water demand is being met from sub-surface water resources. Signs of the excessive use of these resources have been recognized in some regions, where sixty-five percent of the water authorities now extract water from hydro-geologically vulnerable environments.

Given these natural constraints, it is not surprising that, particularly in Hungary, the "Gabcikovo-Nagymaros" project engendered widespread protests against its potentially adverse impact on the environment. In numerous public forums since the 1980's, including demonstrations involving thousands of individuals, environmentalists have protested that the project will: (1) flood huge areas of fertile agricultural and forest lands, (2) reduce the water table and endanger the water supply for millions of residents of nearby localities, and (3) increase pollution in an already heavily contaminated Danube River (Kramer 1990).

Critics of the hydro-project also received unexpected assistance from the Soviet House of Culture in Budapest. This institution attempted to organize the presentation of a Soviet film on why barrage systems should not be built on flat land. Yet, the House of Culture canceled the film on the day of its planned showing. Subsequently, however, Radio Budapest (October 12, 1988) reported that the president of the "Soviet Society for the Protection of Nature" called construction of huge flatland barrage systems an "ecological sin" (Kramer 1990: 86).

The controversy culminated in an unprecendeted debate (October 1988) in the Hungarian Parliament on the future status of the project. The final vote ─ 317 deputies in favored the project, 190 opposed it, and 31 abstained ─ reflected acrimonious nature of nor the depth of opposition expressed in, the debate that ensued. Opponents criticized the project as both economically and environmentally unsound. One deputy asserted that "if there had been democracy in Hungary in 1977, then we would not be here debating the barrage system today" (Kramer 1990: 86). As these several illustrations indicate, the "Gabcikovo-Nagymaros" dispute has a dominant symbolic character. Contrary to some other water conflicts frequently analyzed (mostly from the Middle

East), this conflict cannot be explained without considering environmental pressure groups (EPGs).

The fact that local EPGs in Hungary were deeply embedded in the process of democratic transition makes explanations of this case very interesting and challenging. The fall of communism and rise of new democratic institutions in Hungary and Czechoslovakia/Slovakia, therefore, offer a valuable opportunity to develop the arguments in this study. The dynamics of democratization influenced both the dynamics of EPGs and the gradual polarization of the "Gabcikovo-Nagymaros" issue that began in both countries on the eve of first free elections (in 1990). Consequently, EPGs that acted from early the 1980s, particularly in Hungary, saw many changes dependent on what Kitschelt (1986, 1988) calls existing "political opportunity structure" (POS). The difference in political opportunity structure, as we will show later, may explain the difference in the scope of activities and outcomes of EPG' in Hungary and Czechoslovakia/Slovakia.

The "Gabcikovo-Nagymaros" issue and environmental pressure groups

It is a truism to say that the environmental movement is extraordinarily diverse. However, for the sake of analytical precision in treatment of the "Gabcikovo-Nagymaros" water dispute, it seems plausible to adopt a three-fold typology of EPGs suggested by Carter (2001). It coincides with three historical waves and encompasses: (1) the conservation movement, (2) modern mainstream environmentalism, and, (3) grassroots environmentalism. In addition, the typology designed by Diani and Donati considers the key aspects of any environmental pressure group ─ *resource mobilization* and *political efficacy* (Diani – Donati 1999). While resource mobilization refers to the choice between a professional and a participatory organization, political efficacy refers to the choice of strategy and tactics. The core dilemmas in EPGs activities are presented in Table 2.

Table 2. **A typology of non-partisan political organizations**

	Forms of Action	
	Conventional pressure	Disruption
Professional resources	Public interest lobby	Professional protest organization
Participatory resources	Participatory pressure group	Participatory protest organization

Source: Diani and Donati (1999: 16)

Environmental groups in Hungary and Czechoslovakia/Slovakia

The very beginning of an environmental movement in this region was in Hungary in the early 1980's. In line with Table 2, one can identify two distinct periods – the early 1980's and late 1980's. The first period was characterized by the use of professional resources through public interest lobbying. This

stage was followed by using disruption as a form of action relying on both professional and participatory resources. Table 3 illustrates the main moments in the development of an environmental movement in Hungary. Unlike Hungary, there was virtually no opposition to the project in Czechoslovakia. The response of local EPGs was "passive" and "immobile" (Fitzmaurice 1996).

Table 3**. The rise of opposition to the dams in the 1980's**

Date	Event/Process(Outcomes)
the early 1980s	The initial technical critiques of the project. (No wide discussion)
1981	Janos Vargha, a biologist and journalist, opens the debate in B*uvar* (Diver), a nature protection monthly
1981	Some limited international criticism of the project and a temporary construction halt.
1981 November	Janos Vargha publishes a dramatic critique of the project in VALOSAG (asocial science monthly). (Vargha asked to participate in an advisory committee of the Academy of Sciences)
1982 – 1984	Further expert debates and critiques come from official and semi-official bodies such as government economists ─ the Hungarian Hydrological Society, the Scientific Institute of Water Management, the Association of Technical, and Natural Sciences Societies, the National Environmental and Nature Protection Office.
1984 January 27	Janos Vargha is invited by the Embankment Club in Budapest to a debate with a Deputy Chairman of the Water Management Authority. (open debate for a short time; the Government re-imposes censorshiprestrictions)
1984	A newly created "Danube Circle", an umbrella environmental movement, launches a campaign for postponement of the project.
1985 – 1986	The Danube Circle becomes more structured and develops foreign links.
1986	Hungarian intellectuals participate in the movement through advertising campaigns against dam and against Austrian financial involvement.
1986 January 30	A 2,500 signature petition calls for a referendum.
1988 September 4	A joint Danube-Circle-WWF Conference is held and a mass demonstration of 30,000 people in front of the Parliament. (The Project is again confirmed.)
1989	A campaign of demonstrations and collection of signatures continues and intensifies.
1989 December	The reformist Miklos Nemth becomes Prime Minister.
1989 February	A 140,000 signature petition is presented to Parliament.
1989 March	The Government asks the Academy of Economic Sciences to prepare an opinion, which later leads to the Committee of Independent Experts, chaired by Professor Hardi.
1990 October	The Hungarian Parliament accepts the conclusions of the Hardi Report, that is, cancellation of Nagymaros.

The World Wide Fund for Nature involvement

The *World Wide Fund for Nature* (WWF) lies somewhere between the conservationist and mainstream environmentalism, that is, between first and second environmental waves. According to Carter (2001), the founding in 1961 of the *World Wildlife Fund* (WWF) (now World Wide Fund for Nature) "represented a bridge to a new type of international organization", that reflects

the international nature of modern environmentalism and increased membership.

The role of the WWF in the Hungarian-Slovakian conflict was extraordinarily important in terms of both its influence on *world-wide publicity* of the issue itself, and, surprisingly, its subsequent role in *conflict diffusion*. The former was achieved through the help of local environmental groups in organizing a massive protest. The latter goal was achieved by an independent expert study, within the WWF, of alleged detrimental environmental effects.

Thus, in the early summer of 1988, when the process of liberalization and reform was in motion, the local environmental groups kept pressure on the Hungarian Parliament. On September 4, a joint Danube Circle-WWF Conference was held and almost 30,000 people demonstrated in front of the Parliament in Budapest. Later, when the reformists took over the Government in Hungary, the newly elected officials, with support from the WWF, claimed that Gabickovo would dry out large forested wetlands beside a narrow stretch of the Danube and "either empty or pollute important underground water sources fed by the River" (Land 1992: 289). This water source supplies 1.4 million people ─ mostly within Hungary.

At the same time, Slovakian authorities and experts accused the WWF of being politically motivated in backing Hungarian opposition to the diversion. Yet, the year of 1994 saw a twist in the WWF stance regarding the Gabcikovo conflict. The organization's director, Claude Martin, halted WWF's campaign against the diversion after receiving detailed scientific refutation of the claim that the dam would cause an ecological disaster (WWF 1994).

In June 1994, Magnus Sylven, European director of the WWF, apologized to Slovakian scientists, saying "how embarrassed I personally feel about WWF's past involvement in the campaign against the dam" (Pearce 1994: 8). The WWF officials, after a scrutinized analysis, praised the scientific evidence given by Igor Mucha, a leading Slovakian hydrologist. The project, in fact, has some positive environmental effects. Since May 1993, the Slovakian side has regularly fed part of the diverted water back into the wetland, reviving branches of the Danube that have been largely dry for thirty years.

This clearly indicates the power of the scientific (epistemic) community in opening the doors for cooperation. It also shows a shift in policy of the most influential global environmental groups, such as the WWF, towards a more cautious assessment of each particular controversy. Nevertheless, in this particular case, the WWF had both negative and positive effects on cooperation between Hungary and Czechoslovakia. (The WWF's missing point was the symbolic meaning of this conflict.) In Hungary, during the 1980's, hostility to the dams at Nagymaros and Gabcikovo became the focus for opposition to the Communist government.

The outcomes of EPGs activities and cooperation

The local environmental movement in Hungary, as we have seen, achieved its ultimate goal ─ the cancellation of the project by Hungary. Simultaneously, it contributed to the deterioration of relations between Hungary and Czechslovakia/Slovakia. The movement significantly shaped the preferences of a new reformist Government (since 1989) in Hungary. Unwilling to risk a massive loss of public support, the reformist Government took into account almost all objections of the environmentalists, and, thus, deprived itself of a certain freedom in coming negotiations with Czechoslovakia and Slovakia (after January 1, 1993).

Thus, although mobilization strengthens the ability of challengers and elites to make claims, it also limits the range of acceptable outcomes because of the conditional nature of popular support (Glenn 2003). This case, as will be demonstrated in the following sections, fits very well in the Putnam "double-level game". Yet, at the end of the day, the expert knowledge helps to encourage prospects for cooperation. That occurs, as the case of the exchange of data between the WWF and the Slovak scientists shows, when the data are interchanged or produced by common experts teams.

Environmental activism and political opportunity structure

The difference in opposition to the dams in Hungary and Czechoslovakia may be explained by differences in their openness to the influx of new ideas within the political opportunity structure. Although Communist leaderships ruled the two countries, Hungary's government was more eager to enter into a dialogue with society and to begin the process of political and other reforms (Harper 2005).

In Czechoslovakia after 1968 the main objective of the leadership was the post-Spring 1968 normalization. Thus, unlike Hungary, as Fitzmaurice observes, "dissidence in Czechoslovakia was a very narrow intellectual, even Prague-based, phenomenon" (1996: 55). On the other hand, the Hungarian dissident movement linked up with the environmentalists in the *Danube Circle* in opposition to the Gabcikovo-Nagymaros project. Apparently, there was in Hungary a comparative advantage for the emergence of a strong environmental movement.

Another event that created a "space" for environmental movements in both countries was the Chernobyl NPS accident on April 16, 1986. The event itself acted as a catalyst for general environmental mobilization throughout Europe. In Hungary, protests were limited primarily to the issue of the disposal of nuclear wastes. In Czechoslovakia, on the other hand, the prominent dissident group Charter 77 criticized the Temelin project (NPS). "*Bratislava nahlas*", a

group of environmental activists in Slovakia, circulated a petition with 1,400 signatories that demanded a "public discussion" of environmental problems (Kramer 1990). This indicates a certain level of asymmetry in perception of risks originated from nuclear energy facilities (stronger in Slovakia, lower in Hungary) and from hydro power stations (stronger in Hungary, lower in Slovakia)

Type of the Slovakian-Hungarian water conflict

The "Gabcikovo-Nagymaros" dispute, as we have seen, also includes political factors that originate from recent domestic policies in Hungary and Slovakia and the historical legacy of domination and recent political processes in Hungary and Slovakia (Molnar 2001). This specific context has created the atmosphere for politicization of the "Gabcikovo" project in Slovakia and Hungary, and, more likely, the difficulty in achieving cooperation. While for the Slovaks, the project is a matter of national pride and strongly tied to Slovakia's independence (January 1, 1993), the Hungarians see it as the newest case in the long chain of injustices imposed upon them after the 1920 Treaty of Trianon.

In this long cycle of nationalism, both sides had their periods of domination. Not surprisingly, in the late 1980's, after the long "Communist intermezzo", nationalism had emerged again; this time, primarily, as a tool of political legitimacy for new political elites throughout much of East Central Europe. The "Gabcikovo-Nagymaros" issue also became part of general national discourse. It is also closely linked to the issue of minority rights, as many Hungarians live in the Danube Basin and would be significantly affected by the dam. The Hungarians in Slovakia object to discrimination in regard to issues such as: local autonomy, cultural autonomy, cultural subsides, use of language, the boundaries of administrative districts, education, and the contentious issue of place names.

In addition, Hungarian parties do not approve the Slovakian Constitution, which defines this state as a "national state of Slovaks". Nevertheless, the historic Treaty of Friendship and Cooperation, signed by Hungarian Premier Horn and Slovakian counterpart Meciar on March 19, 1995, improved the perspectives for the Hungarians in Slovakia. For the first time, minority rights were designated as fundamental rights.

The contested dam, therefore, could not change significantly the basic positions of the parties. For the Slovaks, it remained their project, to be defended against the hostility of both Prague (before 1992) and Budapest (after independence). Fitzmaurice (1996) correctly argues that for the Slovaks the Gabcikovo project is an "act of political and cultural self-definition". In short,

the Gabcikovo dam is a potent symbol of the Slovak nation and its continuation is thus seen as a victory over both Prague and Budapest.

On the other hand, for the vast majority of Hungarian environmentalists and dissidents, the dam became a rallying point, a symbol of the Communist regime. Obviously, this case reveals that strong symbolic values attached to some project, derived from past national experiences, can significantly impede the prospects for effective *voluntary* cooperation in this particular area. Simultaneously, this implies the necessity of considering other (international) factors that can breed the opportunity for other forms of cooperation ─ *induced* and *imposed*.

Linkage of issues in the Hungarian-Slovakian water dispute

The "Gabcikovo-Nagymaros" dam issue is, as we have seen, a complex question involving political, economic, cultural, and environmental issues. As the presented evidence indicates, both parties involved in the conflict were engaged in an "issues-linkage" politics in order to bolster their position. The most frequently used linkages are presented in Table 4.

Thus, this conflict can be depicted as a dominantly symbolic one. As the Hungarian lawyer Boldisar Nagy contends, the conflict rested on two opposed and conflicting paradigms: "the Hungarian position was post-modern, non-growth but preservation oriented, while the Slovak approach was dominated by a modernization and pro-growth orientation" (Fitzmaurice 1996: 88). The notion of symbolic conflict, therefore, implies the absence of strong economic concerns.

Table 4. **Issue-linkages in the Hungarian-Slovak water dispute**

Actor	Issue-Linkages Arisen /Objectives
Hungary	The Gabcikovo Dam ↔ The Hungarian Minority in Slovakia (Objective: Internationalization of the problem.) The Gabcikovo Dam ↔ The Border Question / The "Trianon Treaty" (Objective: Internationalization of the problem.) The Gabcikovo Dam ↔ The Symbol of Communist Pattern of Development (Objective: To compel Western European countries to Hungarian arguments.)
Slovakia	The Gabcikovo Dam ↔ Multipurpose Project (Objective: To point out the argument that both countries will benefit; International organizations, in general, favor this kind of project.) The Gabcikovo Dam ↔ The Slovakian Minority in Hungary (Objective: To off-set the Hungary's government concern over ethnic Hungarian minority in Slovakia.)
EU	The Gabcikovo Dam ↔ Regional Cooperation/Regional Stability (Objective: To compel both countries that cooperation is an inevitable condition for European integration process, primarily for a membership in EU.)

Third party involvement in the Hungarian-Slovakian water dispute

In September 1991, a meeting in Sofia, Bulgaria, brought Danube governmental representatives together with the international organizations to plan a set of coordinated activities. In June 1994, all Danube countries signed a formal "Convention on Cooperation for the Protection and Sustainable use of the Danube River". The countries have agreed to take all appropriate legal, administrative and technical measures to at least maintain and improve the current environmental and water quality conditions of the Danube River and of the waters in its catchment area.

Despite this agenda, the nearby Danube countries could not induce cooperation between Hungary and Slovakia regarding the Gabcikovo Project (Salman 2006). The same holds for the earlier efforts of the Visegrad Group ─ a regional political organization consisting of Poland, Czechoslovakia, and Hungary. The series of cooperative efforts between the two countries was fruitless in terms of directly resolving the conflict. The negotiations were conducted during face-to-face high-level meetings, in joint committees, by diplomatic exchanges of notes, and by experts. Table 5 illustrates the dynamics of *voluntary* cooperation in this critical period of 1989 to1992.

Table 5. **A short review of *voluntary* cooperation between Hungary and Slovakia**

Date	Event (Outcome)
1989 May 13	The Hungarian Government, led by reformist Miklos Nemeth, decides on a moratorium on construction at Nagymaros, initially for two months, later extended.
1989 May 24	The decision and the opinion of the Hungarian Academy of Sciences were sent to the Czechoslovak Prime Minister; The Hungarians propose further studies and joint analysis of the environmental risks from the project.
1989 June 2	The Hungarian Parliament approves the government decision and authorizes the government to enter into negotiation with Czechoslovakia on any modifications to the treaty, necessitated by new environmental studies.
1989 July	First expert conference between two countries.
1989 August 1	The Czechoslovak side protests against the "illegal unilateral action" of Hungary.
1989 August 25	Czechoslovakia demands compensation if the Hungarians do not complete Nagymaros.
1989 August 31	Czechoslovakia rejects the Hungarian proposal and for the first time expresses a readiness to continue with the project, reducing possible environmental damages, on its own territory.
1989 September	Second expert conference between two countries; agreement only on minor issues.
1989 October 31	The Hungarian Parliament adopts the Hardi Report (which suggested cancellation of Nagymaros), and calls for a renegotiation of the 1977 treaty.
1989 November 3,30	The Hungarian Parliament delivers these demands to the Czechoslovak side; no response due to the political turmoil in Czechoslovakia (The "Velvet" revolution).

Date	Event (Outcome)
1990 January 12	Jiri Dienstbier, the Foreign Minister of Czechoslovakia, in his first visit to Budapest offers no concrete proposals regarding the Gabcikovo Dam. (A misleading signal to the Hungarians).
1990 May 22	The new Hungarian government in its programme states that it will "consider the construction of the Danube barrage system mistaken and will initiate as soon as possible negotiations on the rehabilitation and sharing of the damages with the Czechoslovak government to be elected".(This view is totally rejected by the Slovaks.)
1990 May-September	Exchanges of letters between Prime Ministers and Notes between governments. (No positive outcome.)
1990 September 17-18	Direct discussion is organized. (Czechoslovakia does not insist to unilaterally divert the Danube and decides to study the environmental impacts of the project; Hungary is not fully satisfied.)
1991 February 8-9	The Slovak prime Minister visits Hungary.
1991 April	The Hungarian-Czechoslovak Commission meets; the Hungarian Minister without Portfolio, Madl, and Prime Minister of Slovakia, Meciar, participate.
1991 June	The Commission meets again; Czechoslovakia proposes involvement of the European Commission (EC); Hungary rejects the proposal.
1991 July 15	The Commission meets again (Carnogursky – Madl); Czechoslovakia reiterates a call for the EC involvement; Hungary rejects the proposal.
1991 July 25	(The Slovak Government decides to implement Variant C and the Federal Government approves it.)
1991 September	Czechoslovakia repeats the proposal to involve EC experts.
1991 October	Joint discussions between the Environmental Committees of the two Parliaments are organized.
1991 December	The Hungarian-Czechoslovak Commission holds a third meeting; Czechoslovakia again proposes an expert Commission, and decides to stop work on Variant C, postponing it until at least the end of July 1992.
1992	(Hungary perceives work on Variant C as a real threat.)
1992 May 6	A final attempt to establish the trilateral commission. (No result.)
1992 May 19	The Hungarian Government declares that it will terminate unilaterally, on May 23, the 1977 treaty, associated protocols and agreements; the Hungarian Parliament made such a decision since Czechoslovakia did not cease work on Variant C by April 30.
1992	Hungarian activities on internationalization of the issue begin.

Source: Fitzmaurice (1996: 87-127)

As Table 5 shows, the idea of third party mediation in this conflict was not initially supported by the Hungarian side. Hungary tied the issue of mediation to the Slovakian rejection of Variant C. Consequently, the Visegrad Foreign Minister's discussion in January 1991 could not provide a background for the establishment of a trilateral commission.

Similarly, the effect of the EC Commission in this period was limited. The EC Commission was willing to participate in resolution of the dispute only in the case of joint agreement of the two parties. However, when the Variant C began to be implemented, the Hungarian side now was the one to insist on internationalization of the issue. Thus, Hungary agreed without condition to the trilateral commission, reiterating its proposals to send the dispute to the

International Court of Justice (ICJ), raising the issue in the OSCE and in the Danube Commission.

As a result of this dynamic, the two countries finally reached a framework of cooperation under the auspices of the European Commission. On October 28, 1992, at the EC-Visegrad Summit, John Major led mediation efforts to establish a tripartite (Hungary-Czechoslovakia-EC) agreement ─ the so-called London Protocol. The provisions of this protocol stated that all work on Variant C would be stopped at a date specified by the EC Commission on the basis of a tripartite fact-finding mission composed of one expert from each party. The Protocol also obligated Czechoslovakia to maintain ninety-five percent of the Danube water in the old bed and to refrain from operating the power plant. It was agreed to refer the dispute to the International Court. Later, the case would be sent to the International Court of Justice (ICJ) in the Hague on the basis of a special agreement signed by Hungary and Slovakia on April 7, 1993.

The ICJ Registrar argued that the Court could play an important role in developing and enforcing environmental international law, going beyond the important principles already established. This new concern is relevant to the "Gabcikovo-Nagymaros" case where the European Union sought to use referral to the ICJ as a means of defusing the dispute and where issues of environmental damage were central to the case. The Article 2 contained in the "special agreement" by Hungary in Slovakia (April 7, 1993) submitted three questions to the Court: (1) whether Hungary was permitted to suspend work on Gabcikovo-Nagymaros unilaterally in 1989, (2) the legality of "Variant C", and, (3) the legality of the termination of the treaty of 1977 by Hungary in 1992. Parts 1 and 3 are complaints against Hungary and 2 is a complaint against Slovakia. The Court was asked to consider the issues on the basis of: (1) the 1977 treaty, (2) other relevant treaty law, and, (3) general principles of international law.

In 1997, in the first round of the Danube Lawsuit, the International Court of Justice (ICJ) in The Hague ruled that carrying out this river re-routing was wrong, but because Hungary also erred by unilaterally canceling the Gabcikovo Dam contract; the final resolution should be negotiated by the two nations involved. Only if they cannot agree on an environmentally acceptable solution, should the case be returned to The Hague. This decision obligates Hungary and Slovakia to continue their efforts in a negotiation process. In fact, subsequent negotiations between Hungary and Slovakia indicated that the real issues relevant to their dispute are of an environmental character (Fuyane – Madai 2001). International organizations, especially the European Union, prefer a bilateral approach taking into account probably both long- and short-term interests of the two countries.

Concluding remarks

Given this highly symbolic meaning of the conflict, the international factors played, as was shown in the previous section, a significant role in both the dynamics of the conflict and enhancement of cooperation amongst the disputants. The involvement of a third party is especially important when the disputants invoke various linkages. Consequently, a wider international structure also played a role in increased cooperation efforts between Slovakia and Hungary.

Despite the dichotomy of perceptions, the two countries were able to achieve a *voluntary* form of cooperation. The European Commission was an effective broker due to a strong motivation of the disputants to join this political and economic organization. Apparently, both Hungary and Slovakia were capable of adjusting their behavior to the actual or anticipated preferences of each other ─ the NATO, or EU membership, in this case. Thus, after the Summit in London on October 1992, both the Hungarians and the Slovaks reached a full concern about the necessity of cooperation in a way complementary to the shared norms of the EU. The European Union's primary interest, on the other hand, was stability in the region (Jansky – Pachova – Murakami 2004). Therefore, the external relations existing within a system (regional as well as European) influenced an improvement in relations between Hungary and Slovakia.

Both types of arguments ─ Neo-Realist and Institutionalist ─ can go hand in hand. Namely, the desire of these states to join EU (political-economic organization) or NATO (military organization), can be driven by the three (*S*) factors: *status*, *stability*, and *security*. Neo-Realism holds that states pursue security as an ultimate goal. Institutions, on the other hand, acting on the basis of common set of norms, beliefs, and rules may induce a positive shift in bilateral relations between the disputants.

This is not to say, however, that Hungary and Slovakia achieved a harmonious relationship. While harmony implies, as Axelrod and Keohane (1984) remind us, a "complete identity of interests", cooperation can only take place in "situations that contain a mixture of conflicting and complementary interests". Thus, the expected benefits from the anticipated membership in the EU were a strong catalyst for cooperation in the region. This echoes a well-known claim that "the future helps to promote cooperation" (Axelrod – Keohane 1984: 232). Therefore, it is plausible to say that cooperation in this case evolved from *voluntary* cooperation towards *induced* (by the European Union) and *imposed* cooperation (by the International Court of Justice).

Despite strong differences between the disputants in this conflict, cooperative efforts, to various extents, were always present. Cooperation

changed its forms depending on particular contexts. Of all independent variables considered, the type of conflict had a tremendously important influence on the form of cooperation. The evidence from the Slovak-Hungarian water conflict suggests that in the aftermath of highly symbolic conflicts, a *voluntary* mode of cooperation rarely emerges. On the other hand, in conflicts shaped primarily by strategic, tangible interests, a *voluntary* mode of cooperation is more likely to emerge as the direct outcome.

Voluntary cooperation can emerge indirectly from the *induced* or *imposed* forms of cooperation. In terms of *induced* cooperation, findings from this case confirm the assumption that international multi-lateral organizations (for instance, the World Bank, the United Nations or the International Court of Justice) are more effective as the third part than regional organizations and individual states. Thus, the "Visegrad Group" could not directly influence the Slovaks and Hungarians to choose the way of voluntary cooperation.

The presented empirical evidence confirms the utility of suggested theoretical framework. This model may be further assessed by applying it to the other international water disputes. A three-fold set of independent variables, with the *involvement of international organization* as an intervening variable, used in this study has much in common with some other similar concepts such as that suggested by Green (mentioned earlier). Many of the factors depicted in Green's model (especially, the desire for economic development, social inequality and social breakdown), played a significant role in the water dispute between Slovaks and Hungarians. Yet, in order to develop a more comprehensive model for examining natural resources conflicts, there is a need for further research that would address human ecological factors perhaps omitted from this analysis.

Milovan Vuković *gained his PhD degree in Metallurgical Engineering (2000) and Political Science (2003) during his study in the United States at the University of Idaho. Currently works as an associate professor (since 2009) at the Technical Faculty in Bor, University of Belgrade, for the following courses: Sociology, Research Methods, Environmental Management and Cultural Communication.*

Danijela Voza *is a PhD candidate in the field of engineering management at the Technical faculty in Bor, University of Belgrade. Also, she works there as a teaching assistant for following courses: Sociology, Cultural Communication, Public Relations and Career Development.*

Nada Štrbac *is full professor in the Department for Management, Technical Faculty in Bor, where she got magister and PhD diploma. Her area of interest is related to Strategic Management, Quality Management and Technological*

and Production Management. She has published over 30 papers in international journals from SCI list. She participated in a few national and international projects.

***Ljiljana Takić** gained her PhD degree in 2008 in Technology Engineering. She works as associate professor (since 2012) at the Faculty of Technology, Leskovac University of Nis. She is a member in proffesional organization "Serbian Chemical Society" and participant of several scientific projects. Her areas of interest are: Technology Engineering and Chemical Engineering.*

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