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Transboundary Freshwater Resources Management: Greece and its neighbors towards Cooperation or Conflict?

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Διαχείριση Διασυνοριακών Υδατικών Πηγών: Η Ελλάδα και οι Γείτονες της στο Δρόμο της Συνεργασίας ή της Σύγκρουσης;

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Keywords: Environmental Security, International Water Law, Cooperation, Conflict, Evros, Nestos, Strymonas, Axios, Aoos, Prespa Lake

Summary

New global challenges led to the gradual contestation of the traditional perceptions around the term of "Security." Even if the political-military perception has not been contested at its core, new insights attempted to transfer the focus from the state to the human. Within this framework, the concept of "human security" appeared in academic discourse. One of its basic directions is "environmental security" which has been established along with the continuous rise of environmental issues and in particular the importance of water resources, on the international political agenda. The definition of "environmental security" differs according to the angle from which one approaches it. However, there are two main conceptual categorizations. The first understands "environmental security" in terms of environmental protection (ecological security) that needs collective action to be accomplished. The second one considers it as a traditional state-centric term, referring to the importance of protecting the environmental, wealth-producing resources that help maintain a state's security and that of its citizens.

Within this discussion lies the management of transboundary freshwater resources. The multifaceted importance of water (energy, irrigation, etc.) placed it at the center of the discussion on the environment. At a global level, various initiatives led to the adoption of rules in an attempt to delimit the framework within which states sharing freshwater resources can utilize them. In the beginning, these rules and norms focused mostly on the utilization instead of collective action for protection, clearly underlining the understanding of "environmental security" within state-centric terms. Gradually, however, initiatives and actions moved from utilization towards the protection of freshwater resources and to the need to adopt common principles. Yet, the lack of a recognized institution of global reach empowered to impose on states the necessary

policies remains an obstacle for the promotion of integrated collaboration among states sharing freshwater resources. At a European level, progress is more obvious since the adoption of the 2000/60 Water Framework Directive, promoting cooperation with the goal of protecting transboundary freshwater resources.

Greece is a riparian state of five Balkan rivers of which only one (the Aoos/Vjose) springs from her territory. Despite the fact that these rivers are of significant importance in environmental and political-economic terms, the level of cooperation between Greece and the neighboring countries as far as their management is concerned remains low, with a slight exception of a relative improvement taking place during the last years.

Three out of five rivers come from Bulgaria (the Evros/Meric/Maritza, the Nestos/Mesta and the Strymonas/Struma). Of these, the Evros River also includes a third riparian state, Turkey, making its management even more complicated compared to the other two (the River is also a natural border line between Greece and Turkey). All three rivers are of great importance not only for the local economies but also in environmental terms. Attempts for cooperation have begun from the 1960s. Yet, these took place within the framework of the dominant international customary law, meaning under the basic principles of utilization of the water. The basic elements of the agreements until the early 21st century were the principles of "limited sovereignty" and of "equal utilization" treating water as a commercial good. The only exception was the 1995 agreement for the Nestos River that included confronting environmental challenges through the sustainable management of the river. However, even in this case, greater attention during the negotiations was paid to the quantity of the water instead of the configuration of an integrated plan of environmental management, while with the increase of rainfall the agreement remained for the most part inactive. Since 2002 due to the WFD that gradually began to be implemented there was a radical change. Nevertheless the developments remained quite slow for a number of reasons.

West of the Strymonas lies the Axios (Vardar) River which is shared by FYROM and Greece. Its management remains fragmented with the two riparians following their own policies. The chances of finding an integrated solution are limited mostly because of the problematic political relations between the two neighboring countries. Thus, the Axios remains a river that receives important environmental pressures due to the lack of an integrated management plan.

The last transboundary river lying to the West of Greece is the Aoos (Vjose). The Aoos is the only transboundary river coming from Greece. The river crosses Greece and Albania and despite, once more, the lack of an integrated management plan and a stable cooperation scheme, it has a generally good environmental status mostly because of the limited utilization of its waters. The Aoos River is one more case of a transboundary river where the political relationship of the two riparian states is limiting the achievement of successful cooperation.

Yet, problematic political relations are not the only hindrance to creation of integrated transboundary management planned in the aforementioned case studies. The national bureaucratic models and the decision-making process related to environmental issues of the riparian states have also contributed negatively. With Greece not excluded, there is a great complexity in the jurisdictions among the different agencies and ministries, which makes coordination extremely difficult and transboundary cooperation almost impossible.

The only case of successful transboundary cooperation at the moment is the Prespa Lakes. The reasons behind the progress so far are three. The first one is related to Greece and the fact that she, as a regional power, considered the promotion of trilateral cooperation to be a step toward regional stability. The second reason lies in the great environmental importance of the lake, which attracted the interest of national and international NGOs and institutions. International Organizations, governmental or not, participating in the management of the lake are the connecting ring which moved beyond the various problems existing in the case studies of the aforementioned rivers. Finally, the third reason is that the Prespa Lakes have less significance as a wealth producing resource, compared to the rivers.

This research, by using a multidisciplinary approach stemming from the great complexity of the subject itself, proceeds on the one had to present the current situation as it has evolved throughout the past decades and on the other to describe and analyze the reasons for developments up to the present. By questioning the topic from different angles, such as legal, historical relations, public administration and so on, the research identifies the main reasons behind the current situation, categorizing them into those related to the bilateral context and those to the national context, thus contributing to the possibility of future progress that will leave the existing fragmented management behind.

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Σημαντικοί Όροι: Περιβαλλοντική Ασφάλεια, Διεθνές Δίκαιο των Υδάτων, Συνεργασία, Σύγκρουση, Έβρος, Νέστος, Στρυμόνας, Αξιός, Αώος, Πρέσπες

Περίληψη

Οι νέες παγκόσμιες προκλήσεις επέφεραν σταδιακά την αμφισβήτηση του ορισμού της «ασφάλειας» έτσι όπως είχε διαμορφωθεί από τις κρατούσες παραδοσιακές αντιλήψεις. Έτσι, αν και ο πολιτικο-στρατιωτικός της πυρήνας δεν αμφισβητήθηκε, ωστόσο νέες θεωρήσεις επιδίωξαν τη μεταφορά του κέντρου βάρους από το κράτος στον άνθρωπο. Στα πλαίσια της ακαδημαϊκής συζήτησης η «ανθρώπινη ασφάλεια» άρχισε να κερδίζει έδαφος. Βασικό συστατικό της εν λόγω θεώρησης αποτελεί η «περιβαλλοντική ασφάλεια», η εδραίωση της οποίας στη διεθνή πολιτική σκηνή οφείλεται στην ανάδειξη περιβαλλοντικών ζητημάτων ιδίως αναφορικά με τη διαχείριση των φυσικών πόρων, όπως το νερό. Ο όρος «περιβαλλοντική ασφάλεια» γίνεται αντιληπτός με ποικίλους τρόπους υπό διαφορετικό κάθε φορά πρίσμα. Ωστόσο, δύο είναι οι βασικές εννοιολογικές κατηγοριοποιήσεις. Η μία εξ αυτών αποδίδει την «περιβαλλοντική ασφάλεια» με όρους προστασίας του περιβάλλοντος σε παγκόσμιο επίπεδο. Πρόκειται για τη λεγόμενη οικολογική ασφάλεια για την επίτευξη της οποίας απαιτείται συλλογική κινητοποίηση σε παγκόσμιο επίπεδο. Από την άλλη πλευρά, σύμφωνα με την παραδοσιακή κρατικο-κεντρική εννοιολογική προσέγγιση, ο όρος της περιβαλλοντικής ασφάλειας αναφέρεται στη σημασία που έχει η προστασία και διαφύλαξη των περιβαλλοντικών πλουτοπαραγωγικών πηγών για τη διατήρηση της ασφάλειας του κράτους και των πολιτών.

Στο πλαίσιο αυτής της συζήτησης εμπίπτει και η διαχείριση των φυσικών διασυνοριακών υδατικών πόρων. Η πολυδιάστατη σημασία του νερού (ενέργεια, γεωργία κτλ.) το τοποθετεί στο επίκεντρο της συζήτησης για το περιβάλλον. Σε παγκόσμιο επίπεδο, διάφορες πρωτοβουλίες οδήγησαν στην υιοθέτηση κανόνων προκειμένου να θεσμοθετηθεί η εκμετάλλευση των υδατικών πόρων από τα κράτη που τους μοιράζονται.. Στην αρχή οι κανόνες και οι νόρμες επικεντρώνονταν περισσότερο στην εκμετάλλευση παρά στην κοινή δράση για προστασία, δίνοντας έμφαση στη θεώρηση της

«περιβαλλοντικής ασφάλειας» με όρους κρατο-κεντρικούς. Σταδιακά, όμως, οι πρωτοβουλίες και οι δράσεις μετατοπίστηκαν από την εκμετάλλευση στην προστασία των υδάτινων πόρων και στην ανάγκη για υιοθέτηση συλλογικών κανόνων. Εντούτοις, η έλλειψη ενός ισχυρού θεσμού παγκόσμιας εμβέλειας που να επιβάλλει στα κράτη τις κατάλληλες πολιτικές παραμένει ένα μεγάλο αγκάθι στην προώθηση ολοκληρωμένων συνεργασιών μεταξύ των κρατών που μοιράζονται χερσαίους υδατικούς πόρους. Σε ευρωπαϊκό επίπεδο, παρατηρείται μεγαλύτερη πρόοδος με την υιοθέτηση της οδηγίας πλαίσιο 2000/60 για το νερό, η οποία υιοθετεί την λογική της αειφορίας και προάγει την συνεργασία με σκοπό την προστασία των διασυνοριακών υδατικών πόρων.

Η Ελλάδα αποτελεί κράτος παρόχθιο σε πέντε βαλκανικούς ποταμούς εκ των οποίων μόνον ο ένας (Αώος) πηγάζει από την ίδια. Παρόλο που η σημασία των ποταμών αυτών είναι μεγάλη, τόσο από περιβαλλοντικής όσο κι από πολιτικο-οικονομικής απόψεως, το επίπεδο συνεργασίας της Ελλάδος με τις γειτονικές χώρες ως προς τη διαχείριση τους –παρά τη σχετική βελτίωση που παρατηρείται τα τελευταία χρόνια- σε γενικές γραμμές παραμένει χαμηλό.

Τρεις από τους πέντε ποταμούς προέρχονται από τη Βουλγαρία (Έβρος, Νέστος και Στρυμόνας). Εξ αυτών ο Έβρος περιλαμβάνει και τρίτο παρόχθιο κράτος, την Τουρκία, κάτι που καθιστά τη διαχείριση του πιο πολύπλοκη (έχοντας ως δεδομένο ότι ο ποταμός λειτουργεί και ως φυσική συνοριακή γραμμή ανάμεσα σε Ελλάδα και Τουρκία). Και οι τρεις ποταμοί έχουν μεγάλη σημασία για τις τοπικές οικονομίες ενώ και με περιβαλλοντικούς όρους, η σημασία τους είναι εξίσου μεγάλη. Προσπάθειες έχουν ήδη ξεκινήσει από τη δεκαετία του 1960. Ωστόσο αυτές έλαβαν χώρα υπό το πρίσμα του κυρίαρχου τότε διεθνούς εθιμικού δικαίου, δηλαδή στα πλαίσια βασικών κανόνων εκμετάλλευσης των υδάτων. Τα βασικά στοιχεία που διείπαν τις συμφωνίες αντιμετωπίζοντας το νερό ως εμπορικό αγαθό έως τις αρχές του 21^{ου} αιώνα ήταν οι αρχές της «περιορισμένης κυριαρχίας» και της «δίκαιης χρήσης». Μοναδική εξαίρεση αποτέλεσε η συμφωνία του 1995 για τον Νέστο η οποία περιελάμβανε και την αντιμετώπιση περιβαλλοντικών προκλήσεων μέσω της βιώσιμης διαχείρισης του ποταμού. Ωστόσο, και σ' αυτή την περίπτωση, μεγαλύτερη έμφαση κατά τη διαπραγμάτευση δόθηκε στην ποσότητα των υδάτων παρά στη διαμόρφωση ενός ολοκληρωμένου σχεδίου περιβαλλοντικής διαχείρισης, ενώ με την αύξηση των βροχοπτώσεων η συμφωνία παρέμεινε σε μεγάλο βαθμό ανενεργή. Όμως, από το 2002,

και μετά υπήρξε ριζική αλλαγή και λόγω της σταδιακής εφαρμογής της ευρωπαϊκής οδηγίας 2000/60. Παρόλα αυτά, για πληθώρα λόγων, οι εξελίξεις παρέμειναν ιδιαίτερα αργές.

Δυτικά του Στρυμόνα υπάρχει ο ποταμός Αξιός, τον οποίο μοιράζονται η ΠΓΔΜ και η Ελλάδα. Η διαχείριση του ποταμού παραμένει αποσπασματική, με κάθε χώρα να ακολουθεί τη δική της πολιτική. Οι δυνατότητες εξεύρεσης μιας ολοκληρωμένης λύσης είναι περιορισμένες λόγω των προβληματικών πολιτικών σχέσεων ανάμεσα στις δύο γείτονες χώρες. Έτσι ο Αξιός παραμένει ένας ποταμός που δέχεται ισχυρές περιβαλλοντικές πιέσεις λόγω της έλλειψης ενός ολοκληρωμένου σχεδίου διαχείρισης.

Ο διασυνοριακός ποταμός που βρίσκεται δυτικότερα από τους άλλους είναι ο Αώος. Πρόκειται για τον μοναδικό διασυνοριακό ποταμό που πηγάζει από την Ελλάδα. Ο ποταμός διασχίζει την Ελλάδα και την Αλβανία και παρά την έλλειψη, και σε αυτή την περίπτωση, ενός ολοκληρωμένου σχεδίου διαχείρισης και μιας σταθερής συνεργασίας, χαίρει σχετικά καλής περιβαλλοντικής κατάστασης, κυρίως λόγω της περιορισμένης εκμετάλλευσης των υδάτων του. Ο Αώος, αποτελεί άλλη μια περίπτωση διασυνοριακού ποταμού όπου οι πολιτικές σχέσεις των δύο χωρών αποτελούν τροχοπέδη για την επίτευξη μιας επιτυχημένης συνεργασίας.

Πάντως, πέρα από τις προβληματικές διμερείς σχέσεις που επηρεάζουν την κατάρτιση ολοκληρωμένων διασυνοριακών σχεδίων διαχείρισης στους πέντε προαναφερθέντες ποταμούς, μεγάλη αρνητική συμβολή έχουν τα γραφειοκρατικά μοντέλα όπως και η διαδικασία λήψης αποφάσεων που αφορούν το περιβάλλον σε κάθε μία από τις εν λόγω χώρες. Μη εξαιρουμένης της Ελλάδος, παρατηρείται ένας κατακερματισμός αρμοδιοτήτων που εκ των πραγμάτων καθιστά το συντονισμό εξαιρετικά δυσχερή και την διακρατική συνεργασία σχεδόν αδύνατη.

Η μοναδική περίπτωση επιτυχημένης διασυνοριακής διαχείρισης αποτελεί προς το παρόν η λίμνη Πρέσπα. Οι λόγοι που έχει καταγραφεί πρόοδος στην περίπτωση αυτή είναι τρεις. Ο πρώτος είναι ότι η Ελλάδα, ως περιφερειακή δύναμη, θεώρησε πώς η προώθηση μιας τριμερούς συνεργασίας θα ήταν προς το συμφέρον της και προς το συμφέρον της σταθερότητας στην περιοχή. Ο δεύτερος λόγος έγκειται στην μεγάλη περιβαλλοντική σημασία της λίμνης που κέντρισε το ενδιαφέρον ΜΚΟ αλλά και ιδρυμάτων από την Ελλάδα και κυρίως από το εξωτερικό. Οι διεθνείς οργανώσεις και οι

οργανισμοί – κυβερνητικοί και μη κυβερνητικοί - που συμμετέχουν στη διαχείριση αποτελούν το συνδετικό κρίκο που βάζει σε δεύτερη μοίρα τα διάφορα προβλήματα που υπάρχουν στις αντίστοιχες περιπτώσεις των διασυνοριακών ποταμών. Τέλος, ο τρίτος λόγος είναι ότι η Πρέσπα αποτελεί λίμνη και όχι ποταμό και άρα η δυναμική της ως φυσικός πλουτοπαραγωγικός πόρος και η σημασία της δεν φτάνει εκείνη ποταμών όπως ο Νέστος ή ο Έβρος.

Η παρούσα μελέτη χρησιμοποιώντας μια διεπιστημονική προσέγγιση που απορρέει από την πολυπλοκότητα του ίδιου του υπό εξέταση θέματος, επιδιώκει από τη μία πλευρά να παρουσιάσει την παρούσα κατάσταση όπως αυτή εξελίχθηκε μέσα από τις προηγούμενες δεκαετίες και από την άλλη να περιγράψει και να αναλύσει του λόγους που οδήγησαν στις παρούσες συνθήκες. Προσεγγίζοντας το θέμα μέσα από διάφορες οπτικές γωνίες, όπως νομικές, ιστορικές, με όρους δημόσιας διοίκησης και ούτω καθεξής, η μελέτη προσδιορίζει τους βασικούς λόγους που κρύβονται πίσω από την παρούσα κατάσταση κατηγοριοποιώντας τους σε διμερές επίπεδο και στα επιμέρους εθνικά επίπεδα, συνεισφέροντας με αυτό τον τρόπο σε μια πιθανή μελλοντική πρόοδο που θα αφήσει στις καλένδες την υπάρχουσα κατακερματισμένη διαχείριση των διασυνοριακών υδατικών πόρων.

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Chapter 1

Introduction

The beginning of the 21st century has seen environmental issues take on an unprecedented significance on the international agenda. More and more policymakers now take environmental hazards into serious consideration as a threat to populations and to humanity in general. But why is the environment and, water in particular, receiving so much attention? It can be claimed that the cornerstone for this shift was the 1972 publication of a book entitled *the Limits to Growth*.[1] According to this book, post-war economic expansion along with the demographic boost contributed to a radical loss of natural resources, like freshwater, and to environmental degradation in general, while at the same time poverty and malnutrition were increasing across the globe.[2] In fact, during the last hundred years the global population has tripled, while water demand has increased seven times. But still, an answer is required as to why water and particularly freshwater is so important, and has attracted the interest of the international community for at least the last 30 years.

The first and profound reason is that water is an essential element for every living being on earth and has been designated by the United Nations as a key environmental resource for social security, economic growth and prosperity. Almost 2/3 of the planet is covered by water. However, only 2.7% of this is potable and most of it can be found in the form of ice in the poles and on the top of mountains. 73% of freshwater goes to agricultural use due to increasing needs for production that follow the earth's growing population.[3] This is the first major reason why freshwater is considered a security issue. The second and also widely known explanation is that according to many studies almost 40 percent of the world's population lives within the basins of international rivers, and, as Sadoff and Grey wrote, over 90% of the world's population lives within countries that

[1] Donella H. Meadows, Dennis L. Meadows, Jorgen Randers & William W. Behrens, *The Limits to Growth,* New York: Universe Books, 1972.
[2] James Connely, Graham Smith, *Politics and the Environment*, London/NewYork: Routledge, 2003, p. 236.
[3] Alexandre Kiss, Dinah Shelton, *Manual of European Environmental Law*, Cambridge: Cambridge university press, 1997, p. 290

share these basins.[4] According to existing data there are 263 transboundary lake and river basins that cover almost one half of the Earth's land surface. These basins represent approximately 60% of the global freshwater flow, while 145 states include territory within those basins and 30 countries lie entirely within them. In addition, water stress is unequally distributed on a global scale. Practically, this means that huge populations do not have access to water, while numerically smaller populations consume vast quantities. The common characteristic is that all seek to increase their social and economic benefits from a limited resource base.

These reasons point to the growing international importance of freshwater resources, warning of a potential water crisis in the near future, which due to water's essentiality, will affect a great range of sectors from health and human rights to environment, economy and eventually global politics. Annex I of the UN report (January 1998) of the Expert Group Meeting on Strategic Approaches to Freshwater Management, confirms this opinion underlining that the world faces growing demands for water supplies as a product of the population increase and sectoral pressures.[5] This unprecedented demand includes 'agriculture (particularly irrigation and drainage), the provision of domestic water supply and sanitation, industry, energy production, environment/amenity (including tourism)/ecosystems, changes in patterns of consumption as a result of industrialisation, rural/urban shifts, migration, and unaccounted for water'.[6]

Numerous reports and studies have tried to underline the significance of sustainable water management especially in those cases where collaboration is needed between states that share water resources. Sustainable water resource development and management are major challenges for both the immediate and long-term future. The number of states facing permanent water stress is rapiply increasing, while competition over shared river and lake management has created tension. Besides, in historical terms it has been recorded that many longstanding water related disputes still remain unsettled. The lack of mechanisms and internationally accepted institutions with the jurisdiction to manage disputes over water resources compounds this challenge. Yet, the vital nature of

[4] Claudia W. Sadoff and David Grey, 'Cooperation on International Rivers. A Continuum for Securing and Sharing Benefits', *Water International,* Vol. 30, no. 4, December 2005, p.1
[5]Report of the Expert Group Meeting on Strategic Approaches to Freshwater Management, Harare (Zimbabwe): UN, January 1998, available at: http://www.un-documents.net/harare.htm#II
[6] Ibid, http://www.un-documents.net/harare-1.htm#1.I

freshwater has provided a powerful natural incentive for cooperation, which demonstrates positive dynamics in transboundary freshwater management, at least up to the present.

In the past, a war over water could be considered pure fiction, but is it becoming a contemporary reality? One of the most striking examples is the problem of management of the Tigris and Euphrates Rivers. Turkey's announcement concerning the implementation of the G.A.P project dating back in the 70s (Güneydoğu Anadolu Projesi/ Southeastern Anatolia Project) made Iraq and Syria react and threaten military action against Turkey in order to destroy the dams to be built in the valleys of the Taurus mountains. Due to its military supremacy, Turkey did manage to complete the network of dams, reaching an agreement with the other two countries providing them with a regular flow of water. However, the threat of war had been articulated. Iraq and Syria, dependent on the water of the Tigris and Euphrates, have strongly expressed their opposition and their intention to protect their own survival and national interests, even against a stronger country such as Turkey.[7]

Within the preceding pages lies the initial motive for the writing of this thesis: "The elevation of trans-boundary freshwater resource management into an issue of global attention". The principal research question is: Do the challenges for the management of trans-boundary freshwater resources where Greece is a riparian state promote cooperation or conflict?

1.1 Methodology

This thesis uses the case study design. As it will be presented in the following pages, this work wants to study the impact that different variables have on the management of transboundary freshwater resources. Therefore, given that the geographic area has been limited to those cases that Greece participates in, it was convenient to pick a small number of examples to study in detail within their own context, assessing them and comparing them, finally reaching specific conclusions. Focusing and investigating specific cases using both inductive and deductive reasoning helps to test theory. Moreover, the fact that there are some different characteristics from one case study to another allows for a comparative approach by following the same steps in the analysis.

[7] Yves Lacoste, *L'eau dans le monde, les batailles pour la vie, Larousse 2003,* available in Greek Athens : Kastalia, 2007, pp.88-92.

The use of model case studies, such as the Prespa Lakes, an "exemplifying" case study since there is a distinct difference in the level of international cooperation achieved, provides a basis for reaching specific answers and finally answering the basic research question. The selection of case study design is the most appropriate choice also due to the options it provides regarding the different kind of methods that can be used, such as quantitative or qualitative, as well as the multiple methods of data collection that can also be applied.

The uniqueness of this particular thesis and the new contribution that it attempts to bring to the academic discussion are based on two fundamental and combined purposes. The first is relevant to the multidisciplinary approach that is used throughout the text and in each case study. More specifically, as it becomes obvious from the very first chapters, this thesis intends to combine theories of International Relations and Securitization with Balkan history, EU and national legislation, public administration and water management. The text has been constructed in a unique way beginning with the theoretical debate on "Security" as it has been applied to the most well-known IR school of thoughts. Identifying the environment as a security concern is the first big step towards examining this notion in the specific context of transboundary freshwater resource management.

In terms of methodology, this research does not follow either purely quantitative or qualitative techniques. This is due to the nature of the research, which requires a combination of these two. As is well-known, quantitative techniques, as Walliman argues, are mostly based upon the collection of data '…numerically based and amenable to such analytical methods as statistical correlations'.[8] On the contrary, qualitative techniques focus mostly on language and its interpretation, with data collection methods tending to involve close human participation leading to theory development rather than testing.[9] Of course, many, like Bryman, see this distinction as outdated and to some extent dogmatic. According to him, quantitative methods are quite often used in qualitative research and vice versa.[10]

The first thing that needs to be done is to define the objectives of this research. Initially, this research attempts to illustrate the relation between environmental security

[8] Nicholas Walliman,, *Social Research Methods,* London/Thousand Oaks/New Delhi: Sage, 2006, p. 37.
[9] Ibid.
[10] Alan Bryman, *Social Research Methods,* Oxford: Blackwell, 2004, pp. 437-450.

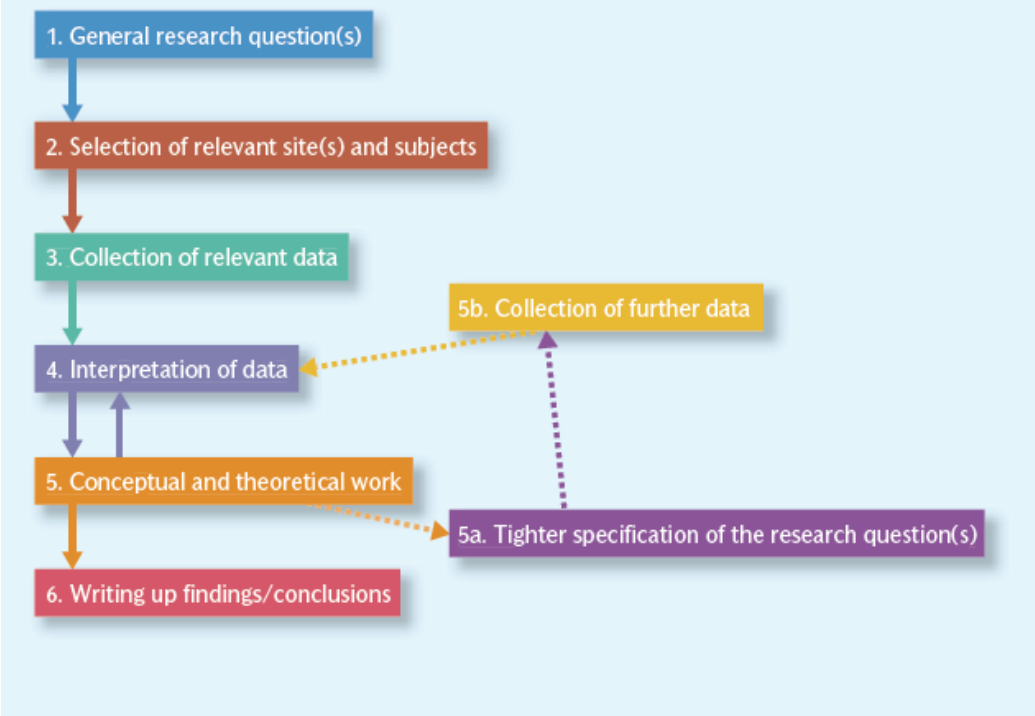
and transboundary freshwater resource management. Thus, the very first objective is to be descriptive. This is achieved by examining situations to establish what the norm is. On a second level, the objective moves to explaining and evaluating the contextual elements that, combined, have led to the norm. The third and particularly important objective is to compare different case studies in order to highlight differences and similarities among them. Comparative research is a famous method for the proponents of quantitative as well as qualitative research. Its application to cross-national and cross-cultural contexts, revealing concepts that can later on be used for theory building, is its largest strength. However, comparability issues should always be taken into serious consideration because they can lead to false conclusions in the end.[11]

Leaving behind the identification of the research objectives, the next important step was the formulation of the research design in order to meet these objectives. In this particular research, a cross-sectional design has been applied. This kind of study can use various methods of data collection, such as observation, official records and content analysis. Another well-known design adopted in this research is the so-called "case study" design. Intensive investigation of few cases using a combination of inductive and deductive reasoning is considered the most sufficient approach for testing theory and theoretical analysis in general.[12]

However, in order to go back to the beginning of the methodology section, this thesis, due to the nature and the type of the research, is principally based upon qualitative methodology, using, however, components from the quantitative method whenever necessary. More precisely, the thesis follows the qualitative steps as described in Alan Bryman's work *Social Research Methods*[13]:

[11] Nicholas Walliman, (2006), pp. 37-40.
[12] Ibid, pp. 45-46.
[13] Alan Bryman, (2012), p. 384.

Figure 1.1 The steps of qualitative research



Source: Alan Bryman (2012)

According to this Figure (1.1), the first step is the identification of a research problem. Booth et al. summarized the process required to focus on the formulation of the research problem as follows:

i) Find an interest in a broad subject area (problem area)

ii) Narrow the interest to a plausible topic

iii) Question the topic from several points of view

iv) Define a rationale for the project.[14]

[14] Wayne C. Booth, Gregory G. Colomb, and Joseph M. William, *The Craft of Research*, Chicago: University of Chicago Press, 1995, p. 36.

The broader interest of the current thesis is the global importance of transboundary freshwater resources and the impact that these have on the relations between the countries sharing them. There is an extended bibliography on this fascinating subject identifying the current trends as well as making projections for potential scenarios in the future. As has already been said, up to now the most common approach is cooperation. Yet, the continuous population pressures and the predicted increase in water scarcity in the future might change things dramatically.

Moving from the general research interest to a more plausible topic, this thesis wants to emphasize the specific case of Greece as a riparian country, identifying the past and present of the management of transboundary rivers. The definitive aim of the current research is on one hand to present the current situation as it has evolved throughout the past decades and on the other to describe and analyze the reasons for developments up to the present. The approach that is adopted is a multidisciplinary one, deriving from the complexity of the examined field. Therefore, the author questions the topic from different angles, such as legal, historical relations, public administration and so on, while in order to provide the readers with a more comprehensive understanding on the issues at stake in every case examined, the geographic and economic context is described in detail. The different angles that are examined and the complexity of the subject itself dictate the selective use of Foreign Policy Analysis (FPA) as a tool for explaining the developments that have shaped the current situation around the management of these resources, as well as making predictions for future progress. FPA is a tool that comprises multilevel and multicausal explanations, synthesizing information from various social science disciplines simultaneously.[15] Moreover, the analysis of the case studies will develop mainly on three levels, as Breuning suggests: the individual, the state and the system.[16] The individual level of analysis pays attention to the leaders and decision makers as the principal actors whose decisions drive the course of events. It focuses on their personalities or on their perceptions. The state level of analysis, on the other hand, attempts to identify factors internal to the state that push states to engage in specific foreign policy behaviors. Such analyses include the institutional framework of the state (such as the relationships

[15] Valerie M. Hudson, Christopher S. Vore, 'Foreign Policy Analysis Yesterday, Today, and Tomorrow', *Mershon International Studies Review* 39, 1995, p. 213.
[16] Marijke Breuning, *Foreign Policy Analysis: A Comparative Introduction,* New York/Houndmills: 2007, p. 21.

between the executive and legislative branches of government, the organization of the government bureaucracy, etc.), domestic constituencies (such as interest groups, or public opinion more generally, etc.), economic conditions, and also the state's national history and culture. Lastly, the system level of analysis examines the interactions between states focusing on the relative power of states. Based upon the assumption that the international system is a set of states whose relations and interactions are greatly influenced by their relative capabilities, this analysis suggests that from time to time the changes in relative capabilities of states may create opportunities, as well as increase the constraints on states.[17] The analysis of the case studies included in this thesis will focus mainly on the second level of analysis and particularly on what is known as organizational process and bureaucratic politics, as described in Hudson & Vore's work. This, however, does not necessary exclude other parameters related to the other two levels to be analysed, such as the psycho-cultural environment, individual characteristics as well as the changes in the distribution of power among the states involved.

Moving forward, the next step was the collection of all the data needed to implement the current research. Data, as in every other case, are divided into primary and secondary. Primary data refer to the collection of those sources as near to the truth and the facts as they can be. These may include interviews of witnesses of the various incidents described in this thesis and participants in negotiations, official records and agreements as well as reports published by credible institutions. Secondary data, on the other hand, like press articles (electronic or printed) as well as journal articles, academic books and so on are used as a means of understanding the examined subject, moving from the general situation to specific case studies. The credibility of the secondary data collected to support this research is secured by the careful assessment that led the writer to use refereed journals, papers and books vetted by leading experts in the subject.

Given the complex nature of the examined subject, both qualitative and quantitative data were used. Quantitative data refers to features that can be measured more or less exactly. These include economic data and scientific measurements, to name a few. To this end, as the reader will eventually find out, scientific data related to environmental issues are used across the entire thesis. For instance, in every case study examined, environmental data describing the status of the river, its importance as an

[17] Ibid.

ecosystem as well as the different kind of pressures it receives and its impact are presented.

On the other hand, qualitative data are used more often. This kind of data cannot be accurately measured and counted. Therefore their character is more descriptive, yet their importance is undeniable. The most well-known examples of qualitative data are literary texts, minutes of meetings, interviews, historical records and so on. Some of these types include records taken very close to the events examined. Yet, as with any data, judgments regarding their reliability are needed.

Qualitative data are extensively used in this thesis. In many case studies examined in the main part of this research, official historical records from the library of the Greek Ministry for Foreign Affairs are used. Moreover, interviews have been conducted to examine the two major case studies, the Evros and the Nestos. The interviews had a flexible format and were based on a question guide that allowed for insights into the attitudes of the interviewee. Face-to-face interviews were used to question experts (either diplomats or politicians and academics) or specific segments of the local societies, such as local farmers or members of local agricultural associations. All the cases were one-off interviews, since due to the nature of the issues discussed there was no need to reaffirm their opinions.

1.2. The Chapters

The first chapters aim at identifying and underlining the unambiguous link between freshwater resource management and environmental and human security. More specifically, Chapter One is divided into two major parts. The first intends to present in an analytic manner the way that the classical schools of International Relations understand the term “Security”. Following that, this thesis will attempt to present the departure of the traditional “Security” concerns discussing the evolution of the “Security” debate through the introduction of new threads by the two most well-known modern schools of thought, the Copenhagen School and the Critical Security School. The second part focuses on the gradual attention that the environment has received in the political discussion. This section acts as a bridge between the previous part and the one to follow.

Human security is closely linked with environmental protection, socio-economic stability and sustainable development.[18] Historically, water resources, lakes or rivers, were always perceived at an international level as transnational issues of high importance and priority. Lakes and rivers are still used as national borders, such as the Rhine in the case of France and Germany or the Rio Grande between Mexico and the United States. The problem becomes more complex when one of the countries has the spring of the river in its own territory, which consequently means that it can control the water flow according to its needs. It is also a common truth that the upstream countries use their supremacy concerning the management of the river.

The second chapter focuses on the conflict-cooperation debate as it has been developed for the past 50 years. Connecting this debate to the major contending IR theories, realism-neorealism and liberalism-neoliberal institutionalism as well as constructivism and using it as a framework, this chapter will focus on the principal debate explaining which is the most likely scenario for the management of transboundary freshwater. There are two basic parameters capable of influencing states' behaviours when it comes to transboundary freshwater disputes: the absence of a central international authority charged with the power to set binding rules and states' security interest via the claim of sovereignty rights. Yet, as this chapter develops it appears that despite the existence of this negative parameter and the extreme importance of freshwater resources the "conflict" scenario is so far unrealised. Of course, as the literature has shown, political conflicts of low escalation have emerged over the years, and will almost certainly continue in the future, yet it seems that "water wars" on a great scale are not the *status quo* for transboundary water management. Besides, going to war does not necessarily mean that there will be an unambiguous and definite winner. Therefore, in most cases, transboundary freshwater resources attract the interested parties to the discussion table. To this end, this chapter refers to different examples and techniques of conflict resolution applied to transboundary freshwater resources. From problem-solving workshops to third party engagement, the chapter uses well-known examples that have been described in detail in the international literature and builds up the framework within which the cooperation scenario prevails. Yet, another important parameter is described as a cause

[18]Jacques Ganoulis, 'Water Resources Management and Environmental Security in Mediterranean Transboundary River Basin', in Benoit Morel, Igor Linkov (eds), *Environmental Security and Environmental Management: The Role of Risk Assessment*, Amsterdam: Kluever, 2006.

for a potential failure of an integrated management of transboundary freshwater resources: the unequal institutional and administrative developments. Indeed, the chapter reaches the conclusion that the impact of this parameter can easily be identified by comparing the number of treaties seen in Europe (a region generally enjoying high levels of institutionalization) and to a lesser degree in the Americas, versus the small number of treaties in Africa. In any case, however, the chapter concludes with the general rule of the absence of direct and extended conflict between riparian (and littoral) states, up to now. The significance of freshwater for the security of populations and states, instead of acting as an accelerating factor for disputes, works mostly as a tool of cooperation. Of course, the complexity of transboundary freshwater resource management makes it difficult in many cases for the riparians to cooperate effectively, yet, interested parties usually take decisions to achieve mutual benefit, expressing their needs at the negotiation table. Therefore, in most cases, riparian states proceed to multilateral negotiations, based on the general principles provided by international water law, in order to avoid a possible conflict. These negotiations find support via the involvement of international institutions, such as the World Bank and the United Nations.

The third chapter deals with the evolution of "international water law." As was previously described, the major characteristic of transboundary freshwater resources, particularly rivers, is their capacity to traverse political and jurisdictional lines, creating a complexity in their management. This reality, coupled with the development of heterogeneous and sometimes conflicting national laws, makes things even more challenging. This chapter makes a historical analysis of the construction of generally accepted international principles concerning transboundary water uses. It starts by presenting the wider concept and ends with a particular focus on the EU Water Framework Directive 2000/60 (WFD). The aim is to present the international trends on international river management. The findings of this chapter will provide the proper basis for examining the particular case studies to be described later on. The common component of all the international legal texts presented in this chapter is the spirit of collaboration. The first three legal texts analyzed in this chapter are suffused with basic principles such as collaboration, negotiation in good faith, the obligation to avoid causing damage, the principle of informing neighboring countries and the principle of the equitable use of common water. However, it is only in the EU framework and particularly

directive 2000/60 that more attention is paid to the protection of the ecosystems, focusing mostly on quality issues and the prevention of pollution.

The chapter also underlines some problems concerning the implementation of international water law. The most notable is the fact that due to the uniqueness of each basin it is quite difficult to adjust these general principles to specific water conflicts. The second problem that has been mentioned already is the disadvantage that international water law is not binding. The situation becomes more complicated due to the lack of specialized institutions for international law making, interpretation or enforcement. Another vague point is that international law only concerns itself with the rights and responsibilities of states, and so, some political entities such as the Palestinians or the Kurds who might claim water rights would not be represented.[19] Once more, the issue of "vagueness" of international law appears. The chapter concludes, as far as this matter is concerned, with the assumption that as soon as water scarcity increases the importance of water resources for the states, the states, in order to protect their welfare, perceive water resources as an integral part of their sovereignty rights.

Putting aside the discussion regarding international water law, this part of the thesis brings the comparative advantages of the EU WFD into the spotlight. Indeed, in contrast to the non-binding character of international water law, European water law is obligatory. The EU requires the submission of regular reports from all parties concerning the results of the implementation of the directive and if there are inaccuracies in the implementation, then the EU imposes fines. European integration is described as the great motivator for a more effective sustainable management of transboundary freshwater resources. Furthermore, this chapter reaches the conclusion that the WFD and the Flood Directive provide the proper and effective approach for international water management between two or more EU members and third countries as well. Of course, the slow implementation of the directive by some EU member states and the deficiencies in the harmonization of national legislations, the set-up of administrative structures and so on, have not been neglected.[20] Yet, emphasis is given to the innovative character of the

[19] Ibid.
[20] European Commission, 2007. Staff Working Document; Towards Sustainable Water Management in the European Union. First stage in the implementation of the Water Framework Directive 2000/60/EC. (COM (2007)128 final) available at: http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0128en01.pdf
&

directive, which foresees an increase of public participation in the water resource management process.[21]

Chapter 4 chooses to present the evolution of the management of one of the most well-known tranboundary rivers in the world and the second longest river in Europe, the Danube. The choice was made for four reasons: 1. The Danube is a very complex system. It affects almost 83 million people in nineteen countries. Therefore, the needs that the river has to cover for this population are huge and differ from one riparian country to another, resulting in a great variation of how these countries use it. 2. The geographical setting of the river, which lies within the European continent, as well as the different status of the riparian states (not all of them are EU Member states). 3. The incomplete level of integration and cooperation. 4. The progress and the level of cooperation can be explained through the use of FPA while at the same time the outcome of the diachronic developments can be examined under the approaches adopted by the Maryland School mentioned in previous chapters. The analysis of the case of the Danube will evolve in parallel with the discussion of two different factors that play an important role, either positive or negative, as far as formation of water regimes is concerned. These are: i) Regional context; and ii) power asymmetries. Regional context includes historical developments regarding the relations of the riparian states, explaining through the Danube example how a high level of economic and political integration contributed to increased confidence and communication between parties, and can also augment the ability to overcome competing interests.[22] Power asymmetries have been proven to be catalytic as a driving force towards the formation of international water regimes. Therefore, whenever a dominant power that is also a riparian state sees benefits through regional cooperation in water utilization, it will take the lead in creating, tailoring and maintaining a regime. This assumption is examined in the particular case of the Danube's river management where, as the analysis concludes, the interests of regional hegemons were the driving forces behind cooperation schemes. The analysis of the Danube's management starts with the

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European Commission, 2009. Report in accordance with article 18.3 of thw Water Framework Directive 2000/60/EC on programmesfor monitoring of water status. (SEC(2009)415) available at: http://ec.europa.eu/environment/water/water-framework/implrep2007/pdf/com_209_156_en.pdf

[21] Yanni Mylopoulos, Elpida G. Kolokytha, 'Integrated Water Management in Shared Water Resources: The EU Water Framework Directive implementation in Greece', *Physics and Chemistry of the Earth,* 33 (2008), pp. 348-349.

[22] Stefan Lindeman, 'Understanding water regime formation – a research framework with lessons from Europe', *Global Environmental Politics* 8(4), 2008, pp. 117-140.

geographical setting, providing the reader with a comprehensible portrait of the complexity of the system and setting the context for the historical overview to follow. The following pages are devoted to historical developments that took place along the Danube and either were affected by its importance or affected the management of the Danube. The Danube has played in the past and still plays today an important role as a cultural and historical center of political, social and economic development in Europe. Historically, the importance of the Danube has always been exceptional, not only on the basis of ecological beauty, but also in terms of its strategic role as a crucial Central European waterway. Beginning in the 19th century, numerous initiatives for multilateral cooperation on the river took place, with some successes and some disappointments. In any case, all the attempts described in this chapter demonstrate two things. On the one hand, states' willingness to reach an agreement and set the framework for the River's usage clearly shows the great importance that the River has enjoyed throughout the past decades. On the other, the fact that these attempts have not always been successful, and that there are still open issues regarding the integrated management of the river, is also evidence of states' ambition to gain as much as they can from an agreement without losing sovereignty.

Yet, international cooperation over the Danube's management has reached a satisfactory level. The most recent transnational programme regarding the River's management, known as the "Environmental Program for the Danube River", brought innovation by actively encouraging civil society's participation throughout the planning process, something which, as many experts argue, could help preclude future conflicts both internally and internationally.[23] On 29 June 1994 in Sofia, the Convention on Cooperation for the Protection and Sustainable Use of the Danube River (also known as 'The Danube River Protection Convention') was signed between the River's basin countries and the EU, while the International Commission for the Protection of the Danube River (ICPDR) was also established. The conventions presented the agreement of the riparian states on a series of actions needed to achieve goals such as those of sustainable and equitable water management, including conservation. An important goal was also the improvement of rational use of surface waters and groundwater, and the

[23] Ibid.

cooperation on fundamental water management issues by taking all necessary legal, administrative and technical measures.

Henceforth, the thesis will focus on the peculiar nature of transboundary rivers that traverse Greek territory. Chapter 5 deals with perhaps the most complicated of all the case studies examined in this thesis: The Evros-Meric-Maritza River. This part begins with the history of the river and a geomorphologic description of the basin, explaining its importance and uniqueness. The Evros is the second longest river in the Balkans and it is also a river with extended managerial problems. The oddest feature of the Evros case is the status of the riparian states sharing the river as well as their relations. The River is shared by three states, two of which are EU members (Greece and Bulgaria) while the third one (Turkey) has repeatedly expressed interest in joining the EU. As far as their relations are concerned, the problematic relationship between Greece and Turkey is very well-known, while the historical burdens that exist regarding the Greece-Bulgaria relationship also influence the level of cooperation between them.

The major problems of this case study are explained in detail throughout the pages to follow. The most important is the flooding incidents that have been a constant phenomenon up to today. The two downstream countries, Turkey and Greece, are receiving excessive quantities of water several times each year, resulting in extensive floods in agricultural areas as well as in small cities and villages. This is a product of mismanagement which is practically caused by three reasons described in detail in this chapter: 1) the historically problematic relations of the three riparians; 2) the lack of an official trilateral agreement; and 3) the complicated decision making process at a national level. As far as the first cause is concerned, Greece and Bulgaria have been in different camps in many crucial occasions in the past, such as the Balkan Wars, World War I and World War II. On the other hand, the relations between Greece and Turkey are still quite complicated, fraught with many difficulties and permeated with mistrust. The second cause, the lack of an official trilateral agreement on integrated management of the river, is derived from the previous cause to some extent. Yet, as will be discussed, attempts at cooperation have taken place in the past, especially between Greece and Turkey, without however securing the smooth management of the river. Bulgaria and Turkey have also moved towards the signing of numerous agreements while the same applies in the Greece-Bulgaria case. Yet, what is being deduced from the research is that all these

bilateral agreements signed have not translated into a binding trilateral agreement that could work as the focal point for the management of the basin. The third cause refers to the numerous public authorities and institutions engaged in the management of water resources that work only as a hindrance for integrated water management and fruitful cooperation with the authorities of the other riparian states. Combining the opinions of local farmers and official representatives of local authorities, this part reveals the multifaceted decision-making mechanism on the Greek side. The research also expands on the decision making process in the other two riparians, providing the reader with a clear picture of existing deficiencies that hinder cooperation. Finally, since two out of three riparians are EU members, the WFD is described as a positive framework for more successful cooperation, without however neglecting to underscore the directive's deficiencies as well. The chapter concludes using SWOT analysis so as to present positive or negative perspectives regarding trilateral cooperation in the future.

Chapter 6 is dedicated to the Nestos/Mesta River. The Nestos is shared between Bulgaria and Greece, with the latter the downstream riparian. The chapter also begins with a presentation of the River's profile and its importance as described by various references throughout history. Following that, the geomorphology of the river is described, showing its complexity and its unique importance for the maintenance of biodiversity in the region. The Nestos' waters are being used for different purposes by the two riparian states. From agricultural usage to production of hydroelectric power, the river is very important for the local and national economies. The great deviation of uses also inflicts damage to the quality of the water. The following part of this chapter illustrates the most important problems caused by the overuse of the River by both riparian countries. The chapter carries on examining the level of cooperation between the two countries. Focusing on the fact that the Nestos is the only transboundary river crossing the Greek territory with a specific and in effect bilateral agreement since 1995, the author proceeds towards a historical retrospection of the negotiations that preceded the current binding legal framework. The 1995 agreement is explained in detail and the chapter presents both the positive and negative perceptions of it. Attention is paid to the discussion over the level of harmonization of the agreement with the WFD and the UN convention mentioned in the previous chapter. The chapter ends with the use of the well-known SWOT tool of analysis, categorizing and examining the current status of the river

management and the possibilities for the future as well. The last part of the chapter evaluates the current situation, addressing the causes for the remaining problems as far as the management of the river are concerned. The most interesting conclusion is that it is perhaps the 1995 agreement itself that causes discrepancies. Although the agreement contains principles such as willingness for co-operation, exchange of data and creation of cross-border commissions that were introduced by international organizations like the EU or the UN, it still remains inactive.[24] The critique that has been presented previously has also revealed the faulty foundations that this agreement has been constructed on. The fact that especially the Greek side decided to pay significant attention only to the amount of water flowing into her territory has left many other issues untouched or treated vaguely.

Chapter 7 is about the Vardar/Axios River. The structure followed in this chapter resembles the previous ones. The Axios River is shared between Greece and FYROM. Thus, the chapter begins by describing the profile of the River in terms of geomorphology and history. The analysis continues by mapping the attempts at bilateral cooperation between the riparian countries. Running in parallel with the historical developments in the region, the analysis starts with the attempts made by the former united Yugoslavia and follows with the more recent ones between Greece and FYROM. Attention is paid to the "shaky" relations between the two neighbors, beginning with FYROM's independence in the early 1990s. This non-constructive relationship is believed to be a crucial reason for the absence of an integrated plan for the management of the River. Moving forward, with the multifarious Greek decision making context already analyzed, this chapter spends almost ten pages studying the legal and administrative framework in FYROM, attempting to pinpoint other sources for the absence of successful cooperation among the two neighboring states. Again, following the practice of the previous chapters, this one also concludes by using SWOT analysis to present prospects for future cooperation, if any. The chapter reaches the conclusion that despite the great importance of the river for the two countries, there are many obstacles limiting the potential cooperation on an integrated management plan. Some have their roots in historical setbacks between the two countries and unresolved disputes. Others have to do with structural deficiencies and diffuse regulatory and administrative frameworks in both countries that make cooperation and

[24]Yanni Mylopoulos, Elpida Kolokytha, Dimitra Vagiona, Eleni Kampragou, Eleni Eleftheriadou, 'Hydrodiplomacy in Practice:Transboundary Water Management in Northern Greece', *Global Nest Journal,* Vol 10, No. 3, 2008, p. 289.

coordination almost impossible. This lack of coordination of various actions required for the improvement of the river might also mean conflicts of interest and definitely no exchange of information between different institutions. Therefore, integrated water resources management remains incomplete and ineffective in both countries.

In the chapter's last part, SWOT analysis is used once more. This widely used method provides, in a nutshell, the positive and negative dynamics for the future regarding the prospects of an advanced bilateral (non)negotiation over the Vardar River.

Chapter 8 is dedicated to the Aoos River, the one and only transboundary river that crosses Greek territory in which Greece is the upstream riparian. Again the structure of the chapter follows the previous model. It begins with the geographical description of the basin, presenting at the same time the historical importance of the river for the region. The third part refers to the pressures on the river due to exploitation. The major pressure sources are related to agricultural activities, animal production and aquaculture. The level of cooperation is discussed in the next pages. Research has shown that transboundary cooperation is disproportionate in terms of the river's size and importance for the two countries and the local population in particular. Indeed, there has been no approach from one of the two riparians towards the other to set up a framework of cooperation before the early 2000s. Since then, some attempts have taken place but the progress can only be described as slow. This reality is examined in the next part so as to identify possible sources for this setback. Special attention is paid to the historical evolution of the Greece-Albania relationship. With the changes in the political environment in Albania as a baseline, this part follows the historical fluctuations of relations between the two states.

Perhaps the most interesting issue that this chapter analyzes is the status of Albania's national environmental legislation as a potential reason for the deficiencies in the implementation of an integrated management plan for the river. As the analysis shows, Albania enjoys a wide legal framework for the protection of the environment and water resources. Sustainable development has been secured by the laws-frameworks 8093/1996 for the waters and 8934/2002 for environmental protection, while the majority of the legislation that has been examined is considered well-written and understandable. The first impression is that the regulatory framework fits the WFD standards. Yet, taking a closer look it is undeniable that there is still room for improvement. For instance there is

a lack of consistency in the legislation's reference scope. Despite the fact that all the laws contain definitions, principles, rules of monitoring etc., in all the legislation that has been examined there is no reference to the existing international regulatory framework and this disrupts inclusive normative coherence. Another disadvantage of the environmental normative framework is the lack of technical specifications and standards for the accomplishment of rational environmental management.

Again the chapter ends with the use of SWOT analysis where the positives and negatives are presented as concluding remarks, providing the reader with the future prospective for more successful bilateral cooperation between the two neighboring countries over the Aoos' river management.

The last chapter is dedicated to a case considered to be a success story in the history of transboundary freshwater resource management: The Prespa Lakes. This lake complex is very famous in a regional context and is situated between Albania, Greece and FYROM. The chapter's structure does not depart from the logic adopted in the previous ones. It begins with the geographical setting of the lake complex and continues with the presentation of the national legislation that has been adopted by each littoral state, showing that each have acknowledged the importance of the lake in environmental terms. Then, the history of the numerous attempts made by the littoral states to establish trilateral cooperation is developed - this history does not go especially deep into the past since attempts only began in the early 21st century. Within the pages that follow, the chapter differs slightly from the preceding ones. Special focus is given to the role of third parties and particularly to international donors and NGOs that have a catalytic impact in boosting trilateral cooperation.

Common benefits from the implementation of projects under the aegis of the EU were a strong motivation for the establishment of cooperation channels among the three littoral states. To this end, one of the major instruments for achieving cross-border cooperation was the "Interreg" programme. In 1991, the European Commission recognized that border regions were disadvantaged, and "Interreg" programmes became an instrument for development combined with job creation. Throughout these years of implementation of cross-border programmes, it became clear that closer cross-border

contacts inspired trust building, particularly when important joint conservation works took place.[25]

The concluding remarks for this chapter are also made through the use of SWOT analysis. The Prespa Lake is a case where, despite the weaknesses in the relationship among the three littoral states and different institutional as well as developmental positions in each state, the final outcome of collaboration is relatively impressive. Again, however, threats do exist and are strongly linked to the European path of Greece's neighbouring countries that have not yet become EU members.

[25] David Turnock, 'Cross-border cooperation: A major element in regional policy in East Central Europe', *Scottish Geographical Journal*, 118:1, 2008, p.27.

Chapter 2

The Security Debate

Introduction

This introductory chapter is separated into three parts. The first part will provide the reader with the theoretical underpinning of the term "Security" as it has been gradually constructed through historical developments. It will be devoted to the way that "Security" has been placed within the International Relations narrative. It is composed of two sections. The first one entitled "classical perceptions on Security" reveals what will follow. More specifically, the fundamental notion of the very first part of this chapter is to give a concise but at the same time analytic depiction of the way that the classic IR schools of thought understand the term "Security". Moving forward, right after a presentation of the discussion within the strict classical framework, the reader will be introduced in depth to what here is called "the modern approaches to Security". In particular, the author will analyze the two major modern approaches to security studies: the Copenhagen School, and the Critical Security approach. These newly-born conceptual frameworks have expanded the term "Security" from the classical meaning that traditionalists have incarcerated it in. "Security" has departed from the strict politico-military framework incorporating more threats and actors beyond the state.

The second part speaks about the introduction of environment into politics. It begins with the definition of "environment" as a term and then moves into a thorough analysis of what is widely known as environmental politics. This chapter digs into history bringing to the reader's attention the evolution of environment as a policy issue.

The third and last part of this chapter focuses entirely on the interconnection of the environment with "Security." Using the title "Discussing environmental Security", the author attempts to unveil the place that "environment" occupies in contemporary politics. Indeed, using the assumption constructed in the previous part that international politics in the form of the UN and UN conferences seemed to identify environment as needing to be

securitized, this chapter analyzes the six principal approaches to environmental security that can be discerned from the literature.

2.1Security and International Relations

2.1.1The Classical perceptions of Security

As Nicholson wrote, *'…the preservation or creation of security is at the heart of what many social scientists in all branches study.'*[26] Human beings invented ways to fight against violence and achieve their security. Unfortunately, the tools that were invented and used were the weapons that led to the continuation of violence throughout history.[27] This condition led to a vicious circle, since the weapons created violence and thus insecurity. Consequently, security studies focused mostly on the security of people against violence and a variety of forms of insecurity. Indeed, even if we try to delimit the origin of thinking about International Relations, we will notice that the three major suggested starting dates for the discipline, the Peloponnesian War, the Thirty Years War and the First World War, are associated with the nature of, and conclusion to a war.[28]

In International Relations the debate on the term security was and still is on the front page. Indeed, reaching consensus on this essentially contested idea has remained elusive, something which is largely reflective of a, as many experts argue, gradually more well-established schism along the so-called traditional versus non-traditional line. On the one hand traditionalists supported the continuation of the Cold War notion of security - defined in military and state-centric terms – while on the other hand, the non-traditionalists were in favour of broadening and deepening the meaning. These non-traditionalists argue that other issues, such as economic, environmental and social threats, jeopardize the lives of *individuals* rather than strictly the survival of *states*. Thus the

[26] Michael Nicholson, *International Relations-A Concise Introduction,* New York: Palgrave Macmillan, 2002, p.128.
[27] Ibid.
[28] Terry Terriff, Stuart Croft, Lucy James, Patrick M. Morgan, *Security Studies Today,* Cambridge: Polity Press, 2005. p.10.

debate's main focus should be on the individual, national or international level.[29] As Job characteristically puts it: 'in principle, four or more distinct securities may be at issue simultaneously: the security of the individual citizen, the security of the nation, the security of the regime, and the security of the state. For a society composed of communal groups, with distinctive ethnic or religious identifications, their perceived securities may also be at stake, making the interplay and competition among the various players even more complex and unresolvable'.[30]

Consequently, it is rather tricky to place at the centre of attention the two most well-known International Relation theories, realism and institutional liberalism, in order to examine the evolution of the term "security". However, contrary to the previous division of traditional and non-traditional approaches to security, it could be a good idea to divide the security debate into classical and modern thoughts. This division might be especially accurate bearing in mind that even in the areas of the most famous and for many experts prominent International Relation theory, realism, there were voices such as Buzan underling the importance of a radical shift of the old perception of security. Thus, in the forthcoming pages, this chapter will try to analyze the distinction between the old and the new, the classical and the modern approach to security.

To begin with, the concept of security since the end of World War II and during the entire period of the Cold War was mainly linked with politico-military terms, which follows from the belief mentioned earlier of weapons' use as a means for achieving security. The main threat to security was mostly organized violence which is a traditional prerogative of nation states, as Weber claimed, being '...both a domestic monopoly and a tool of foreign policy'.[31] Thus, the state-centric approach to security was the dominant one. Setting the primary framework of the leading theory of realism, we could conclude three basic principles which unify all theorists. First, the state has sustained all the changes that took place over several centuries and developed into the principal unit of

[29] John Baylis & Steve Smith (eds.), *Globalization of World Politics,* Oxford: Oxford University Press, 2005, pp. 300-302.

[30] Brian L. Job, *The Insecurity Dilemma: National, Regime, and State Securities in the Third World,* in: Brian L. Job (ed.), *The Insecurity Dilemma,* London: L. Rienner Publishers, 1992, p. 15.

[31] Hugh C. Dyer, *Environmental Security as a universal value,* in John Vogler & Mark F. Imber, *The Environment & International Relations,* London/New York: Routledge, 1996, p.23.

political organization of the world's population.[32] Second, and as mentioned earlier, the Hobbesian thinking of a state enjoying the monopoly of legitimate violence, has been adopted. And third, the body of international law that has arisen through the centuries which recognizes the legal and moral authority of the state 'to perform its internal and external security function'.[33] Thus, conflict is inevitable in an anarchic international environment as described by the realists. Characteristically, Hobbes argued: 'that in the nature of man, we find three principal causes of quarrel. First, competition; secondly, diffidence; thirdly, glory. The first, makes man invade for gain; the second, for safety; and the third, for reputation…Hereby it is manifest, that during the time men live without a common power to keep them all in awe, they are in that condition which is called war; and such a war, as is of every man, against every man'.[34] To realists, power is conceived as the hidden capability to do physical harm to others, whilst insecurity is defined mainly as being susceptible to being seriously harmed by others' premeditated use of force.[35] In essence, for realists the causes of war are extraordinary multifaceted and they can be clustered into three main categories: the nature of human kind; the nature of the state; and the nature of the international system.[36]

Nevertheless, consent among the realists ends with these principles. Initially we have the differentiation between classical realism and neorealism. So, for classical realists, power is the key factor driving state behavior. The principal form of this power is the military capacity of a state. Moreover, the strongest assumption of the classical realists is that the changing and unequal distribution of military power depicts the skeletal structure of the world order. In the world of the classical realists, every state is striving to maximize its power. They assume this behavior as a "rational" choice. Characteristically, Morgenthau 'assumes that statesmen think and act in terms of interest defined as power, and the evidence of history bears that assumption out.'[37] Additionally, as Kolodziej writes, for the realists 'the striving for a balance of power is a fundamental and permanent

[32] Edward A. Kolodziej, *Security and International Relations,* Cambridge: Cambridge University Press, 2005, p. 128
[33] Ibid.
[34] Thomas Hobbes, *Leviathan,* reproduced in Howard Williams, Moorhead Wright and Tony Evans (eds), *A Reader in International Relations and Political Theory,* Buckingham: Open University Press, 1993, p. 93.
[35] Stephen M. Walt, 'The Renaissance of Security Studies', *International Studies Quarterly,* Vol. 35, No. 2, June 1992, p. 212.
[36] Terry Terriff et al (2005), p. 39.
[37] Hans Morgenthau and Kenneth Thompson, *Politics Among Nations*, New York: McGraw-Hill, 1985 6th edition, p. 5.

property of the state system.'[38] Furthermore and in absolute correlation with this continuous pursuit of power, realists argue that even possible ideological sympathies and treaty commitments will always be ultimately sacrificed on the altar of power. Another contemporary realist Stephen Walt, in his attempt to define security studies wrote that security itself may be defined as 'the study of the threat, use and control of military force.'[39]

Neorealists on the other hand accept the principal statements of classical realism. However, in their attempt to better explain the conception of states' power seeking they argue for the system of states as the major determinant of state behavior. The anarchy of the system forces states to seek power to ensure their survival. Each state is dependent on its own resources. Neorealists introduce the term of self-help in order to describe that no state can ever fully trust another to come to its aid when its own vital interests, security and survival are in peril.[40] Kenneth Waltz, the most famous representative of the neorealist school, introduces the theory of structural realism. According to this theory, the structure of the international system is a key determinant of actor behavior.

There are two main differences between classical realism and neorealism. The first lies in how neorealists identify the security and survival of the state. For neorealists, the survival of a state is not power *per se*. Whereas classical realists such as Hans Morgenthau believe in a wide range of possible ways to increase state power and to *strike bargains and compromises* with other states, neorealists stress the crucial significance of insurmountable systemic anarchy and the prerequisite of the state's military capabilities to ensure its security. Thus, for neorealists conflict is endemic to state interrelations and because of that all forms of power eventually rest on the state's success in achieving a competitive position in the never-ending struggle of states to survive and to prevent any state or group of states from challenging their security interests.[41] A second difference has to do with how each views the way states react to the condition of anarchy. For realists, anarchy is a condition of the system and states react to it according to their size,

[38] Edward A. Kolodziej (2005), p. 133.
[39] Stephen M. Walt, 'The Renaissance of Security Studies', *Mershon International Studies Review,* vol. 41, pp. 211-239.
[40] James E. Dougherty and Robert L. Pfaltzgraff, *Contending Theories of International Relations: A Comprehensive Survey,* New York: Harper & Row, 1990, third edition (translated in Greek), Athens: Papazisis, pp.163-169.
[41] Edward A. Kolodziej (2005), p. 137.

location and other contextual factors. On the other hand, neorealists believe that anarchy defines the system. States are functionally similar units, meaning that they all face the same constraints presented by anarchy and try hard to maintain their position in the system. Nevertheless, there is a big difference between the states which rests on their power capabilities.[42]

Obviously, both of these expressions of realism, despite their differences, represent an offensive-pessimistic approach to states' interaction. States are in quest of absolute or, as John Mearsheimer argues, relative power in order to pursue security policies that weaken their potential enemies. According to Mearsheimer, 'the structure of the international system forces states which seek only to be secure nonetheless to act aggressively toward each other'. He argues that even 'great powers that have no reason to fight each other—that are merely concerned with their own survival—nevertheless have little choice but to pursue power and to seek to dominate the other states in the system', being in a continuous quest for more power in order to maximize their likelihood of survival; thus, consequently, their strategy is offensive against other states even though their decisive motive is merely to survive.'[43]

In contrast, another group of optimistic-defensive realists view states as rational, self-interested actors. According to them, it is possible that rivals can learn to cooperate for mutual advantage and hold back their conflicting intentions. This analysis is obviously rooted in the logic of game theory. According to defensive realists such as Jervis and Snyder, most leaders understand that the costs of war clearly outweigh the benefits.[44] Indeed, cooperation by rivals in the field of arms control and disarmament was and still is not necessarily inconsistent with realist principles. On the contrary, as experts argue, if rivals manage to cooperate even in a field of low importance, through the process of dissemination the cooperation will be spread to other areas of interaction as well. Moreover, another well known group of optimistic realists, the English school, with its most famous representative, Hedley Bull, suggests that states have relaxed the discordant

[42] John Baylis & Steve Smith (eds.) (2005), pp. 209-210

[43] John J. Mearsheimer, *The Tragedy of Great Power Politics,* New York: Norton, 2001, pp. 3, 21, 34.

[44] John Baylis & Steve Smith (eds.) (2005), p 213.

effects of anarchy and partially overcome this malfunctioning order. They have succeeded in mounting a limited order or governance of their interdependent relations.[45]

Bull and the English school supporters argue that progressively there will be a society of states in which states will not only calculate how to use their power to shape the behavior of other states in favorable ways but also act on the expectations of shared interests and values. Apparently, this belief is very near to the Wilsonian-Kantian idea of collective security which actually led to the foundation of the League of Nations by Woodrow Wilson in 1922. Undoubtedly, optimistic realists can easily be confused with neo-liberals. Although they have some sympathy with them as far as the belief that war can be avoided by creating security institutions is concerned, nevertheless they do not see institutions as the most efficient way to prevent all wars.[46] They argue that a collection of states satisfied with the *status quo* is less preoccupied with gaining power and less worried about security, allowing more chances for collaboration on security and other matters.[47]

The other very famous international relations theory is, as already mentioned, institutional liberalism or neo-liberalism. This neo-liberal thinking is derived from commercial and republican liberalism. The foundations can be traced to the functional integration academic work of the 1950s and 1960s and the multifaceted interdependence and international studies literature of the 1970s and 1980s.[48] For liberal institutionalists the state remains the central actor. However, in their attempt to widen the scope of state interests in order to explain state behavior they include in their circle of theoretical concern transnational actors such as multinational corporations, intergovernmental and non-governmental organizations, and domestic regimes and actors such as interest groups, media, and political parties. Hence, institutionalists devote greater attention to how states and other actors interact and how they make decisions and behave. Like the English school of realism mentioned above, institutionalists argue that states have a wide range of

[45] Edward A. Kolodziej (2005), p. 147.
[46] John Baylis & Steve Smith (eds.) (2005), p 211.

[47] Terry Terriff et al (2005), p. 44.
[48] John Baylis & Steve Smith (eds.) (2005), p. 214.

choices over different policy domains, whether to cooperate or defect. They explain states behavior with what game theorists call a "Prisoner's Dilemma game".[49]

Moreover, as Kolodziej characteristically wrote, 'institutionalists supported the idea that the informational and coordinating limitations of state interactions can be relaxed and even surmounted by institutions, created for mutual, if differentially, valued benefits by states'.[50] They attempt to develop a theory of international relations and state behavior, still working within a systemic perspective, by limiting their observations to the exogenous or exterior relations of states and to key non-state actors.[51] For neo-liberals, anarchy inhibits cooperation among states because it offers incentives to cheat; thus, if institutions can ameliorate this problem, cooperation can flourish.[52] Neo-liberals such as Keohane and Nye, introduce the idea of complex interdependence in order to differentiate from the realists. These authors identify transgovernmental and transnational levels of analysis.[53] Moreover, neoliberals argue that institutions can mitigate concerns about cheating in a number of ways. Initially, rules are capable of increasing the amount of information available to states engaged in cooperation, helping states more easily monitor what other states are doing. This discourages cheaters to act and furnishes victims with early warning, enabling them to take protective measures. Additionally, institutionalized rules facilitate linking together interactions between states in different issue areas, thus enhancing the level of interdependence.[54]

Nevertheless, to sum up, in the IR debate the terms 'neo-liberal' and 'realist' can be misleading. There is no way that this is an answer to the first historical debate on international relations theory between idealism and realism which flourished in the 1930s and 1940s. In reality, neo-realism and neo-liberalism do not offer an inter-paradigm debate. Indeed, as Caporaso argues, realism/neorealism and neo-liberal institutionalism, share a rationalist approach, viewing states as 'conscious goal-seeking agents pursuing their interests within an external environment characterized by anarchy and the power of

[49] Edward A. Kolodziej (2005), pp. 150-151.
[50] Ibid. p. 153
[51] Robert O Keohane and Joseph S. Nye, *Power and Interdependence,* New York: Addison Wesley Longman *(3rd edition).* 2001, p. 257.
[52] Terry Terriff et al (2005), p. 14.
[53] Robert O Keohane and Joseph S. Nye (2001), p. 25.
[54] Terry Terriff et al (2005),pp. 49-50.

other states. The paradigmatic question is how they pursue their goals given the constraints under which they operate'.[55]

For the leading International Relations theory, realism and neo-realism, "security" was highly linked with the state. For the realists, the most important entity of an anarchic system, the most important organized institution, is the state and consequently every state is in quest for security against other states. The means for achieving the highest level of safety is power. On the other hand, liberal institutionalists, in their attempt to broaden the 'explanatory lens of state behaviour, included the impact of non-state actors and non-coercive incentives and policy options on the state and on the state system'.[56] However, even this theory adopts the belief of the state's core role on the international chessboard.

Undoubtedly, the state is the "prince" and the realm of International Relations is its kingdom, thus security can be described as the courtyard of the prince. Especially within the context of the Cold War period where the continuous struggle for military equipment underlined in the most prominent way the quest for power as the panacea for any possible aggressive expansion. In other words, during the Cold War period, security was perceived under the strict state-centric approach, with the doctrines of the two super-powers focusing mostly on militaristic goals.

Realists/neo-realists and neo-liberal institutionalists seem to agree on the importance of the state within the international arena. They even agree on the condition of anarchy, which is diffuse. Nevertheless, they also disagree in a number of main issue areas: on the nature and consequences of anarchy; the ease and possibility of international collaboration; the importance of relative versus absolute gains; the priority of state goals; the relative importance of intentions versus capabilities; and finally, whether international institutions mitigate the constraining effects of anarchy.[57] Moreover, realists agree that states may attempt to cooperate when they have common interests and that may work for sometime. However, at the same time they note that we should not overlook that cooperation still remains difficult and potentially perilous for a state because it can be counter-productive to its interests and survival, and hence it is hard if not impossible to

[55] James A. Caporaso, 'International Relations Theory and Multilateralism: The Search for Foundations', *International Organizations,* Vol. 43, No. 3, Summer 1992, p. 605.
[56]Edward A. Kolodziej, (2005), p. 160.
[57] Terry Terriff et al (2005), pp. 48-49.

sustain. On the other hand, neo-liberals claim that cooperation can be achieved if states can benefit from it. So institutions can establish focal points for coordination.[58]

Indeed, realists and neo-realists do offer what seems to be a convincing rationalization of the global struggle for power after World War II. The global superpower struggle for hegemony increased military capabilities on both sides to unprecedented historical levels.[59] This was the case during the Cold War. Liberal institutionalists concentrated on explaining interstate cooperation through bargaining and negotiation between rational actors who would perceive the benefits of voluntarily coordinating their policies to preserve a stable balance. By focusing on their shared interests and not just on survival, these theorists introduced a wider range of security concerns into the calculus of states and their leadership that is obtainable by strict adherence to a neo-realist conception of international relations.[60]

Yet within the following pages the debate on the concept of "security" will be expanded by presenting two modern schools of thought. While even traditionalists have left aside their strict definitions of security, there remained room for new theorists to make a breakthrough and include more threats, redefining the conceptual framework of the term.

2.1.2 Modern approaches to security

For someone who wants to be critical towards the classical perceptions of "security" and to examine the new challenges that the term has to deal with since the end of Cold War, the traditional approaches seem quite anachronistic. This scholar has to turn himself to modern schools of thought. For a critical understanding of classical perceptions of "security" and to fully examine the new challenges that the idea of "security" has come to address since the end of the Cold War, traditional approaches seem anachronistic. Modern schools of thought have attempted to move beyond this impasse.

[58] Ibid. p. 49.
[59] Ibid. p. 161.
[60] Ibid. pp. 161-162.

Yet, even if the work of scholars who seem to belong to the same school of thought, such as Stephen Walt, and Barry Buzan, are carefully examined, crucial differences can be observed. For example, while Stephen Walt continues to emphasize his traditional preoccupation with military threats, Barry Buzan agrees that a broader definition of "security" is necessary.

The two major modern approaches to security studies are the Copenhagen School, and the Critical Security approach.

The Copenhagen School

The Copenhagen school was named for a group of researchers who were working in the Copenhagen Peace and Research Institute (COPRI) in the 1990s.[61] This School did not entirely deny the realists' assumptions of the term "security." On the contrary, all the traditional rhetoric on the connection of security to militaristic threats against states was accepted by the founders of the Copenhagen School. In fact, the Copenhagen researchers creatively combined elements of the neo-realism of Barry Buzan, the post-constructivism of Ole Waever and the classical realism of Carl Schmitt.[62] To this end, Barry Buzan in his work *People States and Fear* refers to the departure from the traditional perception of security. He underlines characteristically, the need for a new approach to security that would be based on political, economic, societal, environmental, as well as military aspects.[63]

According to many scholars, the Copenhagen School of thought produces a constructivist approach to security especially as concerns the way that security matters are perceived. Indeed, for the Copenhagen School, language plays the most crucial role in transforming various issues to security threats. Language is the factor that defines particular actors or issues as existential threats for a political community, enabling in that way the "securitization." Thus, in the name of containing existential threats, for example, a government may seek to legitimize the use of force or to take special measures (such as

[61] Bill McSweeney, 'Identity and Security: Buzan and the Copenhagen School', *Review of International Studies,* Vol. 22, No. 1, 1996, pp. 81-96.
[62] Nikolaos Tzifakis, 'The Construction of Security in the International Relations', *Agora Without Frontiers,* Vol. 10, No. 2, September-October-November 2004, pp.91-104.
[63] John Baylis & Steve Smith (eds.) (2005), pp. 300-302.

general recruitment).[64] Waever, for instance, has located the concept of securitization itself in language theory, and particularly Austin's articulation of the "speech act". In this framework, language itself *becomes* security, with no possibility of separating the performative role of securitization from the scope or content of security in particular contexts.[65] To this end, as McDonald argues, 'interviews and interventions in parliamentary debate as well as publications and written press releases can all potentially be viewed as securitizing moves- as speech acts that enable certain issues to move (and to be moved) from the realm of (normal) politics to that of security.'[66]

In the securitization framework, the study of security, as already mentioned, is ultimately the study of the designation of threat. For Tzifakis, the researchers of CORPI perceive that every public issue takes place on an analytical spectrum where non-politicized issues are placed on one side, in the middle lay the policy issues and security issues are placed on the other end.[67] The placement of every issue in this spectrum is not an *a priori* process. On the contrary, it depends on the variable of every single political community which may evaluate a specific threat differently and under particular conditions. From this point of view it is becoming clear that the Copenhagen School has a negative stance as far as the term security is concerned, due to its depiction of an extraordinary reaction beyond the classical and normal political actions.

Traditional security discourses clearly set limits to the number of actors deemed important in security terms. Indeed, the explicit focus on the state as traditional international relations theories suggest, remains secondary for the Copenhagen School proponents who suggest that actors other than state political leaders can be important 'securitizers.'

Moreover, it is important to state that for those who are interested in the construction of security, attention should be given to the particular social, political and historical factors that constitute the context in which particular discourses of security begin. Additionally, it is also of great importance that as far as the relationship between

[64] Bary Buzan, 'Rethinking Security After the Cold War', *Cooperation and Conflict,* Vol.32, No.1, 1997, p. 14.
[65] Ole Weaver, *Securitization and Desecuritization,* in: Ronnie D. Lipschultz (ed.), *On Security,* New York: Columbia University Press, 1995, p. 55.
[66] Matt McDonald, 'The Copenhagen School and the Construction of Security', *Paper Presented at the ISA Conference, Chicago, USA, February 27-March 3, 2007.*
[67] Nikolaos Tzifakis (2004), pp.91-104.

securitization and security practices is concerned, it can be claimed that in fact the designation of threats justifies the use of extraordinary measures to handle them.[68] In many cases, this invocation of security has been the key to legitimizing the use of force.

This easily constructed "security" is the main reason why, for example, Buzan suggests the reintroduction of many issues into the sphere of everyday politics calling for a desecuritization.[69] Thus, the Copenhagen School does not support the invocation of security for the resolution of policy problems and argues that researchers should be more careful and stay uninvolved in the "securitization" process.

Critical Security Studies

The other modern approach to security derives from critical IR theory. Despite, however, the previous school, critical theory cannot be categorized with a specific position on the spectrum of its own thought, since it includes work influenced by Marx and Gramsci, among others, post-modernist and post-structuralist thinkers. In other words, the critical approach has not produced a united theoretical framework and it mainly refers to a common stance of a group of scholars who are critical of the traditional approach of the term 'security.' This common rejection of the mainstream international relations theory is guided, as Karlsson argues, 'by a critique of the positivist epistemology of the mainstream, the aim to direct attention to global social and political processes,'[70] and also as Laferrière and Stoett say, 'the dedication to turn IR theory into an instrument of social change'.[71] Indeed, critical security studies can be characterized as a self-consciously new and heterodox approach to theorizing about security issues that emerged in the 1990s.

CSS on the one hand rejects the mainly (neo-)realist and statist approach of Cold War-era security studies, and on the other aims at re-conceptualizing what "security"

[68] B. Buzan, O. Waever, J. de Wilde, *Security: A New Framework for Analysis,* Boulder/Colorado: Lynne Rienner, 1998, p. 21.
[69] B. Buzan, M. Kelstrup, P. Lemaitre, O. Waever, *Identity, Migration and the New Security Agenda in Europe,* London: Pinter Publishers, 1993, p. 189.
[70] Susanna Karlsson, *Environmental Politics, Critical Theory and International Relations,* Paper presented at the Annual Convention of the ISA, Chicago, 28/2-3/3/2007, p. 12.
[71] Eric Laferrière, Peter J. Stoett, *International Relations Theory and Ecological Thought,* London: Routledge, 1999, p. 147.

theoretically is, as well as investigating empirically of whether conservative security-enhancing practices truly deliver. Additionally, CSS has served an important purpose by expanding the scope of the debate within security studies via the introduction of post-positivist perspectives (feminist, postcolonial, neo-Marxist, constructivist, sociological, and postmodernist, amongst others).

Scholars who place themselves on the spectrum of this school of thought tend to introduce their work as a caustic attack on orthodox approaches to security. Such an "attack" can be seen in the work of Michael Williams, who blames the realistic perception of security that intentionally overlooks the ideational dimension of international security and disregards the crucial role of communal identities, norms and cultures in shaping international politics.[72]

For Critical Security Studies, Aberystwyth and the famous Welsh school is placed in a prominent position. This school introduced the concept of "emancipation," attempting to shape the way that IR scholars understand security. "Emancipation" is thought of as the removal of structural barriers that either impede certain groups from total political participation or create situations of insecurity for individuals. CSS argues that researchers should avoid seeing the world through the eyes of the state as implied by using the concept of "national security" as key category. The state is often the problem as much as the solution, and the aim of research has to be defined in relation to human beings, not an institution. Thus, the best way to conceptualise security in a way that ties it in with people instead of the state is to define it in terms of "emancipation." Booth's 1991 article "Security and emancipation" was a landmark text which argued for "a holistic and non-static" approach to security that does not emphasize the use or threat of force, and that would involve: 'the freeing of people (as individuals and groups) from the physical and human constraints which stop them carrying out what they would freely choose to do. War and the threat of war is one of those constraints, together with poverty, poor education, [and] political oppression'.[73] According to Burke, Booth links his approach to 'cosmopolitan ideals with an argument that the concept of emancipation shapes strategies

[72] Michael C. Williams, 'Identity and the Politics of Security', *European Journal of International Relations,* Vol. 4, No. 2, 1998, pp. 208-217.
[73] Ken Booth, 'Security and emancipation', *Review of International Studies,* Vol. 17, No. 4, 1991, p. 319.

and tactics of resistance, offers a theory of progress for society, and gives a politics of hope for a common humanity'.[74]

By implication, as Weaver argues, 'the concept of security becomes used in a rather classical sense, but on a different referent object: it is about 'real threats,' only the real-real ones against real people and not the allegedly real ones voiced by the state.' At this point, Critical Security Studies sometimes sounds rather objectivist in its concept of threats and security, and its political agenda resembles to the classical "critical peace research" of the 1970s Galtung-Senghaas brand that used to be famous in Northern Europe (Scandinavia and Germany).[75]

Indeed, the arguments of Booth, Jones, Krause and Williams seem to have strong affinities with the idea of Human Security which was expressed by the UNDP in 1994. As Burke points out, 'the referent object of security has shifted from the state to the human being, and in Booth's view requires that the state simply be a means not an end of security.'[76]

Moreover, the proponents of CSS support the insistence on understanding insecurity and achieving security as complex, holistic processes that require not merely the satisfaction of particular needs, or the protection of humans against discrete threats contained by time and place, but also ongoing structural transformations based on ideas of emancipation, social justice and human progress. Characteristically, Booth, influenced by Ghandi's work, argues that security must be a means for emancipation, while Jones argues that 'even if a more emancipated order is brought into existence, the process of emancipation remains incomplete. There is always room for improvement…'[77]

To sum up, Critical Security Studies, as Booth argues, means recognizing that 'the sources of human (in)security are far wider than those traditionally in the purview of strategists. Whose interests are being served by keeping the other issues off the agenda? ...broadening and deepening-the task of a critical security studies-will reveal Cold War

[74] Anthony Burke, 'What Security Makes Possible: Some Thoughts on Critical Security Studies', *Working Paper 2007/1,* Department of International Relations, Australian National University, Canberra, Australia, June 2007, p. 6.
[75] Ole Weaver, 'Aberystwyth, Paris, Copenhagen, New Schools in Security Theory and their Origins between Core and Periphery, *Paper presented at the annual meeting of the International Studies Association,* Montreal, March 17-20 2004, p. 7.
[76] Anthony Burke (2007), p. 7.
[77] Ken Booth (ed.), *Critical Security Studies and World Politics,* Boulder: Lynne Rienner, 2005, p.182.

security studies as an Anglo-American, statist, masculinist and militarized ideology.'[78] In other words, if people are made insecure by a complex concoction of threats, practices and processes, such as civil conflict, corruption, human rights abuse, environmental degradation, etc., securing them requires actions at all these levels including '...the most systemic and apparently immovable.'[79] Thus, 'critical Security Studies seek to identify the victims of social exclusion and to evaluate strategies for their emancipation.'[80]

Conclusion

As a conclusion I will try to illustrate "security" combining heterodox as well as historical approaches. In essence, as McSweeney writes, 'Security…is an elusive term. Like peace, honour, justice, it denotes a quality of relationship which resists definition. It has an active verbal form which seems to take it out of the realm of the abstruse, and a hard tangibility in its nominal form which promises something solid and measurable'.[81]

The modern approach to "security" as an attribute of the state, ensured by military and diplomatic means, came into political usage at the end of the eighteenth century, aided by reasoning about the nature of the social contract, which likened the state to the individual. For McSweeney, the theory of the social contract was understood by Rousseau, as it was also by Locke and Montesquieu, 'as the product of individual desire for security and liberty': 'this is the fundamental problem to which the institution of the state provides the solution'.[82] Rothschild concludes: 'It was in the military period of the French Revolution, above all, that the security of individuals was subsumed, as a political epigram, in the security of the nation'.[83]

Indeed, for many experts, "national security" was the construction of a doctrine designed to bridge the traditional division between the interests of the state abroad and

[78] Ken Booth, '75 Years On: Rewriting the Subject's Past-Reinventing its Future', in: Steve Smith et al, *International Theory: Positivism and Beyond,* pp. 334-335.
[79] Anthony Burke, 'Caught between national and human security: Knowledge and power in post-crisis Asia', *Pacifica Review: Peace, Security & Global Change,* Vol. 13, No. 3, 2001, pp. 215-239.
[80] Terry Terriff et al (2005), p. 110.
[81] Bill McSweeney, *Security, Identity and Interests,* Cambridge: Cambridge University Press, 1999, p. 13.
[82] Ibid.
[83] Rothschild, 'What is Security?', p. 64; citation from Rousseau, Oeuvres Completes, Gallinard, Paris, 1965, Vol. III.

those of the state at home, and to fill the gap amid everyday life and the defence of the national interest. "Security" in the Cold War has been criticized for belonging primarily to the state; people, like the armed forces, were its instruments, and also, potentially, its enemies. McSweeney characteristically argues that the content of 'national interest' 'had changed, from one of welfare in the early years of the New Deal,' to one 'practically synonymous with the formula of national security' a decade later, as Wolfers has pointed out.[84] 'The state had become an organism, appropriating to itself the capacity for cura and its derivatives.'[85]

Indeed, during the Cold War security was linked with politico-military terms, and had been constructed in people's minds as a national prerogative which could safeguard their welfare and prosperity as a society. The major International Relations theories of this period, realism and neo-realism, and liberalism as well, supported this idea, and despite their differences, based mostly on the state as the most important political unit that has sustained all the changes that took place over several centuries.

The non-traditional approaches that have emerged brought 'security' into discussion. The Copenhagen School with the securitization approach focuses mostly on linguistic patterns used to create "security issues." Critical Security Studies on the other hand introduce the concept of emancipation as the panacea for the delineation of every possible threat that people may face. Non-traditional approaches tried to deepen and widen the "security" debate.

Nevertheless, how can we define "security"? Baldwin argued that if someone wants to clarify the term, he has to focus on a series of questions such as security for whom, security for which values, how much security, security from what threats, and security by what means.[86] By adding questions such as how much security, from what threats and by what means, an analyst can proceed to a further understanding of the contemporary meaning of "security".

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[84] Arnold Wolfers, *Discord and Collaboration: Essays on International Politics*, Johns Hopkins Press, Baltimore, 1962, p.148.

[85] Bill McSweeney (1999), p. 21.

[86] David Baldwin, 'The Concept of Security', *Review of International Studies*. No 23, 1997, pp. 9-13.

Probably one of the most famous and also accurate definitions of "security" is that of Soroos who defines security as 'the assurance people have that they will continue to enjoy those things that are most important to their survival and well-being.'[87] Thus, as Baylis and Smith write, there is a consensus concerning the concept of security in that it implies freedom from threats to core values; nevertheless, there is a strong disagreement about whether the main focus should be on the individual, national or international level.[88] However, the most imperative unit remains the state in the spectrum of international relations, and so it seems unorthodox to leave it aside. The state is probably the only organization which has the structure and the capacity to ensure people's welfare. Thus, national security should be linked with human security, and environmental security should be examined also within the framework of natural security with the ultimate goal to guarantee people's existence and wellbeing.

Nevertheless, before entering into the core of this chapter's goal, the definition of environmental security, it is worth examining the way that 'environment' has been introduced into the political discussion and in the development of policies. The next section will explore the rise of environmental politics with a historical flashback to the end of the 19th century.

2.2 The rise of Environmental Politics

As it was stated in the previous chapter, security concerns should widen to include environmental issues. This belief has derived from the evolution of environmental politics. However, before looking into the history of the bond between politics and the environment, it would be wise to define what is meant by "environment" in the following lines.

As a word, environment has received a very broad common-sense definition as a concept that depicts and constitutes our surroundings. Nevertheless, I would try to impose a limitation by focusing on the "natural" dimension of environment, in order to underline

[87] Marvin S. Soroos, *The Endangered Atmosphere: Preserving a Global Commons*, Columbia: University of South Carolina Press, 1997.
[88] John Baylis, Steve Smith (eds.) (2005), pp. 300-302.

further environmental politics as a study of the human impact on the natural environment.[89]

The most common phrase for characterizing environmental politics has been the term "Green Politics" which can be traced back to the 1950s. This term has gradually become a "political fashion" and used to be linked mostly with the 'radical ideas and policies of Green political parties'.[90] But, why and under which circumstances has the environment become a political issue?

The linkage of environment and politics is not something new. On the contrary, searching back in history we can trace striking evidence of environmental movements which are considered the ancestors of what is now called environmental politics. More specifically, according to Dalton, it was the period from 1880 to 1910 which brought into the limelight the 'first major wave of environmental action in Western Europe. Citizens in several nations formed new voluntary groups to protect wildlife, preserve natural areas of national significance, and conserve nature'.[91] The consequences of the Industrial Revolution, and particularly urbanization and industrialization had transformed landscapes and the harmful effects of these processes created an obvious climate for the evolution of environmental movements.[92] The shift in the cultural environment of the upper class in most European societies which introduced a challenge to the belief in rationalism and progress that was identified with the Enlightenment was catalytic, creating at the same time a trend that flourished and presented an idealized view of nature.

The conservation (of the environment) movement grew in the early 1900s and until World War I. By the 1910s as Dalton argues, 'there were organizations aimed at the preservation of historical landmarks and the natural environment in most northern European nations.'[93] Nevertheless, World War I clearly caused an interruption to this movement by shifting public attention towards other issues related mostly to post-conflict

[89] Robert Garner, *Environmental Politics,* Howdmills: MacMillan Press, 2000, p. 3.
[90] Ibid.
[91] Russell J. Dalton, 'The Environmental Movement in Western Europe', in: Sheldon Kamieniecki (ed.), *Environmental Politics in the International Arena,* State University of New York Press, 1993, p. 41.
[92] Ibid. p. 42.
[93] Ibid. p. 47.

reconstruction. The economic difficulties of the interwar years concentrated the interests of the people on other, more immediate economic-related issues.

After World War II the conservation movement began to reestablish itself. In Britain for example, the need for agricultural products during the war had temporarily transformed the country's rural landscape. On an international level, the Swiss League for the Protection of Nature sponsored a conference in 1946 which helped reestablish old networks of international support and cooperation.

In the late 1960s, the Green movement again began to bloom. A major factor for this development was the expanding scientific and educational network. To begin with, it should be noted that environmental hazards had never been an exclusive field of policy makers and political science. On the contrary, there is undoubtedly a crucially important technical core to the study of the environment, providing a key role for engineers, scientists and technicians. A striking example is Rachel Carson's best selling *Silent Spring* of 1962, which documented the effects of pesticide use on the countryside, bringing the problem of "human-generated environmental degradation" to the attention of the world.[94] *The Limits of Growth* report of 1972 was another important contribution, modelling the consequences of a rapidly growing world population and finite resource supplies,[95] arguing that 'the post-war rate of economic expansion and population growth cannot be sustained without exhaustion of global natural resources, irreparable environmental damage and an increase in poverty and malnutrition.'[96]

This shift towards environmental issues entered the international community though the United Nations Conference on the Human Environment that was held in Stockholm from 5 to 16 June 1972. As Connelly and Smith argue, this event provided the 'first major international opportunity for the South to highlight the links between the prevailing international economic system, environmental degradation and poverty.'[97] The Stockholm

[94] IUCN-The World Conservation Union, *State of the Art Review on Environment, Security and Development Cooperation,* For the Working Party on Development Co-operation and Environment OECD Development Assistance Committee

[95] Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, William W. Behrens III, *The Limits of Growth,* New York: Universe Books, 1972.
[96] James Connelly & Graham Smith, *Politics and the Environment, from theory to practice,* London/New York: Routledge, 2003, p. 236.
[97] Ibid.

conference assembled officials from 114 nations, scientific experts and an exceptionally large number of conservationists and environmentalists. Almost 1,200 delegates participated but only two heads of government were there, Olaf Palme from the host government and Prime Minister Indira Gandhi of India.[98] The most crucial outcome was that specific proposals for governmental action in the form of the United Nations Environmental Programme (UNEP) were produced. The General Assembly anticipated a new framework capable of providing '…a comprehensive consideration within the United Nations of the problems of the human environment….focusing the attention of governments and public opinion on the importance and urgency of this question.'[99] Specifically, the major accomplishment and contribution of the conference was that 'it legitimized environmental policy as a universal concern among nations, and so created a place for environmental issues on many national agendas where they had been previously unrecognized.'[100] Significant also was the formal NGO conference and an informal People's Forum which together set a precedent for what is now a standard feature of UN thematic diplomacy.

In addition to the UN Conference there was also a mobilization of many European governments during the same period. For instance, in 1970, Georges Pompidou introduced a host of measures in response to the growing demand for environmental protection in France. This led to the creation of the Ministry of the Environment in January 1971.[101] Reform of environmental legislation was also undertaken by West German government initiatives during 1972, when the Basic Law was revised to grant the federal government jurisdiction on environmental matters.[102]

NGOs made their presence more felt during that period, thus during this second wave of environmental mobilization we can trace the evolution of two quite important international NGOs. In 1969, David Brower, a renowned American naturalist, established the first "Friend of the Earth" organization in San Francisco. The main goal was '…to address with an assertive political style the new environmental problems of advanced

[98] Lorraine Elliott, *The Global Politics of the Environment,* New York: New York University Press, 2004, p. 11.
[99] Resolution 2398, cited in Lorraine Elliott, *The Global Politics of the Environment,* New York: New York University Press, 2004, p. 10.
[100] Max Nicholson, *The environmental revolution: A guide for the new masters of the world,* New York: McGraw-Hill, 1970, p. 110.
[101] Russell J. Dalton (1993), p. 52.
[102] Ibid. pp.52-53.

industrial societies and the social structures that gave rise to these problems'.[103] In essence, FoE illustrated a new model of citizen action on environmental issues, attempting to politicize environmentalism through accelerating discussions on issues that government officials and established conservation groups ignored, such as nuclear power, industrial pollution and quality of life issues. Friends of the Earth activists cannot only be described as environmentalists. They were more than that. They were social critics, who developed a new action repertoire, using tactics that combined confrontation with the authorities and events that would spark the public's interest.[104]

In the early 1970s another important NGO was formed, the famous "Greenpeace". This was a significant international network of ecological groups which was formed in Canada as a protest against a planned nuclear test on the Aleutian island of Amchitka.[105] Affiliates quickly spread across Northern Europe during the 1970s and 1980s and progressively became the most notable paradigm of NGOs action against natural disasters and nuclear use.

In the aftermath of the Stockholm conference scientific knowledge had been expanded and the activities of environmental NGOs had increased, prominently underlining the greater recognition that environmental problems required, which was not only scientific and technical, but also required a variety of social, economic and political responses due to their unambiguous complex nature.[106] A number of conferences and publications set the tone of this wave of environmentalism. For instance, in 1980, UNEP and the International Union for the Conservation of Nature (IUCN) launched the World Conservation Strategy (WCS) and in 1982 the UN General Assembly adopted a World Charter for nature focusing on the conservation and use of living natural resources.

In 1983, and in total contrast with the general sense concerning the growing interest in international security and the Cold War, the UN Secretary General, Gro Harlem Brundtland, former Prime Minister of Norway, set up and chaired an independent commission to assess and address environment and development pressures. The famous Brundtland report, with the title *Our Common Future*, which was presented to the UN

[103] Ibid. p. 53.
[104] Philip Lowe, Jane Goyder, *Environmental Groups in politics,* London: Allen and Unwin, 1983, Chap. 7.
[105] Michael Brown, John May, *The Greenpeace story,* Scarborough, Ont: Prentice-Hall Canada, 1989.
[106] Lorraine Elliott (2004), p. 12.

General Assembly by the World Commission on Environment and Development, introduced the concept of sustainable development into common usage. Characteristically, the report set sustainable development as 'the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'[107] The Commission's final meeting in Tokyo, in February 1987, concluded eight main recommendations:

- Revive growth;
- Change the quality of growth;
- Conserve and enhance the resource base;
- Ensure a sustainable level of population;
- Reorient technology and manage risk;
- Integrate environment and economics in decision making;
- Reform international economic relations;
- Strengthen international cooperation.[108]

Brundtland's report main innovation was that it managed to support and combine economic growth, social development and environmental protection within the framework of sustainable development thus preparing the ground for further multilateral cooperation on future economic practices.[109] Nevertheless, as many have criticized, the message of this report has been somewhat corrupted because it seemed that economic growth was given more attention. However, it would be a mistake to underestimate the importance of this report since it managed to introduce the environment and sustainable development in to international politics.

[107] WCED, 1987, p. 8.
[108] Ibid, pp. 4-5.
[109] James Connelly, Graham Smith, *Politics and the Environment, from theory to practice,* London/New York: Routledge, 2003, p. 237.

This idea of sustainable development introduced by the Brundtland report galvanized international support and led to the United Nations Conference on Environment and Development (UNCED) in 1989. Resolution 44/228 of the UN General Assembly expressed concern at the 'continuing deterioration of the state of the environment and the serious degradation of the global life-support systems.'[110] It identified a number of major environmental problems, such as protection of the atmosphere, fresh water resources, waste management and issues related to urban settlements and poverty.[111] Moreover, what can be deduced from the proceedings of the Conference is that it recognized the global character of environmental problems and identified unsustainable models of production and consumption predominantly in industrialized countries as the source of much of that deterioration. Nevertheless, and despite the pleiad of the committees and conferences, the debate appeared to stay steadfastly focused on the theme of the Stockholm conference of 1972. As Connelly and Smith argue, 'the industrialized nations of the North were looking to focus on environmental degradation as a short-term, technically solvable issue; in response, the South argued that such an approach only tackled the symptoms of the crisis and avoided the background issues which they believed desperately needed tackling, namely unfair trading rules, debt, SAPs, the role of TNCs, and financial and technical transfers.'[112]

The UNCED was finally held in Rio de Janeiro in Brazil from 3 to 14 June 1992. With significant media and public attention, 178 national delegations attended, as did over 1,400 officially accredited NGOs. At the same time a parallel event was running, the Global Forum, which attracted some 30,000 NGO representatives from all over the world. It seemed that environment had gained another important place on the agenda of political decisions.

Evaluating Rio's importance we could say that there were three characteristics that dominated. Initially, as Imber pointed out, 'UNCED addressed a complex agenda with no clear ranking or hierarchy of the issues.'[113] Secondly, the Conference required numerous actors other than governments to be involved, such as regional organizations, transnational corporations, etc. Moreover, UNCED recognized the nearly irrelevant role

[110] UNGA, 1989c, preamble.
[111] Lorraine Elliott (2004), p. 15.
[112] James Connelly, Graham Smith (2003), p. 238.
[113] Mark F. Imber, *Environment Security and UN Reform,* New York: St. Martin's Press, 1994, p. 87.

of military force as a credible bargaining tool or sanction for non-compliance with environmental agreements.[114] Five agreements were signed at this Conference: 1) the Rio Declaration on Environment and Development, 2) Agenda 21, 3) the Declaration on Forest Principles, 4) the Convention on Climate Change and 5) the Convention on Biological Diversity.

The first two were the most important of these agreements. The Rio Declaration set out guiding principles for national and international environmental behaviour. Specifically, the declaration endorses the polluter pays principle (PPP) and the precautionary principle as well as the need for access to environmental information, increased public participation, and environmental impact assessment of development schemes. States' responsibilities were also stressed via the declaration's Principle 7: 'States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.' It could be claimed that this particular principle attempted to link poverty and environmental degradation with the different responsibilities that states may have.[115]

Agenda 21 is the other important agreement. It consisted of 4 sections:

1) Social and economic dimensions: revealing the interconnectedness of environmental problems with poverty, health, trade and population.

2) Conservation and management of resources for development: emphasizing the need for physical resources management, such as land and energy.

3) Strengthening the role of major social groups: stressing the need for wider population engagement.

4) Means of implementation: discussing the role of governments and non-governmental agencies in funding and technical transfer.

[114] Ibid.
[115] James Connelly, Graham Smith (2003), p. 239.

Yet, it should be noted that the final outcome was rather contradictory because of the need to find compromises acceptable to the different interests of state and non-state actors. Here also lies the critique that has emerged of the Earth Conference. As some negatively pointed out, most of the text celebrated free-market ideals, highlighting the continuous international domination of the North and the Bretton Woods institutions. Questions also remain over the issue of funding and financial assistance for the South. A striking example is that despite the UN estimation that around $600 billion per annum would be needed for developing countries to accelerate the process of moving towards a more sustainable future, during the event only 1 per cent of that total was forthcoming from UNCED with the largest pledges coming from Japan.[116] Critiques of the USA stance were also raised during the Conference. For example, Porter and Brown wrote that 'the Bush administration's strategy for UNCED negotiations, based on the assumption that UNCED represented a potential threat to US interests, was aimed at averting any initiatives that would limit US freedom of economic action worldwide. The United States was prepared to veto any initiative that could be viewed as redistributing economic power at the global level, that would create new institutions, or that would require additional budgetary resources, technology transfers, or changes in domestic US policies.'[117]

Leaving aside the critique, we can clearly argue that UNCED mobilized UN member states towards multilateral activities. After Rio, another important meeting was held in 1997 in New York. It was a United Nations General Assembly Special Session (UNGASS) also known as Rio+5. In Johannesburg from 26 August to 4 September 2002, the World Summit on Sustainable Development was held, which was the largest gathering of people at a UN meeting in history.

In conclusion, the sources of environmentalism can be traced back to the 19th century. Scientists of all faculties followed the conservatism movement en masse. It was not accidental that the contemporary interaction of environment with politics is believed to be derived from Carson's reference to the effects of pesticide use on the countryside bringing the problem of *human-generated environmental degradation* to public attention. Since then, international society has been "forced" to take environmental issues into

[116] Ibid. p. 241.
[117] Gareth Porter, and Janet Brown, *Global Environmental Politics* (second edition), Boulder, CO:

Westview Press, 1996, p. 106.

consideration. Numerous environmental conferences have been held since then. The United Nations brought environmentalism to the forefront of international discussion. Nevertheless, the outcomes from these initiatives still remain ambiguous. This is mostly because environmental resources (renewable or not) are perceived as wealth-producing, giving new substance to the debate.

Following this discussion, one conclusion is that environment and particularly environmental resources are closely linked with the security of a state. The following chapter will exclusively deal with the definition and aspects of environmental security.

2.3 Dicussing Environmental Security

Attempting to unveil the position of environment in contemporary politics, we should ask ourselves what the term "environmental security" actually refers to. From the environmental movement that has clearly evolved it seems that international politics in the form of the UN and UN conferences imply that environment needed to be securitized; thus, the term environmental security should be changed to the security of the environment. Nevertheless, this is only one way to define environmental security. This chapter will try to analyze all the aspects of the debate on environmental security.

According to Barnett, there are six principal approaches to environmental security that can be discerned from the literature.[118] The first approach can be clearly linked with what was analyzed in the previous chapter. Specifically, environmental security can be seen as the protection of the environment from the impact of human activities. This approach has been called 'ecological security,' in that it implies that ecosystems and ecological processes should be secured from their principal threat which is human activity.[119] According to Barnett, 'this view draws on both Green philosophy and ecological theory, where systemic interdependence, complexity, flux, uncertainty, harmony and

[118] Jon Barnett, *Environmental Security,* in: Alan Collins (ed.). *Contemporary Security Studies,* Oxford: Oxford University Press, 2007, p. 188.
[119] Ibid.

sustainability are key themes'.[120] This approach suggests that people and states should change their interest oriented political decisions to a concern for the overall welfare of the entire social-ecological system of the planet, because, as it seems, humans are secured only in so far as they are part of the environment.[121]

The second approach, which is quite closely related to the previous one, suggests a collective action to counter environmental problems. In particular, this belief lies on the basis that the causes and impacts of some environmental problems are not confined to the borders of nation-states. For instance, problems such as ozone depletion and climate change are global in nature since they are caused by cumulative emissions of gases from many countries, and later affecting many countries. It should be noted, however, that this does not mean every country is equally responsible for those problems, or that each country is equally at risk from them. Nevertheless, since environmental problems are 'global' in their effect, groups of countries with similar negative effects from them should combine their own national security interests in order to deal effectively and collectively with those problems. As it can easily be understood, this rationale lies behind the multitude of meetings and treaties on environment that were discussed in the previous chapter. The problem, though, is the fact that many countries refuse to give up their sovereign interests in order to deal effectively with environmental challenges.

The third approach connects environmental change and violent conflict. Borrowing much of its argument from the paradigm of realism, supporters of this approach focus mostly on resource scarcity and conflict between states. In 1991, Gleick argued that resources could be strategic goals and strategic tools; thus there is a clear connection between environmental degradation and violence since resource inequalities could be a source of inter and intrastate conflict.[122]

Moreover, scholars also tried to highlight the significance of population growth as an accelerating factor of environmental conflict, linking it with environmental

[120] Ibid.
[121] Katrina S. Rogers, 'Ecological Security and Multinational Corporations', *Environmental Change and Security Project Report*,(undated), 3: 29-36.
[122] Peter H. Gleick, 'Environment and Security: The Clear Connections', *The Bulletin of the Atomic Scientists,* Vol. 47, No. 3, 1991, pp. 17-21.

degradation.[123] This relationship was systematically explored by Toronto University in 1994 through the Project on Environment, Population and Security, whose key figure was Thomas Homer-Dixon. Influenced by an English political economist and demographer, Thomas Robert Malthus, who between 1798 and 1826 published six editions of his famous treatise, *An Essay on the Principle of Population*, trying to link human population with poverty, the Toronto project carried out numerous case studies to investigate the links among population growth, renewable resource scarcities, migration and conflict.[124]

According to Homer-Dixon, during coming decades, environmental scarcity could plausibly produce five general types of violent conflict. These are:

- 'Disputes arising directly from local environmental degradation caused, for instance, by factory emissions, logging, or dam construction.
- Ethnic clashes arising from population migration and deepened social cleavages due to environmental scarcity.
- Civil strife (including insurgency, banditry, and coups d'état) caused by environmental scarcity that affects economic productivity and, in turn, people's livelihoods, the behaviour of elite groups, and the ability of states to meet these changing demands.
- Scarcity-induced interstate war over, for example, water.
- North-South conflicts (i.e. conflicts between the developed and developing worlds) over mitigation of, adaptation to, and compensation for global environmental problems like global warming, ozone depletion, threats to biodiversity, and decreases in fish stocks'.[125]

The Toronto project made some very interesting conclusions. The most important was the link between unequal consumption of scarce resources with social stresses which then can lead to direct conflict. This *structural scarcity* drives people to become aggressive

[123] Norman Myers, 'Population, Environment, and Conflict', *Environmental Conservation,* Vol. 14, No. 1, 1987, pp. 15-22.
[124] Jon Barnett (2007), p. 191.
[125] Thomas Homer-Dixon, *Environment, Scarcity and Violence,* Princeton/Oxford: Princeton University Press, 1999, p. 5.

when they feel threatened by *relative deprivation* of the desirable.[126] Moreover, Homer-Dixon ascertained from his study that violent conflicts where environmental scarcity is a factor are more likely in low-income resource-dependent societies, and that also population pressure can indirectly be a contributing factor to violent conflict.[127] What he also found was that environmental change is by no means an immediate cause of conflict, but sometimes it could work as an accelerant towards this eventuality. Additionally, from the case studies examined by the Toronto group there was another important conclusion that came up. This was the observation that environmental change is unlikely to be a cause of war between countries.[128] In the aftermath of this project, however, other, contradictory approaches emerged. One of them suggested that "strong states" tend to be less prone to internal conflicts while unstable states facing problems in economic and political level are relatively more prone to internal violent conflict.[129] Moreover, Collier argued that upon closer examination, most of these conflicts come not from the scarcity but from the abundance of natural resources.[130] Le Billon gave another dimension to environmental conflicts. Trying to identify the roots of resource conflicts, Le Billon reached the conclusion that 'contemporary resource-linked conflicts are rooted in the history of 'resource' extraction successively translated by mercantilism, colonial capitalism, and state kleptocracy. The availability in nature of any resource is thus not in itself a predictive indicator of conflict. Rather, the desires sparked by this availability as well as people's needs (or greed), and the practices shaping the political economy of any resource can prove conflictual, with violence becoming the decisive means of arbitration'.[131] In other words, the greed of the consumers caused by marketing practises can lead to resource conflicts (for example diamonds).

Furthermore, the fourth approach to environmental security is an interconnection of national security with environmental problems. It should be mentioned that this was one of the early approaches to environmental security, but an important one. To be more

[126] Ibid. p. 136.
[127] Ibid. pp. 136-141.
[128] Jon Barnett, (2007), p. 191.
[129] Daniel Esty, Jack Goldstone, Ted Gurr, Barbara Harff, Marc Levy, Geoffrey Dabelko, Pamela Surko, Alan Unger, 'State Failure Task Force Report: Phase II Findings', *Environmental Change and Security Project Report,* No. 5, 1999, pp. 49-72.
[130] Paul Collier, *Economic Causes of Civil Conflict and Their Implications for Policy,* Washington: The World Bank, 2000.
[131] Philippe Le Billon, 'The political ecology of war: natural resources and armed conflicts', *Political Geography,* No. 20, 2001, p. 563.

specific, supporters of this idea argue that environmental change can weaken the economic base of a state, which determines military capacity. In order to support their theory, these scholars argue that in some developed countries, and in most developing countries, natural resources and environmental services are important to economic growth and development. For instance, income from agriculture or fishing and mining could be adversely affected by environmental change; thus for these states 'if the natural capital base of an economy erodes, then so does the long-term capacity of its armed forces.'[132]

Nevertheless, this attempt to link national security with environmental hazards received strong critique. Deudney, for example, believes that linking environmental issues to national security is misleading. This is because military threats are differing from the environmental ones since they are intentionally imposed and the cause of the threat can be easily identified, whereas environmental threats are accidental (see for example Chernobyl) and their causes are often uncertain.[133] In other words this can be described as a fear of "militarizing" environmental issues, since environmental problems are so different in nature from the threats to traditional security 'it would be a 'risky' business in itself to start using the concept of environmental security'.[134] Additionally, Deudney also underlined that this linkage will not necessarily mobilize more attention and action on environmental problems. On the contrary, this may serve to strengthen existing security logic and institutions.[135]

The fifth approach is derived from the last two that have already been referred to. This approach tries to link environment and armed conflicts. According to this approach, warfare almost always results in environmental degradation. It can also involve denial of territory to opponents, sometimes with associated environmental impact. Moreover, as Barnett argues, 'war also affects economic development in ways that impact indirectly on the environment. Money spent on weapons, for example, is money that could have been spent on social and environmental activities.'[136] Thus, the negative impact of war on economic, social and environmental levels can affect people's access to the kinds of

[132] Jon Barnett (2007), p. 193.
[133] Daniel Deudney, 'The Case Against Linking Environmental Degradation and National Security', *Millennium: Journal of International Studies,* Vol. 13, No. 3, 1990, pp. 461-476.
[134] Monica Tennberg, 'Risky Business: Defining the Concept of Environmental Security'*, Cooperation and Conflict*, Vol 30 No. 3, 1995, p. 242.

[135] Daniel Deudney (1990), pp. 461-476.
[136] Jon Barnett (2007), p. 195.

resources they need to develop themselves in ecologically sustainable ways. But even in times of peace, militaries still remain one of the major dangers of environmental degradation, something which can lead to the conclusion that linking environment with security issues is misleading because it is quite ambiguous to claim that militaries can play a positive role in environmental protection and recovery.

The last approach to environmental security attempts to portray environmental change as a human security issue. According to this approach, the nature of environmental problems is global; thus, even though the focus of human security is on the individual, the processes that undermine or strengthen human security are often *extra-local.* Similarly, then, as proponents of this approach argue, the solution to human environmental insecurity 'rests not just with local people, but also with larger scale institutions such as states, the international system, the private sector, civil society, and consumers in developed countries;'[137] thus, even an approach to environmental security that focuses on human security cannot avoid taking into account nation-states and their security policies.

To conclude, attempting to categorize the approaches to environmental security, it could be said that we have two major definitions. On the one hand, we are dealing with an approach focusing mostly on the protection of the environment, an "ecologic" security which requires collective action on the ground that environmental problems are universal. This is mostly the direction that the United Nations would like to follow, defining environmental security as the quest for relative stability of the earth's ecosystems in the face of human actions (ex. global environmental change, greenhouse gases, etc.). On the other hand, environmental security has the meaning of securing the environment and environmental resources (renewable or non-renewable) in order to maintain the security of the state and of its citizens and its institutions. This definition points out the belief that environment should be taken into consideration along with the security of the state; thus nation-states should be involved in the study of environmental security.

[137] Ibid. p. 198.

Chapter 3

The Conflict-Cooperation debate and the management of international water regimes

Introduction

The objective of this chapter is to examine the debate over transboundary water management. In the first part, the major IR schools of thought will provide the main framework of what will follow. In fact, the Conflict-Cooperation debate is rooted in the famous contending theories of international relations. Realism-neorealism and liberalism-neoliberal institutionalism are probably the most capable of explaining the discussion over the status of transboundary water resources. Finally, constructivism gives us another kind of explanation for this debate.

In the second part, this chapter will focus on the debate itself. In particular, there will be a thorough review of the literature concerning the two mainstream beliefs, conflict and cooperation, in order to evaluate which of these two is the prevailing one.

3.1Theoretical foundation

A number of theoretical approaches to international relations help explain conflict and cooperation among nations, and can therefore also explain conflict and cooperation over shared freshwater resources.

Realism, Neorealism, Liberalism, and Neoliberal Institutionalism

The "conflict or cooperation" debate that will be examined thoroughly in this chapter has its roots in the famous contending theories of international relations.

In essence, according to the realist and neorealist schools, conflict is the norm while cooperation is the exception within an anarchic and antagonistic international

environment. Each of the independent sovereign states considers itself to possess the absolute authority in the territory it controls rejecting to recognize a higher power above itself.[138] Moreover, while realists pay considerable attention to power as the core goal of states in order to secure their survival, neorealists put emphasis on the anarchical nature of the international system and a state's concern with survival, self-help, and relative gains. In fact, neorealists put another piece in the puzzle by underlining that states are not only preoccupied with their survival, but are also interested in achieving more gains that could make them stronger relative to their rivals.

Within this context, water is undoubtedly a strategic resource since it is an essential element of growth; thus, riparians remain cautious of each other because none of them wants the other side to gain a relatively stronger position *vis-à-vis* their shared water resources. Moreover, as neorealists have argued, this motivation for maximizing individual benefits drives states to exploit resources unilaterally. Accordingly, as contending nations try to enhance their own security, their actions are seen as threatening by others.

For instance, in the case of the Nile, Egypt, which is the furthest downstream riparian, perceives any efforts by the upstream nations to modify the *status quo* of water allocation as a aggressive movement that threatens its security. On the other hand, upstream states consider the *status quo* prearranged by Egypt over their use of the Nile waters as threatening their own security. Arab countries also felt threatened during the 1950s when Israel attempted to divert water from the Jordan River, and conversely, the same happened for Israel when the Arabs attempted to divert water from the river.

On the other hand, liberalists and neoliberal institutionalists are more optimistic regarding the possibility of cooperative scenarios. According to liberals, individuals are rational and do not have to resort to conflict to achieve certain goals.[139] Liberal thought is embodied in the belief that a stronger cooperation among states is not inevitable, but as institutionalists argue, requires improved understanding and the development of international institutions capable of harmonizing international interests, and so getting rid

[138] Tim Dunne and Brian C. Schmidt, 'Realism', in: John Baylis and Steve Smith (eds.), *The Globalization of World Politics,* New York: Oxford University Press, 2005, p. 164.
[139] Shlomi Dinar, 'Water, Security, Conflict and Cooperation', *SAIS Review* vol. XXII no. 2 (Summer–Fall 2002), p. 241.

of the possibility of war.[140] Neoliberals explain the durability of institutions despite significant changes in context. According to them, institutions exert a causal force on international relations, shaping state preferences and locking them into cooperative arrangements.[141]

Nevertheless, neoliberals do not take for granted that international agreements are easy to reach and are always successful. Rather, they argue that the capacity of states to communicate and collaborate depends on constructed institutions. The establishment of rules, norms and conventions plays a key role in the process of harmonization among states relations. Keohane, for instance, has underlined that for neoliberal institutionalism the main tenet is '...that state actions depend on prevailing institutional arrangements that prescribe behavioral roles, constrain activity, and shape expectations'.[142] Oye also seems to agree, arguing that the 'emergence of cooperation among parties is possible when compliance problems and mistrust, both functions of anarchy in international relations, are mitigated with the assistance of institutions that generate information, lower transaction costs, increase transparency, and reduce uncertainty.'[143]

Proponents of this school of international relations seem to understand the difficulties of cooperation, but are convinced that by removing "clouds" of mistrust and enhancing transparency, cooperation is feasible in the long run. Thus, as Dinar argues, 'the main condition for the operation of a neoliberal institutionalist approach is the realization by states that mutual interest can be gained from their cooperation'.[144]

Neoliberal institutionalists argue that the emergence of institutions is a matter of supply and demand.[145] The demand for cooperation creates institutional supply. They try, however, to explain the emergence of cooperation and institution building via the concept

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[140] David Baldwin, *Neorealism and Neoliberalism: The Contemporary Debate,* New York: Columbia University Press, 1993, p. 12.

[141] Tim Dunne, 'Liberalism', in: John Baylis and Steve Smith (eds.), *The Globalization of World Politics,* New York: Oxford University Press, 2005, p. 195.
[142] Robert Keohane, *International Institutions and State Power: Essays in International Relations Theory*, Boulder, CO: Westview Press, 1989, p. 2, 4, 14.

[143] Kenneth Oye, 'Explaining Cooperation Under Anarchy: Hypotheses and Strategies', in: Kenneth Oye (ed), *Cooperation Under Anarchy*, Princeton, NJ: Princeton University Press, 1985, pp. 20–22.

[144] Shlomi Dinar (2002), p. 242.
[145]Roberth Keohane, 'The Demand for International Regimes', *International Organization,* 36, 1982, pp. 337–354.

of hegemonic stability theory. As Keohane notes, 'cooperation, defined as mutual adjustment of national policies to one another, also depends on the perpetuation of hegemony.'[146] In other words, within a regional context, the hegemonic state uses its strength in order to foster cooperation by creating a set of political and economic structures with the end goal to bring stability to the system. States combine forces when cooperation serves the interests of a dominant power, which takes the lead in creating cooperative arrangements and enforces acquiescence with the corresponding rules.

If we take the example of the Nile Basin again, neoliberals would argue that in order to achieve serious and successful cooperation between the riparian states, the involvement of Egypt (the regional economic and military hegemon) is required. Nevertheless, it should be noted that Egypt *enjoys a relatively powerful position vis-à-vis the Nile*, so it was interested in cooperating mostly over issues such as finding new sources of water, collecting data and trading technology, rather than cooperating to allocate the water of the Nile.[147]

The history of hydropolitics seems to confirm the thoughts of institutionalists. The establishment of institutions is quite popular in the international relations literature. Plenty of examples support the idea of regime building. For instance, the 1996 Ganges Treaty set up a Joint Committee to oversee water-sharing arrangements between India and Bangladesh.[148] In the case of the Aral Sea, there was an agreement signed between the Central Asian Republics which established five regional institutions with the specific role of reinforcing interstate cooperation and dealing with various and complex problems. Mekong also was another striking example. The Mekong River Committee (MRC), established as a result of the negotiations over the Mekong River between the four lower basin riparian states—Thailand, Vietnam, Laos, and Cambodia—consisted of three permanent bodies. The first one provided technical and administrative support; the second, a sub-body of representatives from each country, was charged with technical decision making; and the third, a sub-body consisting of representatives from each state

[146] Robert Keohane, 'Multilateralism: An Agenda for Research', *International Journal,* Vol. 45, no. 4 autumn 1990, p. 741

[147] Shlomi Dinar (2002).
[148] Green Cross International, *National Sovereignty and International Water Courses,* Geneva: Green Cross International, 2000, pp. 78, 80.

was empowered to make policy decisions on behalf of each participating government. The MRC is charged with formulating the basin development plan and the rules for water usage, including flow requirements and notification procedures.[149]

Yet, if we go back to what realists and neorealists claim, these institutions are nothing more than a reflection of power distribution and serve as arenas to act out power relationships.[150] In particular, according to structural realists, the distribution of power in the international system is the key independent variable to understanding vital international outcomes such as war and peace, alliance politics, and the balance of power.[151] The competition among states and the quest for more gains is diffuse in the international system. So for instance, in the case of the Euphrates-Tigris basin, it was Turkey (the regional power) that proposed the formation of the Joint Technical Committee (JTC) in 1965 in order to endorse a needs-based allocation system.[152]

In the case of the Mekong River Agreement, as Dinar characteristically points out 'the absence of a time frame for implementing key provisions is a product of Thailand's disincentive to formulate water utilization rules.'[153] The case of the Joint Water Committee (JWC) between Israelis and Palestinians is another example of institutionalised cooperation. Nevertheless, as realists and neorealists would argue, the JWC, which was formed as a result of the 1995 Taba Agreement that began the process of institutionalizing the cooperative efforts between the two parties over the underground Mountain Aquifer they share, was mainly tipped in favour of Israel which was the stronger party. They argue that despite the fact that both the parties had the power of veto over the implementation of possible water projects, Israel was one step ahead since it had

[149] George Browder, 'An Analysis of the Negotiations for the 1995 Mekong Agreement', *International Negotiation: A Journal of Theory and Practice,* Vol. 5, no. 2, 2000, pp. 251, 259.

[150] John Mearsheimer, 'The False Promise of International Institutions', *International Security,* Vol. 19, no. 3, 1994/1995, p. 7.

[151] Tim Dunne and Brian C. Schmidt (2005), p. 169.
[152] George E. Gruen, 'Turkish Water Exports: A Model for Regional Cooperation in the Development of Water Resources', in: Shuval H. and Hassan Dweik (eds), *Water Resources in the Middle East: Israel-Palestinian Water Issues – From Conflict to Cooperation,* Berlin/Heidelberg: Springer-Verlag, p.159.
[153] Shlomi Dinar (2002), p.243.

developed its water resources long before the peace agreement with the Palestinians, thus, it had more freedom to veto Palestinian projects.[154]

Constructivism

Apart from the diachronic debate of realism versus liberalism, another theory, constructivism, deals with this issue. Constructivists give another idea of how relations between states should be interpreted. The core of their thought is founded on the belief that the primary bases of international politics are social rather than firmly material and that these structures form actors' identities and interests, rather than just their behaviour.[155] They believe that the dynamic relationship between ideas and material forces works as a consequence of how actors interpret their material reality, and they are particularly interested in how agents produce structures and how structures produce agents.[156]

Constructivists pay significant attention to the impact of what they call "epistemic communities" and the role that these communities play in the promotion of cooperation.[157] According to Dinar, 'these communities share certain beliefs and, through their authority, may affect policy and play a role in creating norms, social realities, and perceptions among the public and among policymakers that favor cooperation among states.'[158]

According to Nishat and Faisal, epistemic communities played a crucial role in the negotiations of India and Bangladesh for the management of the Ganges River.[159] The same could be argued in the case of Israel and Palestine. There, the epistemic "water"

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[154] Alwyn Rouyer, *Turning Water into Politics: The Water Issue in the Palestinian-Israeli Conflict,* New York: St. Martin's Press, 2000, p. 223.

[155] Michel Barnett, 'Social Constructivism', in: John Baylis and Steve Smith (eds.), *The Globalization of World Politics,* New York: Oxford University Press, 2005, p. 263.
[156] Alexander Wendt, 'Constructing International Politics', *International Security,* Vol. 20, no. 1, 1995, pp. 71–72.

[157] John Ruggie., 'The Social Constructivist Challenge', *International Organization,* Vol. 52, no. 4, 1998, p. 868.

[158] Shlomi Dinar (2002), p.244.
[159] Ainun Nishat and Islam Faisal, 'An Assessment of the Institutional Mechanisms for Water Negotiations in the Ganges-Brahmaputra-Meghna System', *International Negotiation: A Journal of Theory and Practice,* Vol. 5, no. 2, 2000, p. 308.

community has forged a compromise on the future content of a final Israeli-Palestinian water agreement. Both Israeli and Palestinian academics have agreed that a future accord between the two sides will contain some sort of joint management over the disputed Mountain Aquifer. This was driven by a joint Israeli-Palestinian task force lead by Eran Feitelson and Marwan Haddad. While the political echelon on both sides publicly opt for their maximalist positions, a final agreement will inevitably include some sort of a settlement, which will focus more closely on the ideas put forward by the epistemic community.[160]

A striking example of third party intervention in the negotiation process is undoubtedly the case of the Mekong River, where the United Nations Development Program (UNDP) led Laos, Cambodia, Vietnam and Thailand to realize that they could abandon their conflicting positions for a more cooperative one.[161]

Conclusion

While it seems that the two major schools of IR, realism-neorealism and liberalism and neoliberalism, agree that states are rational actors, and that cooperation is not impossible, there are nevertheless strong differences as far as the true background of cooperative scenarios is concerned. Both liberal institutionalists and realists acknowledge that international regimes[162] are an important feature of the international system. However, as Little argues that due to divergent conceptions of power between the two schools, 'for liberal institutionalists, power may be used by a hegemon to pressure other states to collaborate and conform a regime. But it is also acknowledged that states can establish and maintain regimes in the absence of hegemonic power.' While for realists, 'power is seen to play a crucial role, not as a threat to discipline states caught defecting

[160] Eran Feitelson and Marwan Haddad (eds.), *Management of Shared Groundwater Resources: The Israeli-Palestinian Case with an International Perspective*, Boston/Dordecht/London: Kluwer Academic Publishers, 2001.

[161] George Browder, 'Negotiating and International Regime for Water Allocation in the Mekong River Basin', Ph.D. dissertation, Stanford University, 1998, p. 118.

[162] Regimes are identified by Krasner as '*sets of implicit or explicit principles, norms, rules, and decision making procedures around which actors' expectations converge in a given area of international relations'*. Stephen D. Krasner (ed.), *International Regimes,* Ithaca, NY: Cornell University Press, 1983, p. 2.

from a collaborative agreement, but in the bargaining process-to determine the shape of a regime around which all states will coordinate their actions.'[163]

Constructivists support the idea that epistemic communities play a crucial role in the promotion of cooperation. NGOs, third parties and civil society itself can be accelerating factors in the promotion of multilateral agreements.

Apart from the different approaches concerning the function of the international system explained by the contending theories mentioned above, it is also of great importance to take into consideration another important factor that could be crucial for the possibility of achieving strong cooperation among states on water issues.

This important factor, or rather variable, is the dynamic of domestic politics. According to Putnam, 'the politics of many international negotiations can usefully be conceived of as a two-level game. At the national level domestic groups pursue their interest by pressuring the government to adopt favorable policies and politicians seek power by constructing coalitions among those groups. At the international level, national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments'.[164]

Indeed, national politics can be motivated by domestic politics, structures and even the temperament of the people which might be formulated by contemporary interpretations of the historical past. This means that there are different interpretations of what constitutes the national interest.[165]

For instance, according to Dinar, 'one major barrier in domestic acceptance of negotiated agreements is nationalism. Ethnonational communities may be driven by concerns for security against physical and economic threats from states with rival ethnonational communities. People's perception of a threat may be a reaction to their own government's actions, especially when government authorities appear to be jeopardizing

[163] Richard Little, 'International Regimes', in: John Baylis and Steve Smith (eds.), *The Globalization of World Politics,* New York: Oxford University Press, 2005, p. 384.
[164] Robert Putnam, 'Diplomacy and Domestic Politics: The Logic of Two Level Games', *International Organization,* Vol. 42, no. 3, Summer 1998, p. 434.

[165] Terrence Hopmann, *The Negotiation Process and the Resolution of International Conflicts,* Columbia, S.C.: South Carolina University Press, 1996, pp. 234–235.

the national interest by compromising or cooperating with a state that is perceived as a rival'.[166]

Within the following pages there will be an analytic review of the literature concerning the debate over conflict and cooperation around international river basins. It will become obvious that the status of cooperation is more well-known and can be found in many different cases. Nevertheless, the effectiveness of international water regimes and the role of international water law will also be examined.

3.2 Water resources and inter-state conflicts. (Instrument of war, strategic target or a scarce resource at the root of the dispute?)

This part of the thesis will focus on the background of interstate conflicts for the use and management of transboundary water resources. A thorough review of the literature concerning "water wars" will be attempted in order to reveal the true incentives and motives of the, as some experts argue, escalating hostility around international rivers. As the title of the chapter makes clear, the main goal will be to answer the question whether water works as an instrument of war and a strategic target or as a scarce resource causing disruption between states.

To begin with, this initiative has a high level of complexity on the ground, since the sources of disputes over international river basins include considerations from fields as diverse as ecology, geopolitics, economics and political psychology. This means that tensions around international rivers can appear for a variety of different reasons related to how the riparian states perceive water. For instance, it can be a border issue, or even a scarce resource matter.

In fact, since the end of the Cold War and the decline of ideological conflict, scholars like Klare have argued that new antagonisms and competition in the international arena will focus on access to vital resources.[167] Other scholars such as Vasquez and Huth

[166] Shlomi Dinar (2002), p.244.
[167] Michael T.Klare, 'The New Geography of Conflict', *Foreign Affairs,* vol. 80 no 3, 2001, pp. 49–61.

have also underlined this shift by declaring that most conflicts are over scarce resources of one kind or another, at least if territory is counted as a resource.[168] Paying more attention to water resources, Klare emphasized the danger of escalation of international competition for adequate water resources. He claimed that by 2050 increased demand for water could produce 'intense competition for this essential substance in all but a few well-watered areas of the planet'.[169]

Water scarcity was for many scholars a catalytic factor of an increase in international conflicts. In fact, scarcity compounded by the complex interdependence ascribed to river riparians places parties in a very uncertain and potentially unpredictable situation.[170] According to neorealists, interdependence not only highlights the sensitivities between countries, but also their reciprocal vulnerabilities. This tends to make cooperation thorny and tensions more likely as states attempt to reduce their dependence on other countries.[171] A well-known example, as Wolf and Hammer argued, was the 1975 crisis on the Euphrates River, which could have devolved into a military showdown between Iraq and Syria. It had been a particularly low flow year and Iraq had accused Syria of appropriating too much water upstream.[172]

Mandel, for instance, in an article published in 1992, has created an intellectual theoretical model in order to deal with the sources of conflict. According to his study a three-stage explanatory process should be adopted involving a non-cooperative setting, environmental imbalance and power asymmetry.[173] The second stage, environmental imbalance, dealt with scarcity issues, which are at the core of the problem, according to the author. Characteristically, Mandel wrote that 'on the supply side, the contamination of

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[168] Paul K. Huth,. *Standing Your Ground: Territorial Disputes and International Order 1648–1989.* Ann Arbor, MI: University of Michigan Press, 1996.

John Vasquez, *The War Puzzle,* Cambridge: Cambridge University Press, 1993.

[169] Michael T.Klare (2001), p 57, found in: Nils Petter Gleditsch, Taylor Owen, Kathryn Furlong & Bethany Lacina, 'Conflicts over shared rivers: Resource Wars or Fuzzy Boundaries', Paper presented to the 45th Annual Convention of the International Studies Association, Montreal, 17–20 March 2004.

[170] Shlomi Dinar, 'Scarcity and Cooperation Along International Rivers', *Global Environmental Politics,* vol. 9, no. 1, February 2009, p. 114.
[171] Kenneth Waltz, *Theory of International Politics,* Reading/MA: Addison-Wesley, 1979, p. 106, 154-155.
[172] Aaron Wolf and Jesse Hammer, 'Trends in Transboundary Water Disputes and Dispute Resolution', in: *Water for Peace in the Middle East and Southern Africa,* edited by Green Cross International, 2000, pp. 57-58.
[173] Robert Mandel, 'Sources of International River Basin Disputes', *Conflict Quarterly,* Fall 1992, p. 26.

river water may be growing- and thus the amount of usable water contracting-due to exposure to increasing amounts of both human/animal (organic) waste and industrial (largely inorganic) waste; and decreasing ecological diversity in the water system as a consequence of the waste and over-exploitation. On the demand side, the use of river water may be growing due to increasing human population, generated internally or externally through migration; and increasing urbanization, industrialization (including the use of hydroelectric power), and agriculture. General studies of the link between resource scarcity and conflict emphasize that frustration may emerge as a result of such scarcity when expectations from the past exceed current achievements'.[174]

Neo-Malthusian writers have also foreseen an increase in competition around water resources due to growing and increasingly serious water scarcities in a number of countries. Characteristically, Gleick wrote that 'where water is scarce, competition for limited supplies can lead nations to see access to water as a matter of national security, and an increasingly salient element of interstate politics, including violent conflict.[175] Moreover, Toset, Gleditsch & Hegre agreed that water scarcity is also associated with conflict, claiming that the upstream-downstream relationship appears to be the form of shared river most commonly associated with conflict.[176]

Neo-Malthusians also linked water scarcity with the issue of population growth. According to them population pressure plays a major role in increasing resource scarcity.[177] In 1998, Tir and Diehl summarized the literature on this crucial issue focusing on population pressure and interstate conflict. They tested the relationship between conflict and population density and growth over the period 1930-89. They reached the

[174] Ibid.
[175] Peter H.Gleick, 'Water and Conflict: Fresh Water Resources and International Security', *International Security,* vol. 18 no.1,1993, p. 79

[176] Hans Petter Wollebæk Toset, Nils Petter Gleditsch and Havard Hegre, 'Shared rivers and interstate conflict', *Political Geography*, 19, 2000, pp. 971–996.

[177] See for example: Paul R. Ehrlich, & Anne H. Ehrlich (2nd ed.), *Population, resources, environment. Issues in human ecology.* San Francisco, CA: Freeman, 1972; T. F. Homer-Dixon, *Environment, scarcity, and violence,* Princeton, NJ: Princeton University Press, 1999

conclusion that while population growth did appear to be moderately related to interstate conflict, population density did not have the same effect.[178]

Moreover, as Frey and Naff argued the scarcity of water 'is always a zero-sum security issue and thus creates a constant potential for conflict'.[179] In the same tone, Quigg claimed that when opposition for limited water exists under scarcity, a harmful conflict-enhancing process occurs as 'users outdo one another in consumption in order to sustain their claim into the future.'[180]

In addition, Barnet has pointed out that 'the global maldistribution of water is even more pronounced than the maldistribution of energy or food and that the "enormous" escalation of water use in developed nation along with recurring drought conditions in the developing world increase the potential for tension and resentment'.[181] LeMarquand also argues that 'the uneven distribution of positive and negative impacts from the use of resources and differing demands among the basin countries for the water obscure a basin-wide perspective and frustrate cooperative action to manage and develop the resource efficiently.'[182]

In order to support this alarming potentiality of water conflict due to scarcity, proponents of this approach focus on the generality that many countries are highly dependent on water that originates outside their border. Gleick, for instance, uses the examples of Egypt, Hungary and Mauritania where over 90% of water comes from outside the borders.[183] Falkenmark, among others, claims that there is a serious risk of international conflict, particularly in the Middle East and Africa, between upstream and downstream countries.[184] Indeed, as Furlong and Gleditsch have shown with their research, 'everything else being equal, a river sharing dyad in which at least one member

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[178] Jaroslav Tir, & Paul F. Diehl, 'Demographic pressure and interstate conflict', *Journal of Peace Research*, vol. 35, no 3, pp. 319–340, 1998.

[179] Frederick W. Frey and Thomas Naff, 'Water: An Emerging Issue in the Middle East?', *Annals of the American Association of Political and Social Science,* 482 (November 1985), p. 67.
[180] Philip Quigg, 'A Water Agenda to the Year 2000', *Common Ground,* 3 (October 1977), p. 15.
[181] Richard J. Barnet, *The Lean Years: Politics in the Age of Scarcity,* New York: Simon and Shuster, 1980, p. 193.
[182] David G. LeMarquand, *International Rivers: The Politics of Cooperation,* Vancouver: University of British Columbia, Westwater Research Centre, 1977, p. 1.
[183] Peter H.Gleick (1993), pp. 100-104.
[184] Malin Falkenmark, 'Global water issues facing humanity', *Journal of Peace Research*, vol. 27, no 2, 1990, p. 179.

suffers from water scarcity has a 41% higher risk of experiencing an outbreak of a militarized dispute with at least one fatality'.[185] However, they have also pointed out that such disputes are low-probability events and cannot be taken as "water wars".[186]

Many authors have pointed to the Middle East as a particularly likely location for a 'water war,' making this region the most well known example. They claim that water played a significant role when Israel in March, May, and August 1965, as well as in July 1966, attacked the water diversion works of Syria, Jordan, and Lebanon with tanks and aircraft. This project, named the Headwater Diversion Plan, intended to channel two of the sources of the Jordan River, the Hasbani River in Lebanon and Banias River in Syria, around Lake Tiberias through Syria to the Yarmouk River where the water would have been regulated by a Jordanian dam at Mukheib.[187] It has also been argued that these trends towards competitive utilization of the water in the Jordan River system played a key role in the Six-Day War in 1967. This hypothesis was supported by a statement by the Prime Minister Levi Eshkol in 1967 and just before the Six-Day War between Israel and its Arab neighbours, saying that 'water is a question of survival for Israel,' and therefore 'Israel will use all means necessary to secure that the water continues to flow.'[188] According to an analysis based on Naff's and Matson's writings, in that war Israel destroyed a Jordanian dam on the Yarmouk, the most important tributary to the Jordan River. Regardless of the role of the water, Israel, by conquering the West Bank and the Golan Heights from Syria, improved its hydrostrategic position through control of the Upper Jordan River. The occupation of the Golan Heights had a great impact for the Arab states since it made it impossible for them to divert the Jordan headwaters. Indeed, as Naff and Matson argued, the 1969 ceasefire found Israel with control of half the length of the Yarmouk River, compared to 10 km before the war.[189] One of the most striking

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[185] Kathryn Furlong & Nils Petter Gleditsch, '*Geographic Opportunity and Neomalthusian Willingness: Boundaries, Shared Rivers, and Conflict',* Paper prepared for presentation at the Joint Sessions of Workshops European Consortium for Political Research Edinburgh, UK, 28 March–2 April 2003. p. 20.

[186] Ibid.

[187] Thomas Naff, & Ruth C. Matson, *Water in the Middle East. Conflict or cooperation?,* Boulder, CO: Westview, 1984, p. 43.

[188] Daphne Biliouri, 'Environmental issues as potential threats to security'. Paper presented to the 38th Annual Convention of the International Studies Association, Toronto, 18–21 March, 1997, p. 5.

[189] Thomas Naff, Ruth C. Matson (1984), p. 44.

examples also is the problem of management of the Tigris and Euphrates rivers. Turkey's announcement concerning the implementation of the G.A.P (Güneydoğu Anadolu Projesi/Southeastern Anatolia project) made Iraq and Syria react and warn against undertaking military action against Turkey in order to destroy the dams to be built in the valleys of Taurus mountains. Finally, based on its military supremacy, Turkey managed to complete the net of the dams reaching an agreement with the other two countries providing them with a regular flow of water. However, a military escalation seemed possible. Iraq and Syria, which largely depend on the water of the Tigris and Euphrates, have expressed their strong opposition and their intention to protect their own national interests against a more powerful country such as Turkey.[190]

Yet, as Gleick has shown, water was used and manipulated as an instrument of war, but not essentially as the main cause for engaging in actual conflict for control of natural resources.[191] According to Toset et al., 'although such conflicts over shared water resources appear to be zero sum games, it seems far-fetched to argue that water is the main or even a very important general reason for war in the Middle East'. Issues such as nationalism and control of land territory seem to be more important factors in most of the disputes in the Middle East. Wolf says categorically that 'the only problem with these theories is a complete lack of evidence' and that 'water was neither a cause nor a goal of any Arab–Israeli warfare'.[192]

Furthermore, there is a strong critique over this linkage between water scarcity and water conflict. For instance, while Homer-Dixon concludes that 'environmental scarcity has often spurred violence in the past'[193] and that 'in coming decades the world will probably see a steady increase in the incidence of violent conflict caused, at least in

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[190] Yves Lacoste, *L'eau dans le monde, les batailles pour la vie, Larousse 2003,* available in Greek Athens : Kastalia, 2007, pp.88-92.

[191] Peter H. Gleick (1993), pp. 79-112.
See also: *Water in Crisis: A Guide to the World's Fresh Water Resources,* New York: Oxford University Press, 1993.

[192] Aaron T. Wolf, '"Water wars" and water reality: conflict and cooperation along international waterways', in Steve Lonergan (ed,), *Environmental change, adaptation, and human security,* Dordrecht: Kluwer Academic, 1999, p. 254.

[193] Tomas F. Homer-Dixon, *Environment, scarcity, and violence,* Princeton, NJ: Princeton University Press, 1999, p. 177.

part, by environmental scarcity',[194] he at the same time made it clear that at this stage he cannot identify any clear "causal effect," and that his work is limited to establishing "causal mechanisms."[195]

Additionally, even Gleick's examples, one of the greatest proponents of this belief, who wrote that 'history is replete with examples of competition and disputes over shared water resources', arguing that he will 'describe ways in which water resources have historically been the objective of interstate politics, including violent conflict,[196] at the end he finally fails to present empirical evidences beyond reasonable doubts that conflicts over scarce water resources have resulted in the outbreak of the war. He rather presents only verbal conflicts between states, threats of violence, and water related violence in ongoing wars instead. In a more recent publication, Gleick identifies in detail 54 historical and ongoing disputes and conflicts over freshwater resources.[197] In most of these disputes, water is an instrument of war or a strategic target, rather than a scarce resource at the root of the dispute.

Others gave another dimension of interstate conflicts. Characteristically, Mandel in his three-stage model mentioned earlier, apart from environmental imbalance, paid great attention to issues of historic antagonism between riparian states. According to him, the first stage, a non-cooperative setting, is a key background irritant nurturing conflict because this condition induces a disposition 'to perceive the river basin predicament and other riparian states' motivations in a hostile way and thus to impede resolution of contentious issues.'[198]

Indeed, a river itself can serve as a border between two states, splitting key ethnic groups, or even religious groups geographically, and functioning as a line that separates different lifestyles of these groups. The transnational political relations of the riparian states also are a significant point that requires attention. For instance, if there is a

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[194] Ibid. p. 4.
[195] Daniel M Schwarz, Tom Deligiannis & Thomas F. Homer-Dixon, 'The Environment and Violent Conflict', in Paul F. Diehl & Nils Petter Gleditsch, (eds.), *Environmental Conflict*, Boulder, CO: Westview, 2001, pp. 273-294.

[196] Peter H. Gleick (1993), p. 79.
[197] Peter H. Gleick, *The world's water 1998–1999: the biennial report on freshwater resources*, Washington, DC: Island Press, 1998, pp. 25-31.

[198] Robert Mandel (1992), p. 26.

diachronic antagonism between them deriving from concerns over geopolitical spheres of influence, this can trigger issues of sovereignty and territorial integrity. In other words, as Mandel argued, 'if there is a combination of pre-existing hostility and a defeatist attitude about the likely success of any river management structure, tensions would seem to escalate'.[199] Vlachos has also pointed out that 'religion, culture, politics and tradition greatly complicate what at best would be a difficult multinational resource-management problem'.[200] Additionally, Vlachos in another publication confirms the significance of these concerns when he notes the frequent propensity of differences in the historical and cultural practices of riparian nations to generate problems for international river management.[201]

Moreover, Postel also underlined the importance of 'contentious political relations and religious and ethnic tensions in international water management issues.'[202] In addition, LeMarquand argued that 'a history of mistrust and ill will exacerbate river management issues'.[203]

Gleditsch et al in their study went further, creating a distinction between two types of border situations. According to them there are two type of river sharing: Rivers that run mainly across a boundary and rivers that run along a boundary. The first type deals with upstream-downstream situations and rising resource scarcity related conflict scenarios. The second type refers to cases where the river forms the boundary.[204] In this situation, as Gleditsch et al argued, 'countries sharing large amounts of river boundary are not fighting over the direct control of the resource per se, but rather over the political boundary. Rivers are notoriously fickle boundaries.[205] They continue underlying that for opportunistic reasons, two countries could come out in favour of two different legal

[199] Ibid. p. 27
[200] Evan Vlachos, 'Hydrodiplomacy and Dispute Resolution in Private Water Resources Conflicts' in J. Ganoulis, L. Duckstein, P. Literathy, I. Bogardi (eds.), *Transboundary Water Resources Management,* Springer, NATO ASI Series, Vol. 7, 1996, p. 20.
[201] Evan Vlachos, 'The Challenges of Transboundary River Basins', Workshop on Managing International River Basin Conflicts, Vienna, Austria, September, 1986, p. 1.

[202] Sandra Postel, 'Trouble on Tap', *World Watch,* vol. 2, September/October 1989, pp. 12-13.
[203] David G. LeMarquand, *International Rivers: The Politics of Cooperation,* Vancouver BC: University of British Columbia, Westwater Research Centre, 1977, p. 131.
[204] Nils Petter Gleditsch, Taylor Owen, Kathryn Furlong & Bethany Lacina, 'Conflicts over Shared Rivers: Resource Wars or Fuzzy Boundaries?', *Paper Presented to the 45th Annual Convention of the International Studies Association,* Montreal, 17-20 March 2004.
[205] Ibid. p. 5

principles for determining the position of the border'.[206] The problem in those cases is that even after the border has been fixed, erosion can change the banks, the median, or the Thalweg (the deepest channel in the river), to the detriment of one country and the benefit of another.

According to Lewis, a striking example of a conflict scenario based on fuzzy boundaries is the Sino-Soviet border dispute of 1969.[207] In this situation, the dispute began over the boundary line crudely demarcated by the Ussuri river, and particularly over the ownership of Chenpao island, and led to intense fighting over a period of several months, killing three thousand Soviet and Chinese troops.[208]

Nevertheless, this is not the absolute scenario. Bercovitsh and Jackson have pointed out the case of Mauritania and Senegal where the Senegal River was serving as a border but was contested primarily because it is a water resource. Therefore, the 1989 war between the two states that caused serious interethnic violence, leading to partial border clashes between them, was eventually over water resources: 'The trouble began … over competing claims to farming rights on the common border, the Senegal river, where irrigation projects had increased the value of land and made the Mauritanians, traditionally herdsmen, less inclined to allow Senegalese to cultivate both sides of the border'.[209]

The third stage of Mandel's model, power asymmetry, works as an accelerating factor to the two previous ones (water scarcity-environmental imbalance and historic antagonism). This stage describes states' relations and power, and examines the conditions when a riparian state feels unrestrained confidence to initiate projects concerning the management of a river basin that could trigger other riparian states into action and finally drive an interstate conflict. While the first two elements explain the

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[206] Ibid.

[207] D. S. Lewis (ed.), *Keesing's Record of World Events/Keesing's Contemporary Archives*. Washington, DC: Keesing's Worldwide, 2004.

[208] Michael Clodfelter (2nd ed.), *Warfare and Armed Conflicts: A Statistical Reference to Casualty* and Other Figures, 1500–2000, Jefferson, NC: McFarland, 2002, p. 700.

[209] Jacob Bercovitch, Richard Jackson, *International Conflict: A Chronological Encyclopedia* of Conflicts and their Management 1945–1995, Washington, DC: Congressional Quarterly, 1997, p. 240.

motives and intentions of conflict-prone riparian states, this last element emphasizes the facilitating or limiting impact of national capabilities.[210]

In fact, what is clear from these points is that water management issues seem to be more risky when there is a historic background of interstate antagonism that works as an accelerating influence towards an outburst of tension among the riparian states. In other words, inconsistencies in international river basins seem to be only the tip of the iceberg and not the real cause for potential conflicts.

Several historic examples from international literature support this conclusion. For instance, the Euphrates river management problem is an issue of pre-existing antagonisms. According to Naff and Matson, 'the spring 1975 crisis was prompted by long-standing Syrian-Iraqi tensions and by rising Syrian fears of Iraqi subversion in Syria.'[211] Nevertheless, while the majority of scholars agree that we have not faced a serious water war, with great human loses, but rather small scale disputes around river basins, there are many arguing that this is something that might occur in the near future.

Attempting to summarize possible accelerating factors of future water conflicts we could conclude the following:

- Sovereignty issues can take various forms that could trigger a potential water conflict. This is becoming even more likely considering the international community's "unwillingness" to establish a global institution for integrated watershed management. Accordingly, the variety of reasons for a potential water conflict springing from the sovereignty debate can extend from development projects to water quality issues. To begin with, as mentioned earlier in this chapter, water's importance along with its scarcity could lead one of the riparians to implement a project that impacts the others. Examples are easily found, especially in those cases where a project of such kind is implemented by a regional power. For instance, Egypt's plans for a high dam on the Nile River, or Indian diversions of the Ganges River to protect the port of Calcutta, and, as mentioned earlier. Turkey's GAP project on the Euphrates River to meet the needs of a new agricultural policy.

[210]Robert Mandel (1992), p. 27.
[211] Thomas Naff and Ruth C. Matson (eds.) (1984), p. 95.

- Water quantity is another significant factor that is highly connected with the projects mentioned above. As experts argue, 'simply extrapolating water supply and demand curves will give an indication of when a conflict may occur, as the two curves approach each other.'[212] For instance, in the mid-1960s, conflicts in the Jordan River basin were inevitable following the increasing demand in comparison with the supply in both Israel and Jordan.[213] This discrepancy between demand and supply can become even worse due to a myriad of other factors such as global change, or new agricultural policies or even from movement of refugees and immigrants. Water quantity is highly linked to different uses of water by the riparians. For instance a dam might be used for different purposes such as storage of irrigation water, power generation or a combination of these. Examples from river management have shown that when the needs of riparians conflict, disputes are likely. A striking example is the case of the Mekong River. There, China's significant increase in energy consumption following its rapid economic growth has accelerated a strategy of creating numerous hydropower plants across the Chinese part of the river.[214] This, along with Thai plans for irrigation diversions would have an impact on Vietnamese needs for both irrigation and better drainage in the Mekong river delta.[215]

- Third, another important factor seems to be the geopolitical setting in accordance with states' power and relations. To be more specific, when a regional power (like China in the Mekong case), is also an upstream riparian, then this state has a more advantageous position to implement projects. In contrast, when the upstream country is not the regional power, then its development plans may be held in check by the regional power which has the position of the downstream country. For instance, the case of the Nile management, with Ethiopia as an upstream country and Egypt as a regional power and downstream country; thus, states' relations is also an important factor which can lead to cooperation or to conflicting situations between the upstream and downstream riparians. However, as Furlong and Gleditsch argued, 'conflict only

[212] Heather L. Beach, Jesse Hammer, Joseph J. Hewitt, Edy Kaufman, Anja Kurki, Joe A. Oppenheimer, Aaaron T. Wolf (eds.), *Transboundary Freshwater Dispute Resolution,* Tokyo/New York/Paris: United Nations University Press, 2000, p. 40.
[213] Ibid. pp. 40-41.
[214] Mark T. Buntaine, 'Trade, Interdependence and Bargaining with China over Environmental Cooperation in the Lancang-Mekong River Basin' (Paper presented at the annual meeting of the ISA's 49th Annual Convention, Bridging Multiple Divides, Hilton San Francisco, San Francisco, USA, 26 March 2008), p. 13
[215] Heather L. Beach et al (2000), p. 41.

seems likely where there is no power imbalance or where it favors the downstream riparian. When the more powerful party resides upstream, a militarized dispute is unlikely to occur, at least not without the intervention of a third party'.[216]

- Lastly, water quality issues also could be perceived as factors for a potential water conflict. Indeed, 'any new source of point or nonpoint pollution, or any new extensive agricultural development resulting in saline return flow to the system, can indicate water conflict'.[217]

To conclude, as history has shown it is very hard to find examples of "water wars". In fact, the only examples that could be traced had to do with water disputes of low escalation. Fresh water is likely to stimulate future inter-state wars. Nevertheless, there have been no particular cases in which fresh water directly provoked inter-state conflict, but at the same time, it is the renewable resource most commonly cited as a possible source of acute conflict. More specifically, these potential conflicts can emerge in those cases where we have to deal with trans-boundary water management and international rivers. Global statistical studies show that a small probability of low-level militarized conflict with a minimum of one battle death, is approximately doubled if two countries share a river basin, everything else being equal.[218] In fact, as Homer-Dixon argues, wars over river water between upstream and downstream countries can emerge under four circumstances:

- 'The downstream country must be highly dependent on the water for its national well being
- The upstream country must be threatening to restrict substantially the river's flow
- There must be a history of antagonism between the two countries

[216] Kathryn Furlong, Nils Petter Gleditsch, '*Geographic Opportunity and Neomalthusian Willingness: Boundaries, Shared Rivers, and Conflict',* Paper prepared for presentation at the Joint Sessions of Workshops European Consortium for Political Research Edinburgh, UK, 28 March–2 April 2003. p. 21.

[217] Ibid.

[218] Marit Brochman, Nils P Gleditsch, 'Conflict, Cooperation and Good Governance in International River Basins', CSCW Working Group 3, Environmental Factors in Civil War. PRIO, Oslo, 21 September 2006.

- The downstream countries must believe that they are military stronger than the upstream countries.' [219]

Moreover, even such interstate disputes have been examined by many scholars who were trying to clarify the true incentives of these disputes and whether water was actually the source, or just an instrument of war.

Several studies tried to identify the linkage of interstate disputes and water scarcity. Neo-malthusians, for instance, linked water scarcity and population growth with an escalation of interstate water disputes. Scholars such as Gleick, LeMarquand, Homer-Dixon and Quigg paid great attention to scarcity issues. Nevertheless, it seems that they failed to spot actual examples of their beliefs, so far. However, for some neo-malthusians, there is a tendency to shift the empirical evidence to the future. Gleick, for instance argues that in the future there will be an increase in water conflicts due to increasing water scarcity. Proponents of this belief argue that water scarcity is a spreading phenomenon that will be exacerbated by climate change, increasing population pressure and so on. In the same context, the Spanish hydrologist Llamas has argued that 'catastrophe is always in the future.'[220]

Other scholars gave another dimension to interstate water disputes. Studies such as those of Toset et al, and Furlong et al, tried to create possible conflict scenarios using a variety of control variables. For instance, they tried to examine what they called a "fuzzy boundaries" scenario in order to link water disputes with border situations. Moreover, according to Furlong et al, the end of the Cold War changed the shape of the world. Characteristically they argued that 'it is not only the outlook for fresh water resource supply and demand that has changed in the post-Cold War period. A number of new countries have emerged because the end of the balance of terror led to a more permissive environment for secession. As a result, there are many boundary changes'.[221] Another study by Gleditsch et al came to overturn the fuzzy boundary scenario presented by the two studies mentioned earlier since none of these two studies seem to provide an important explanation for increased conflicts. Gleditsch et al changed the focus of interest

[219] Thomas Homer-Dixon (1999), p. 139.
[220]Marq de Villiers, *Water Wars: Is the World's Water Running Out?,* London: Weidenfeld & Nicolson, 1999, p. 329.
[221] Kathryn Furlong, Nils Petter Gleditsch (2003), p. 21.

from the number of rivers and the role that they played (as borders, etc) to the overall importance of a basin. In this study Gleditsch et al concluded that neo-malthusian concerns seem to be closer to their findings, on the grounds that the presence of a shared basin does indeed have a significant relation to potential conflict. However, 'the number of river crossings, length of border as river, and percentage of border as river are not significantly related to conflict'.[222]

Yet, the absence of strict international rules, accepted by all countries, leaves space for the so-called Hydrology versus Chronology debate, especially found in cases of upstream-downstream tensions. Hydrology is mostly referred to as the origins of a river or aquifer and the area of a state's territory that is covered. This approach is supported mostly by the 'doctrine of absolute sovereignty.' This doctrine, as the title suggests, supports the idea that the states are the absolute possessors of their territory and the natural resources that are included, having all the rights to act according to their own will. It is a totally interest-based approach focusing on realists' assumptions such as power and territorial integrity. A striking example of a situation with these characteristics is the dispute over the Rio Grande between the United States and Mexico. The "Harmon Doctrine", so named by the US attorney-general who suggested it in 1895, argues that a state has absolute rights to water flowing through its territory.[223]

Chronology, on the other hand, focuses mostly on who has been using the water the longest. This is based on the doctrine of "absolute riverain integrity", which suggests that every riparian is entitled to the natural flow of a river system crossing its borders. The cornerstone of this approach is the idea that most of the time and especially in arid and exotic watersheds, the down-stream riparian often has older water infrastructure being translated as 'historic rights' on the ground that the exploitation of the river is older than the up-stream country's. In other words, first in time, first in use.[224] For instance, down-stream riparians, such as Iraq and Egypt, because of the reduced rainfall that they receive in contrast with their up-stream neighbors, have depended on river-water for much longer historically (chronologically). In general, it seems that the debate has to do

[222] Nils Petter Gleditsch et al (2004), p. 21.

[223] Stephen C. McCaffrey, 'The Harmon doctrine One Hundred Years Later: Buried, Not Praised', *Natural Resources Journal,* Vol. 36, no. 3, Summer 1996, pp. 549-590.
[224] Aaron Wolf, 'Criteria for equitable allocations: The heart of international water conflict', *Natural Resources Forum.*Vol. 23,1, February 1999, pp. 3-30.

with state's being in favor of one or another theory depending on their position as up-stream or down-stream.

Yet, as the bibliography suggests, it is very difficult to support the idea of wars related to water management. More successfully, we should talk about water disputes of a low escalation with very few losses. It is also quite difficult to identify the reasons for these conflicts. The variety of uses for water definitely plays a catalytic role in the increase of interstate tensions. For some scarcity is the reason, while other scholars trace signs of historic antagonism and border conflicts. Both of these reasons seemed to unveil a neo-realistic perception of water management, since every state that proclaims its interest over a basin desires to gain more power by using the river. In the end shared resources make rivers flashpoints for conflict Nevertheless, it would be wrong to exclude the potentiality of cooperation between riparian states. Indeed, low-level conflict may be an important incentive for more cooperation.

Within this milieu, Dinar argued that it is more certain that freshwater can be a serious object of contention. The "water" factor, however, is not always a trigger by exacerbating already tense relations between riparian countries, but rather it can constitute the major grievance between them. So, it is very common that political conflict impedes progress on the water issue. A striking example is again the Arab-Israeli conflict over the Jordan River Basin, or the case of the Ganges-Brahmaputra-Meghna (GBM) Basin where the conflict over water exacerbates the lingering political conflict between India and Bangladesh, thus making particular solutions to water issues even harder. Of course there are examples of making water work as a catalyst towards the establishment of cooperation, as in the mid-1950s, when the United States tried to forge a water agreement of mutual trust between Israel and its Arab neighbors. However, given the overall political conflict that existed among the parties, the U.S. attempt failed. This diplomatic exercise demonstrated that any appraisal of water as a contributing factor to conflict must therefore identify the social and economic structures within which water use is embedded.[225] That said, while water is not the exclusive cause of instability, an attempt to

[225] Steve Lonergan, 'Water Resources and Conflict: Examples from the Middle East,' in: N. Gleditsch (ed.), *Conflict and the Environment*, London: Kluwer Academic Publishers, 1996, p. 383.

deal with political conflict without resolving a water conflict will result in failure on the political front.[226]

3.3 Cooperation over water resources. Can National agendas come closer?

In the preceding section we only saw one side of the story. The other has to do with the possibilities of bilateral or multilateral cooperation over water resources. It should be noted that these two chapters are part of an extensive debate in the academic world between those supporting the conflict scenario and the proponents of the cooperative scenario. This chapter will try to clarify the thoughts of those supporting the second scenario.

To begin with, according to many studies, almost 40 percent of the world's population lives within the basins of international rivers, and, as Sadoff and Grey wrote, over 90% of the world's population lives within the countries that share these basins.[227] Here lies the first strong argument of those arguing that cooperation is a more probable scenario as far as the management of trans-boundary water resources is concerned. Judging from the percentages of world population that are affected by and dependent on water not only as far as their daily needs are concerned but also in terms of production and economic growth, it is becoming more than apparent that a possible conflict scenario could be devastating for them; thus, it seems cooperation is the prevailing "doctrine" for the management of transboundary fresh water resources. In fact, as Nicol argues 'the history of conflicts or disputes over water is somewhat threadbare-instances of cooperation and agreement far outstrips those of dispute and conflict'.[228]

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[226] Shlomi Dinar (2002), p. 237.
[227] Claudia W. Sadoff and David Grey, 'Cooperation on International Rivers. A Continuum for Securing and Sharing Benefits', *Water International,* Vol. 30, no. 4, p.1, December 2005.
[228] Alan Nicol, 'The dynamics of river basin cooperation: The Nile and Okavango basins', in: A. Turton, P. Ashton and E. Cloete (eds), *Transboundary Rivers, Sovereignty and Development: Hydropolitical drivers in the Okavango River Basin,* African Water Issues Research Unit, 2003, pp. 167-186.

Even realists and neorealists, who are basically supporters of the conflict scenario over the management of transboundary river basins, believe that cooperation is possible. However, they argue that the cooperation that emerges between states is either the outcome of collaborative arrangements that favor each of them with balanced and equitable gains or is just a reflection of the distribution of power between the parties.[229] Lowi, the main supporter of this hegemonic contention, argues that cooperation is most probable if the hegemon is located in a strategically inferior position—downstream—and if the hegemon is in actual need of the water resource.[230] This could lead to the establishment of a cooperative regime compelled and enforced by the downstream hegemon, following the realist and neorealist line of thinking. On the contrary, cooperation is deterred if the hegemon is upstream, given its economic and military prowess and strategic geographical position. Lowi has used this variant of hegemonic stability theory to explain the 1959 Nile River Agreement between downstream Egypt and upstream Sudan and the absence of a comprehensive agreement among upstream Turkey, midstream Syria, and downstream Iraq.[231]

Many scholars believe water to be a pathway to peace. They argue that a situation where there is aggressive pursuit of a water peacemaking strategy can provide dividends beyond water for stakeholders. It can build trust and serve as an avenue for dialogue even in those cases where parties are stalemated on other issues. Moreover, according to the proponents of this belief, a very positive scenario points out that a water peacemaking strategy can create shared regional identities and institutionalize cooperation on a broader range of issues. A characteristic example is the dynamic institutionalized environmental cooperation around the Baltic Sea during the Cold War (Helsinki Commission) and the cooperation in post-apartheid Southern Africa through the Southern African Development Community (SADC).[232] In the Mekong Basin, for example, the concerned parties—Thailand, Vietnam, Laos, and Cambodia—regarded water as an instrument of peace and

[229] Miriam Lowi, *Water and Power: The Politics of a Scarce Resource in the Jordan River Basin,* Cambridge: Cambridge University Press, 1993, p. 47.
[230] Ibid. p.10.
[231] *Agreement Between the Republic of Sudan and the United Arab Republic for the Full Utilization of the Nile Waters (1959).*
[232] Ken Conca and Geoffrey D. Dabelko (eds.),, *Environmental peacemaking,* Washington DC/Baltimore: The Woodrow Wilson Center Press and John Hopkins University Press, 2002.

development in the region; India and Pakistan were also able to set aside historical issues of religion and territory to reach an agreement dividing the waters of the Indus.[233]

Indeed, while as mentioned in the previous chapter, conflict is believed to be quite probable by the school of realism, in contrast, liberal institutionalists consider cooperation to be more feasible. Even though some of the claims of the realist and neorealist schools attempt to explain some situations of cooperation, nonetheless, the institutionalist perspective is better able to explain the cooperative history of hydropolitics illustrated by a considerable number of recorded agreements. As Dinar explains, 'evidence for this claim includes agreements that govern basins comprising of symmetric riparians (e.g. 1961 Columbia River Agreement) and agreements that involve a more powerful upstream state (e.g. 1973 Colorado River Agreement—IBWC 1973). Agreements among political adversaries also challenge realist thinking with regards to cooperation (e.g. 1960 Indus Water Agreement).[234]

Wolf, in his ambitious effort to record water crises and treaties around the world, argued that water has brought about much more interstate cooperation than conflict. He analyzed 412 crises among riparian states between 1918 and 1994 and identified only seven cases where water issues contributed to the dispute.[235] Beaumont from his side argued that states facing water scarcity cooperate in order to solve their problems, simply because that is the most rational thing to do.[236]

Within the same framework, Dokken writes that for the same reasons that scarcity may initiate interstate conflict, it can likewise initiate cooperation.[237] Brock also underlines that environmental disparities change the meaning of ecological interdependence whereby states will struggle to seek alliances as they attempt to escape

[233] Shlomi Dinar (2002), p. 237-238.
[234] *Indus Water Treaty between the Government of India, the Government of Pakistan and the International Bank for Reconstruction and Development (1960);* Undala Alam, 'Questioning the Water Wars Rationale: A Case Study of the Indus Waters', *The Geographical Journal,* 168 (4), pp. 341-353.
[235] Julie Trottier, 'Water and Conflicts, Hobbes v. Ibn Khaldun: The Real Clash of Civilization?', in: Julie Trottier and Paul Slack (eds.), *Managing Water Resources Past and Present,* New York: Oxford University Press, 2004. p. 133.
[236] Peter Beaumont, 'The myth of water wars and the future of irrigated agriculture in the Middle East', *International Journal of Water Resources Development,* vol. 10, 1994, pp. 9-21.
[237] Karen Dokken, 'Environmental Conflict and International Integration', in: Nils Petter Gleditsch (ed.), *Conflict and the Environment,* Dordecht: Kluwer Academic Publishers, 1997.

these imbalances.[238] Boserup, in her attempt to explain the history of societal development and ingenuity argued that scarcity can actually motivate innovation. She claimed that an environment of abundance does not work as a step for inspiration on issues of innovation and initiatives as well, since there is no pressing need to alleviate scarcity.[239]

According to Deudney, resource scarcity based on environmental degradation tends to encourage joint efforts and exploitation to halt such degradation and contributes to a network of common interests.[240] As Ostrom has added, 'Users who depend on a resource for a major portion of their livelihood . . . are more likely than others to perceive benefits from their own restrictions'.[241]

Dinar, in an article published in February 2009, concluded that 'at low levels of scarcity, cooperation, measured as an international water agreement, is less likely since the resource in question is available in relative abundance.'[242] Consequently, any need for cooperation is limited. Dinar continued by arguing that in an opposite case where scarcity levels begin to rise the potential benefits from cooperation increase. Nevertheless, this is not a predefined outcome. On the contrary, Dinar found that 'as scarcity levels continue to rise, however, a turning point is reached at which the benefit from cooperation begins to decrease and the probability of an agreement between the parties approaches zero. The resource is so scarce that there is very little to benefit from and divide among the parties.'[243]

In order to support his findings, Dinar introduced an inverted U-shaped curve, which in short portrays the increased probability of cooperation, within the framework of international water agreements, when scarcity is moderate, rather than very low or very high.[244]

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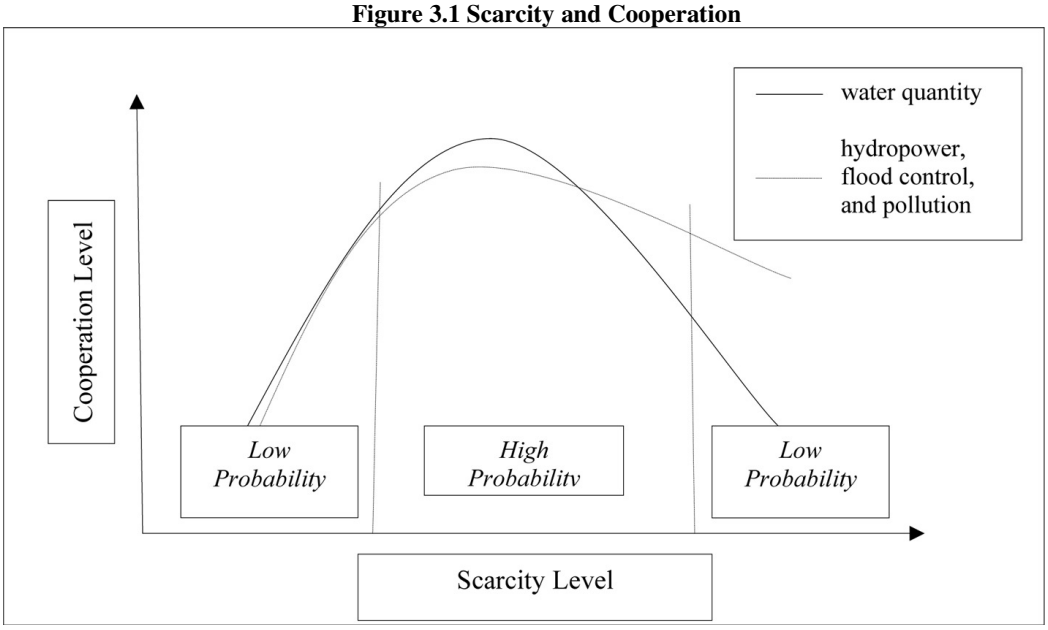
[238] Lothar Brock, 'Security through defending the Environment: An Illusion?', in: Elise Boulding (ed.), *New Agendas for Peace Research: Conflict and Security Reexamined,* Boulder, Co: Lynne Rienner, p. 99.
[239] Esther Boserup, 'The Impact of Scarcity and Plenty on Development', *Journal of Interdisciplinary History,* Vol. 14, no. 2, pp. 383-407.
[240] Daniel Deudney, 'Environment and Security: Muddled Thinking, *Bulletin of the Atomic Scientists,* vol. 47, no. 3, 1991, pp. 22-28.
[241] Elinor Ostrom, Joanna Burger, Christopher Field, Richard Norgaard and David Policansky, 'Revisiting the Commons: Local Lessons, Global Challenges, *Science,* Vol. 284, p. 281.
[242] Shlomi Dinar (2009), pp. 127-128.
[243] Ibid. p. 128.
[244] Ibid. p. 127.

Figure 3.1 Scarcity and Cooperation



Source: Dinar, 2009: 121

Rawls has conjectured that when natural and other resources are abundant, schemes of cooperation become superfluous. On the other hand, when conditions are particularly harsh, fruitful ventures break down. A condition of relative scarcity, therefore, can be perceived as a positive momentum for action between parties.[245] Similarly, Ostrom has argued that for cooperation to occur, 'resource conditions must not have deteriorated to such an extent that the resource is useless, nor can the resource be so little used that few advantages result from organizing'.[246] In other words, if waters were abundant, a treaty dividing the waters may be pointless. On the contrary, cases of very high scarcity would also discourage collaboration. If water were extremely limited, the

[245] John Rawls, *A Theory of Justice,* Cambridge/MA: Belknap Press of Harvard University Press, 1971, pp. 127-128.
[246] Elinor Ostrom et al, p. 281.

parties would have very little to divide amongst themselves, nor could they allocate any of the benefits that could be thereby derived.[247]

Institutionalists pay a lot of attention to the role of outside agents able to encourage cooperation and enhance the relations of the riparian states. International institutions or regional powers can play a catalytic role especially in those cases where scarcity is very high. Even in those cases, however, as Dinar argues, 'the likelihood of cooperation is expected to increase when both parties are experiencing moderate scarcity. It is in this context that voluntary cooperation, in the form of an international agreement, is most likely to arise in order to ameliorate the scarcity'.[248]

Apart from the variable of scarcity, other scholars tend to underline the significance of other issues such as navigation and fisheries. They claim, for instance, that growing needs for unrestricted freedom of navigation, mostly for developed countries, and water deficits in navigable rivers enhance interdependence among the riparians that can lead to both conflict and cooperation.[249]

Even in the difficult scenario of upstream-downstream relations mentioned in the previous part, and the debate of "hydrology versus chronology", the possibilities seemed to lead to a more moderate solution as states, in reality, abandon these two absolute doctrines accepting in most of the cases some limitations to both their own sovereignty and to the river's absolute integrity. According to Aaron Woolf, this is due to the transformation from a rights-based to a needs-based approach. Both of the states that share a water resource seem to accept the idea that every riparian needs, one way or another, to use part of the water.

Within this framework negotiations between the involved states have evolved. These kinds of negotiations move, as Rothman argues, along three stages: from the adversary, to reflectivity and finally to the integrative stage. Each negotiator proceeds in good faith perceiving the other side as equal; that is, requiring the same amount of water

[247] [247] Shlomi Dinar (2009), p. 119.
[248] Ibid. p. 128.
[249] Arun Elhance, *Hydropolitics in the Third World: Conflict and Cooperation in International River Basins,* Washington, D.C: United States Institute of Peace Press, 1999, p. 13.

for the same use with the same methods as oneself.[250] Many examples reveal that river allocations are based on the requirements of the down-stream riparians, for instance, the cases of the Rio Grande, and Colorado between Mexico and the USA which are based on Mexican irrigation requirements, and also the case of the Ganges where Bangladeshi requirements determined the allocations of the river.

In essence, in order to avoid tensions in international river basins, states move to bilateral or multilateral agreements between them, under negotiations based on the rights and needs debate.

Others go even further suggesting ways of mitigation between the riparian states. Characteristically, Sadoff and Grey suggested ways of enhancing interstate cooperation. Moreover, they recommend an expansion of the range and extent of potential benefits that could derive from a possible cooperation. At the same time there should be an examination of the possible benefit-sharing opportunities in order to be perceived as fair by all parties, while, alternative modes of cooperation need to be recognized and appropriate types of cooperation identified to secure the greatest net benefits.[251]

Nevertheless, how governments can reach a cooperative agenda is a matter of on-going examination. For instance, the type of benefits that should be aimed for is a matter of discussion. For example, what is most attractive: a cooperation that enhances the management, existence and preservation of the ecosystems, providing benefits to the river, and underpinning all other possible benefits or a cooperative management and development of shared rivers focusing mostly on benefits such as energy production instead?[252] Similarly, another question could include the reduction of the river's management cost for the benefit of the riparians. In this case will any potential tensions between riparian states that inevitably exist over a shared river be subordinated by cooperation in management resulting in the lessening of tensions and costs at the same time? Should the *benefits beyond the river* which cover the positive results that cooperation over a shared river can have in terms of spillover effects such as increased

[250] Jay Rothman, 'Pre-Negotiation in Water Disputes: Where Culture is Core', *Cultural Survival Quarterly,* Vol. 19, no. 3, Fall 1995, pp. 19-22.
[251] Claudia W. Sadoff and David Grey, 'Cooperation on International Rivers. A Continuum for Securing and Sharing Benefits', *Water International,* vol. 30, no. 4, December 2005, p. 2.
[252] Ibid.

economic integration between two or more countries take precedence?[253] Cooperation between states sharing a river is in some cases substantial, while in other cases not so noteworthy. The perception of potential benefits as well as their materialization as a result of water cooperation seem vital to better management of the world's rivers as well as to relations among the riparians sharing a watercourse.

Water Regimes

By accepting that the cooperative scenario is the most common in the history of shared river management, other important questions emerge. The most obvious one is within what exact formula this cooperation emerges. The answer that most scholars from the liberal camp give is the creation of water regimes. The most commonly used definition of an international regime is that of Krasner:

'Implicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice'.[254]

Keohane underlines the usefulness that regimes have by saying that:

'Far from being threats…they permit governments to attain objectives that would otherwise be unattainable. Regimes facilitate agreements by raising the anticipated costs of violating others' property rights, by altering transaction costs through the clustering of issues, and by providing reliable information to members. Regimes are relatively efficient institutions that thrive when states have common as well as conflicting interests.'[255]

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[253] Anders Jägerskog, 'Functional Water Cooperation in the Jordan River Basin: Spillover or Spillback for Political Security?', in: *Handbook for the Anthropecene – Facing Global Environmental Change: Environmental, Human, Energy, Food, Health and Water Security Concepts,* p. 634.

[254] Stephan Krasner, 'Structural causes and regime consequences: regimes as intervening variables', in: Stephan Krasner (ed.), *International Regimes,* Ithaka, New York: Cornell University Press, 1983, p. 1.
[255] Robert Keohane, *After Hegemony,* Princeton/New Jersey: Princeton University Press, 1984, p. 97.

According to Jägerskog, 'one might see regimes as an intermediary between the power structures of the international system and the political bargaining which takes place within it. In fact, regimes can become embedded in a normative framework for action and thereby increase the political salience of certain issues'.[256] To be more concrete, proponents of the regime theory claim that during the process of formatting such an institution and within it as well, the social interactions that occur lead towards a convergence in value orientation and in that way create incentives for a further institutionalization of cooperation. As Wendt argues, 'the process by which egoists learn to cooperate is at the same time a process of reconstructing their interests in terms of shared commitments to social norms. Over time this will tend to transform a positive interdependence of outcomes into a positive interdependence of utilities or collective interest organized around the norm in question'.[257]

What can be deduced from the above is that there is a strong behavioral component in the international regime theory. While an international treaty is a legal text stipulating rights and obligations, a regime is something more, that includes the behavior of the actors participating in it.[258]

In particular, as far as water regimes are concerned there are plenty of examples around the globe. Nevertheless, before referring to the most important ones it is crucial to identify the routes of their creation. As Haftendorn has argued, 'when the affected states observe a set of rules designed to reduce conflict caused by use, pollution or division of a water resource or the reduction of the standing costs and the observance over time of these rules' then we can consider these to be water regimes.[259]

However, Haftendorn suggests a classification of regimes. He distinguishes between general water regimes and specific ones which are focused on a particular conflict.[260] So, we have on the one hand general conventions such as the 1997 United

[256] Anders Jägerskog, *Why states cooperate over shared water: The water negotiations in the Jordan River Basin,* Linköping: Linköping University Press, 2003, p. 48.
[257] Alexander Wendt, 'Anarchy is what makes states of it: the social construction of power politics', in: Kratochwill and Mansfield (eds.), *International Organization and Global Governance: A Reader,* New York: Pearson, p. 87.
[258] M. List and V. Rittberger, 'Regime theory and international environmental management', in: Andrew Hurrel and Benedict Kingsbury (eds.), *The International Politics of the Environment,* Oxford: Clarendon Press, 1992, pp. 85-109.
[259] Helga Hafterdorn, 'Water and International Conflict', *Third World Quarterly,* Vol. 21, 2000, p. 65.
[260] Ibid. pp. 51-68.

Nations Convention on the Law of the Non-Navigational Uses of International Watercourses establishing general principles and on the other, for example, the Rhine Convention which is more specific and aims for an agreement on chemicals and chlorine.

Accepting that water regimes are widespread around the world does not solve all problems. In fact, it is crucial to evaluate the effectiveness of these regimes using a case-by-case approach. Yet it might be difficult to measure the outcome of a regime. For instance, as Dombrowsky argues, 'there may be a time lag between certain activities and changes in the environment. In this case, an initial approximation towards measuring effectiveness is to measure compliance, i.e. whether the respective actors adhered to the rules they set up and delivered the promised action.'[261]

The Maryland School

The Maryland School has contributed the most to the discussion on cooperation in transboundary freshwater basins. Conca and his colleagues attempted, by examining basin-specific treaties, to identify whether cooperation on the management of water is emerging as an international approach. By using a two-way approach, according to Jacobs, Conca's team 'attempted to examine the relationship between basin-specific politics and global principled developments,' identifying whether global norms of transboundary cooperation (like those presented in the next chapter – 'International Water Law') have been diffused at the basin level.[262] This attempt was made by analysing 150 basin-specific treaties in order to examine whether they have incorporated principles ('protonorms' as Conca calls them) that are well-known internationally and exist in the basic texts of International Water Law.[263]

According to Jacobs, in order to reach specific conclusions the Maryland School tested two main claims on norm convergence: the top-down dissemination of norms (from

[261] I. Dombrowsky, 'Institutional design and regime effectiveness in transboundary river management- the Elbe water quality regime', *Hydrology and Earth System Sciences,* vol. 12, 2007, pp. 224-225.
[262] Inga M. Jacobs, *Norms and Trans-boundary Cooperation in Africa: The Cases of the Orange-Senqu and Nile Rivers,* PhD Thesis University of St Andrews, 2010, p. 74.
[263] K. Conca, F. Wu, & C. Mei, 'Global Regime Formation or Complex Institution Building? The Principled Content of International River Agreements', *International Studies Quarterly*, 50, 2006, pp. 263-285.

international to specific basin treaties) and the bottom-up aggregation of norms (transfer of accumulated practices from specific basin treaties to the global framework). There were two main findings of this research.[264] On the one hand, the top-down dissemination theory was practically abandoned, since after close examination of an important number of basin-treaties it became clear that the impact of the ILC process and the UN Watercourses Convention, to be analysed in the following chapter, was not so direct and tangible. More specifically, from the great number of principles that these two sources of international law propose, only one principle, that of consultation, has been gradually adopted through the creation of specific mechanisms like basin commissions.[265]

On the other hand, regarding the bottom-up claim, what was also deduced from this thorough research was that cooperation on international river basins is most likely to emerge if a prior history of cooperation exists.[266] Moreover, the data analysis has shown that even in this case the norms that have been created have not diffused farther.

Another conclusion that the Maryland School has reached, which was highly contested by other researchers, was that the majority of the agreements examined did not include all the interested parties.[267] To be more specific, of the sixty-two agreements that the Maryland School examined, forty-six are bilateral and only sixteen included three or more parties. This, according to Conca and his team, indicates that two thirds of the bilateral agreements have been signed in basins where more than three riparian states exist, which means that some riparian states have been excluded from a particular agreement. In other words, according to Conca, it is very usual, in international basins where more than two riparian states exist, for one or more of them to be excluded. Therefore, it is more common to encounter bilateral regimes within multilateral basins.[268]

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[264] Inga M. Jacobs, *Norms and Trans-boundary Cooperation in Africa: The Cases of the Orange-Senqu and Nile Rivers,* PhD Thesis University of St Andrews, 2010, pp. 75-78.
[265] K. Conca, F. Wu, & C. Mei, 'Global Regime Formation or Complex Institution Building? The Principled Content of International River Agreements', *International Studies Quarterly*, 50, 2006, p. 281.
[266] K. Conca, *Governing Water: Contentious Transnational Politics and Global Institution Building*, Cambridge/ Massachusetts: The MIT Press, 2006, p.118.
[267] Inga M. Jacobs, *Norms and Trans-boundary Cooperation in Africa: The Cases of the Orange-Senqu and Nile Rivers,* PhD Thesis University of St Andrews, 2010, p.79.
[268] K. Conca, *Governing Water: Contentious Transnational Politics and Global Institution Building*, Cambridge/ Massachusetts: The MIT Press, 2006, p.108.

Integrated Water Resource Management

The IWRM concept is perhaps the most famous one in contemporary global discussion when it comes to water management. According to Kipping, 'IWRM developed in response to the traditional 'engineering', supply-side approach to water management: Traditional water policies mostly focused on technical solutions for increasing quantitative water supply (i.e. by building barrages), without caring much about social aspects, efficiency or environmental concerns. IWRM instead pursues a holistic, integrated approach to water management'.[269]

The most cited definition of IWRM is that of The Global Water Partnership which defines it as:

> 'a process which promotes the coordination of water, land, and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems'.

Nevertheless, it is true that the concept of IWRM still remains quite vague. In fact, there is still much debate about the practical value of IWRM. Beyond that, it is also true that the IWRM concept has become a global trend travelling across nations and gaining place in the international discourse.

Historically, according to Rahaman and Varis, we can discover predecessors of the present IWRM paradigm by goind back centuries to the past. Many examples from the past indicate that water management has been institutionalized in an advanced way in many countries over centuries. Striking example is Valencia, Spain, where multistakeholder, participatory water tribunals have operated at least since the tenth century.[270] Embid writes that Spain was most likely the first country to systematize water

[269] Martin Kipping, 'Can Integrated Resources Management Silence Malthusian Concerns? The case of Central Asia', in: H.G., Brauch, Behera, N.C., Kameri-Mbote, P., Grin, J., Oswald Spring, Ú., Chourou, B., Mesjasz, C., Krummenacher, H. (eds.), *Facing Global Environmental Change,* Berlin/Heidelberg: Springer-Verlag, 2009, pp. 711-723.

[270] Muhammad Mizanur Rahaman and Olli Varis**, '**Integrated water resources management: evolution, prospects and future challenges', *Sustainability: Science, Practice, & Policy*, Vol. 1. no. 1, Spring 2005, p. 15.

management on the basis of river basins, as it adopted the system of "confederaciones hidrográficas" in 1926.[271]

Attempting to trace the IWRM concept back through history, we could say that IWRM was the recommended approach to incorporate the multiple competing uses of water resources at the United Nations Conference on Water in the Mar del Plata in 1977. However, for some, the ideas presented by IWRM are rather old, dating back to the multiple purpose river development practices in the USA in the 1930s and at the global level to the UN document titled "Integrated River Basin Development: Report by a Panel of Experts" from 1958 which recognized IWRM as the generally advisable practice. In the 1990s water returned to the forefront of the political agenda and stayed there due to the contribution of international conferences such as the International Conference on Water and Environment in 1992, the Second World Water Forum in 2000, the International Conference on Freshwater in 2001, the World Summit on Sustainable Development in 2002 and the Third World Water Forum in 2003. According to Rahaman and Varis, these conferences collectively led to breakthroughs that thrust IWRM onto the political agenda.[272]

According to Al Radif, 'Integrated water resource management (IWRM) key elements, under which all water issues and relevant parties and their particular socioeconomic and environmental concerns can be brought together, are sustainability of water resources, water policy and integrated management, and management of the resource.'[273] Accordingly, the main focus is the expansion of sustainable development via the establishment of multi-disciplinary teams at various levels (local, regional, national and international) able to foster communication over different perspectives on water

[271] Antonio Embid, 'The transfer from the Ebro basin to the Mediterranean basins as a decision of the 2001 National Hydrological Plan: the main problems posed', *International Journal of Water Resources Development,* Vol. 19, 2003, pp. 399-411.

[272] Muhammad Mizanur Rahaman and Olli Varis (2005)**,** p.15**.**

[273] Adil Al. Radif, 'Integrated water resources management (IWRM): an approach to face the challenges of the next century and to avert future crises', *Desalination,* Vol. 124, 1999, p. 149.

resources, building consensus on the conservation of water resources and the maintenance of ecosystem functioning.[274]

Kipping, following the understanding of IWRM mentioned earlier, suggests that IWRM requires three-fold integration: ecological, sectoral and regulatory integration:

'Ecological integration demands that water management adopts an eco-system approach, systematically taking into consideration ecological interdependencies. In consequence, water should be managed according to hydrological boundaries, i.e. within catchment and sub-catchment areas, not along artificial administrative delimitations'.[275] The concept is that by managing hydrological units as a whole eases the internalization of positive and negative externalities arising downstream, such as reduced water flow, pollution, but also flood protection by upstream dams.

'Sectoral integration, reframing the objectives of water management, signifies that ecological, economic and social externalities of water use are internalized in order to maximize the overall, societal benefit of water use.' A striking example is the periods of water scarcity in which minimum ecological flows should be guaranteed in order to sustain vital functions of the ecosystem. In relation to the economic sphere, according to Kipping again, 'sectoral integration demands that the benefits of water use be weighted against the costs of water supply and sewage treatment.'[276] For Aegawal et al, this principle enhances overall economic efficiency and reduces public financial burdens, thus guaranteeing financial sustainability of water services.[277] *Regulatory integration* concentrates on the managerial aspects of water governance. In contrast to the conventional top-down, centralized approach to water management, IWRM states that decision- making structures should be organized according to the principle of subsidiarity.

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[274] Ibid.
[275] Martin Kipping, 'Can Integrated Resources Management Silence Malthusian Concerns? The case of Central Asia',
[276] Ibid.
[277]Anil Argawal, Marian S de los Angeles, Ramesh Bhatia, Ivan Churet, Sonia Davila-Poblete, Malin Falkenmark, Fernando Gonzalez Villarreal, Torkil Jonch-Clausen, Mohammed Kadi Aot, Janusz Kindler, Judith Rees, Paul Roberts, Peter Rogers, Miguel Solanes, Albert Wright, 'Integrated Water Resources Management', *TAC Background Paper* No. 4 (Stockholm: GWP Technical Advisory Committee).,1999. pp: 41 – 42

Decisions should thus be taken at the lowest appropriate level (Argawal et al. 1999: 15 – 17).[278]

Being more concrete, however, about the progress of IWRM projects, there are voices arguing that IWRM cannot provide a detailed blueprint of ideal water management, as the broad framework of IWRM always needs to be operationalized to function in the affected society's specific preferences and conditions. However, the concept offers a whole set of broadly applicable tools for improving water management. Hence, it can assist societies with overcoming second-order – or "structurally induced" – water scarcity. Moreover, the World Summit on Sustainable Development [WSSD] in 2002 called for all countries to draft IWRM and water efficiency strategies by the end of 2005. However, the results until the deadline were not so successful since only 20 of 95 countries surveyed by the Global Water Partnership produced or at least notably progressed towards such plans.

A strong critique also points out that the concept of IWRM has a technical rather than a social focus. Thus, the primary criticism of IWRM converges on its dubious record of implementation, and not only since 1992 when it became globalized, but since the 1930s when the multipurpose comprehensive plans could not be effectively realized in practice. IWRM was also criticized for negligence of the local conditions and the "one size fits all" approach. It was also suggested that IWRM principles contradict democratic principles, in that the IWRM ideals 'carry the seeds of centralization and gigantism, fail to incorporate adequately the elements of decentralized, local, community-led planning and management'.[279]

3.4Conclusion

At the international level, the management of transboundary rivers has always been a source of tension and negotiation between states. This "dialogue" was expressed on a multiplicity of levels, due to the non-existence of a central international authority charged with the power to set binding. This lack of a valid international institution should

[278] Ibid. pp. 15-17.
[279] Muhammad Mizanur Rahaman and Olli Varis**, '**Integrated water resources management: evolution, prospects and future challenges', *Sustainability: Science, Practice, & Policy*, Vol. 1. no. 1, Spring 2005

be taken into consideration along with states' interests for security via the pledge of sovereignty rights.

In conclusion, the above discussion reveals the undoubted defeat of the "conflict" scenario. Indeed, while political conflicts of low escalation have emerged in past years, and will almost certainly continue in the future, it seems that 'water wars' of great scale are not the basic line of transboundary water management.

Nevertheless, if that is the case how can states put aside their conflicting interests to find acceptable solutions? The relevant literature gives many examples on conflict resolution. Problem-solving workshops as negotiating techniques over natural resources are very common. Bingham for example, defined such methods as 'voluntary processes that involve some form of consensus building, joint problem solving, or negotiation.'[280] According to Beach (et. al) these techniques were involved in at least 160 cases. In about 132, the parties were willing to find a solution. The percentage of the successful ones that finally produced an agreement was 78%. Within this extensive list, only 10% were cases that involved water resources, including water supply, water quality, flood protection and the thermal effects of water plants.[281]

Hayton, in an article published in the *Natural Resources Journal* in 1993, tried to examine the status of the cooperative agreements for the development of water resources shared by two or more countries. The author reached the conclusion that such agreements can vary from a single exchange of data to the implementation of major projects and formal resolution of disputes. Nevertheless, he went further, expressing his deep belief that while there is a growing concern with the management of shared water resources, this concern is not followed by an equivalent anxiety over the use and protection of these resources, underlying the urgency of institutionalized engagement.[282]

The degree of institutionalized engagement can be boosted by the engagement of third parties. In the bibliography there is a large number of descriptions of this kind engagement. For instance, Fano mentions the role of third parties in the particular cases of

[280] Gail Bingham, *Resolving Environmental Disputes. A Decade of Experience,* Washington, DC: The Conservation Foundation, 1986, p. xv.
[281] Heather L. Beach et al (2000), p. 17.
[282] Robert D. Hayton, 'The Matter of Public Participation', *Natural Resources Journal,* Vol. 33, no. 2, Spring 1993, pp. 275-281.

developing countries and water scarcity.[283] An international institution that could play such a role is undoubtedly the World Bank. Several in-house publications of the Bank stressed its role as a crucial contributor towards the solution of international waterways disputes. A striking example is the Indus Water Treaty, where the Bank was involved in a limited way. Another important example was the case of the Mekong River. There, the UN demonstrated the significant attention that they give to the issue of international water management. It could be claimed that the starting point for experimenting with realsistic forms of international institutions devoted to developmental management of international water resources was the formation of the Mekong Committee. As early as 1957, under the supervision of the UN, the states of Laos, Thailand, Cambodia and Vietnam (the Lower Mekong basin states) agreed to create the Mekong Committee, a regional organization tasked with the endorsement and coordination of water resource development projects in the lower area of the flow of Mekong. China was not invited to join as it was not a member of the UN and Burma (Myanmar) did not state any interest in participating. Moreover, any attempt to coordinate with these two countries was minimized by the Cold War climate which gradually conditioned the workings of the Mekong Committee. China would treat this regional body as another American initiative to interfere in Indochina.[284]

The Mekong Committee worked intensely towards the creation of a common data gathering and exchanging system regarding the volume of Mekong's flow and the planning of national developmental projects such as hydropower plants and irrigation systems. Funding came mainly from the UN as the Committee was part of the United Nations' Economic Commission for Asia and the Far East (ECAFE) as well as from USA.[285]

Nevertheless, even the involvement of international institutions cannot work as a substitute for states' willingness to give up some of their sovereignty privileges, and even if that happens there are some other problems that could work as an obstacle. In other words, even if a third party manages to push for hydrologic cooperation of a River's

[283] Enzo Fano, 'The Role of International Agencies', in: A. E. Utton, L. Teclaff (eds.), *Water in a Developing World-The Management of a Critical Resource,* Boulder Co: Westview Press, 1977, pp. 219-230.
[284] Jeffrey W Jacobs, 'The Mekong River Commission: transboundary water resources planning and regional security', *The Geographical Journal*, 168(4), p. 356.
[285] Chris Sneddon and Coleen Fox, 'Rethinking transboundary waters: A critical hydropolitics of the Mekong basin', *Political Geography*, 25, p.185.

basin, there could be other problems such as administrative ones. For instance, Hofius mentioned the case of the Rhine basin countries stressing the administrative problems associated with implementing cooperation of several states bordering a large river basin.[286] Furthermore, cooperation also depends on the institutional capacities of the concerned states. Water agreements are negotiated with the hypothesis that states will honor the agreement. Some water agreements also call on some or all of the concerned states to carry out a sizable project, such as constructing a dam. Such a project often requires a relatively high level of institutional capability so that the large investment is safeguarded. This may also explain the large number of treaties that are exhibited in Europe (a region generally boasting high levels of institutionalization) and to a lesser degree in the Americas, versus the small number of treaties demonstrated in Africa.

To conclude, transboundary water management is an unambiguously complicated matter. To a great extent it is affected by states' relations and states' comparative advantages in terms of power. Water's importance itself is a great factor for tension. Accelerating factors, such as multiple water uses, quantity issues, as well as quality ones, can trigger a potential conflict. This likelihood can be even more sigifniciant considering that the international community has neither the resources nor the time to help establish a basin-wide institution for integrated watershed management.

Nevertheless, despite numerous tensions concerning the management of transboundary river basins, there are no examples of direct and extended conflict. This is due to the change of perceptions with which states approach negotiations. It is a common belief that states proceed to negotiations with the needs not only of themselves but also of their neighbors in mind. States take into consideration the actual needs of their neighbors and also consider how a nation "feels" about its water resources. This last parameter, known as water ethos,[287] as experts argue, can help determine how much it "cares" about a water conflict.[288]

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[286] K. Hofius, 'Co-operation in Hydrology of the Rhine Basin Countries', in: F.H.M Van de Ven et al. (eds.), *Hydrology for the Water Management of Large River Basins,* International Association of Hydrological Sciences, 1991, pp. 25-35.

[287] Some factors of a water ethos might include: "mythology" of water in national history, importance of water security issues in political rhetoric, relative importance of agriculture versus industry in the national economy.

[288] Heather L. Beach et al (2000), p. 43.

So, in most cases, riparian states proceed to multilateral negotiations, based on the general principles provided by international water law, in order to avoid a possible conflict. These negotiations find support via the involvement of international institutions, such as the World Bank and the United Nations.

Chapter 4

The current international and regional legal framework on transboundary water management.

The complex nature of transboundary rivers that have the capacity to traverse political and jurisdictional lines, along with the development of heterogeneous and sometimes conflicting national laws, makes their management quite challenging. Consequently, the need for international guidelines or specific agreements between riparian states becomes crucial. In this context, transboundary water agreements typically take two forms: 1. General principles of international behavior and law and 2. Specific bilateral or multilateral treaties negotiated for particular river basins.[289] This chapter will present a historical retrospective of the construction of generally accepted international principles concerning transboundary water uses. This analysis will start with a wide conceptual discussion and will end particularly focusing on the EU water framework directive 2000/60. Such an approach will help to understand international trends in international river management on the one hand and on the other to compare them with possible bilateral or multilateral treaties where Greece is engaged with its neighbors and will be examined in the following chapters, and even to reach suggestions for prospective negotiations.

4.1 Introduction

At the turn of the nineteenth century the Attorney General of the United States, Justice Judson Harmon, expressed his opinion on the uses of the Rio Grande river which is shared by the US and Mexico. The famous Harmon doctrine suggested that a state is 'free to dispose of the waters of an international river that are within its own territory in any manner it deems fit, without concern for the harm or adverse impact that such use

[289] Heather Cooley, Juliet C. Smith, Peter H. Gleick, Lucy Allen, Michael J. Cohen, 'Climate Change and Transboundary Waters', in: Peter H. Gleick (ed), *The World's Water Volume 7*, Washington/ Covelo/ London: Island Press, 2012, p. 4.

may cause to other riparian states'.[290] This absolute belief received strong critique and finally was rejected by subsequent legal decisions.

Yet, going back in history, traces of water law can be easily identified. Over the centuries many different civilizations have dealt with the issue of water allocation. As Hildering has said, 'the rise and fall of early hydraulic civilizations, such as the Egyptian, Mesopotamian, Hindu, Hebrew, and Meso-American civilizations seem to have been closely linked with their development and maintenance of water control systems'.[291]

According to Caponera, traces of water law can be found during the high point of the Roman Empire (753 BC to the fall of the Western Empire in 476 AD). For example, Emperor Justinian's *Corpus Iuris Civilis* encloses classical and post-classical systems of Roman water law.[292] Major issues covered by those rules had to do with the public supply of water, fishing, transportation, irrigation, prevention of overflow, etc.[293]

Nevertheless, for the contemporary world, international water law is practically part of the international environmental law. Particularly, the evolution of international water law was a way to mitigate the possibility of conflicts around transboundary river basins. It is estimated that since the Middle Ages almost 3600 agreements have been signed concerning water, most of which related to navigation issues.[294] Since 1814, a great number of approximately 300 treaties have been negotiated related to the use of international basins, dealing with various rivers' uses such as non-navigational management, flood control or hydropower projects, or allocations for consumptive or non-consumptive purposes.[295]

So, since then, several legal bodies and international tribunals have changed the route of transboundary water management. Indeed, the formation of what is known as contemporary international water law can be traced to immediately after World War I.[296]

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[290] Ibid.
[291] Antoinette Hildering, *International Law, Sustainable Development and Water Management*, Eburon Publishers 2004, p. 45.
[292] Dante Caponera, *Principles of Water Law and Administration,* Rotterdam: A. A. Balkema, 1992. p. 41.
[293] Ibid. pp. 30 – 43.
[294] Antoinette Hildering (2004), p. 46
[295] Aaron Wolf, 'Criteria for equitable allocations: The heart of international water conflict', *Natural Resources Forum.*Vol. 23,1, February 1999, pp. 3-30.
[296] Guillermo Cano, 'The Development of the Law in International Water Resources and the Work of the International Law Commission', *Water International,* Vol. 14, pp. 167-171, 1989.

At that point, various international law bodies tried to provide a comprehensive framework of general principles applicable to the world's watersheds. This corps of general principles developed by advisory bodies is characterized as "soft law" since it is more a formula rather than a package of binding rules.

As already mentioned in the first chapter, the United Nations definition concerning environmental security focuses mostly on universal social values and the protection of Earth's ecosystems. Obviously, water is a high priority with universal value, important for every type of life on Earth. Accordingly, international and European norms have been created in order to set the proper legal framework concerning water management and especially in international river basins.

Yet it is interesting to identify a specific focus in the content of the legal texts. Indeed, the multi-dimensional uses of international rivers require innovative approaches. Within this context, Salman proposes a classification of legal rules to navigational and non-navigational ones.[297]

According to Caflisch, 'the issue of free navigation first rose to prominence in Europe after the French Revolution and the Napoleonic Wars'.[298] Indeed, according to historical records, it was the Final Act of the Vienna Congress of 9 June 1815, that ended those wars, and 'contained a number of provisions towards the direction of opening the international rivers of the Contracting Parties to the commercial navigation of ships carrying their flag.'[299] This treaty has established the principle of freedom of navigation for all riparian states on the rivers they share, based on equality, as well as its priority over other uses.[300]

Rules concerning navigational uses have emerged as a natural consequence of the boost in trade caused by the industrial revolution. This massive movement of goods and materials, as well as people, across the continent led governments and industries to use rivers as the main type of transportation since other means were still at early stages of

[297] Salman Salman, 'The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on international water law', *Water Resources Development* 23(4), 2007, pp. 625–640.
[298] Lucius Caflisch, 'Regulation of the Uses of International Watercourses' , in: S. Salman, L. B. de Chazournes, *International Watercourses, enhancing cooperation and managing conflict,* Washington D.C: The World Bank, 1998, p. 17.
[299] Ibid.
[300] Salman Salman (2007), p. 626.

development. Thus, at the beginning of the 19th century navigation was the single largest use of European rivers. Using Salman's words it virtually turned rivers into international highways.[301] This extensive use and the importance that rivers gained through trade led the major European powers to set some forms of regulation.

The continuous expansion of industrial activities increased the need for other uses of rivers, such as hydropower. In addition, steady population growth also created other demands, such as domestic and irrigation. Within this context, the Barcelona Convention (Convention and Statute on the Regime of Navigable Waterways of International Concern) in 1921 tried to widen the list of uses of international rivers. Two years later in 1923, the Geneva Convention (General Convention Relating to the Development of Hydraulic Power Affecting More than One State) was a further step initiating the departure from the prevailing navigation issues ofthe 19th century. As Salman wrote, 'the Convention dealt with the right of any riparian state to carry out on its territory any operations for development of hydraulic power that it may consider desirable, subject to "the limits of international law'.[302]

The shift in use of international rivers has continued gradually since the end of the Second World War. Europe's division into two camps had negative effects on the freedom of navigation since the latter was restricted only to the riparian states of the particular shared river.

The continuous reconstruction and development of Europe, along with the steady population growth that followed the end of World War II, also led to a further decline in the primacy and freedom of navigation. Rivers were becoming more important for other purposes apart from navigation. Yet, this trend, as Salman has pointed out, 'was not accompanied by the adoption of any official rules to regulate such non-navigational uses'.[303]

The transfer of interest from navigational to non-navigational uses of international rivers required the attention of policymakers and scholars. During the Cold War, in a divided Europe the development of multilateral legal regimes through multilateral

[301] Ibid.
[302] Ibid. p. 626-627
[303] Ibid.

conventions applicable to environmental protection in Europe was initiated 'under the aegis of the Conference on Security and Cooperation in Europe - CSCE and the UN Economic Commission for Europe – UNECE. Those treaties are part of the acquis communautaire'.[304]

During these years and the period since the end of Cold War as well, the most important attempts to enhance international water law were made through specific initiatives such as the Helsinki Rules in 1966, the Convention on the Protection and Utilization of Transfrontier Rivers and International Lakes in Europe in 1992, and with the Berlin Rules on Water Resources in 2004. Multiple examples of tensions and disputes around international river basins during the post-1945 period, such as the case of the Indus river (between India and Pakistan), the Nile river (between Egypt and Sudan), the Jordan river (between Israel and its neighbours) or the Columbia river (between the USA and Canada), made clear that bilateral or multilateral agreements are important to avoid escalation. The outcome was that all these disputes, with the exception of the Jordan River, were resolved through the signature of water treaties. It is also worth mentioning the crucial role of the World Bank, which actively assisted the riparian states in a kind of *shuttle – diplomacy.*[305]

At this point it is important to mention the role of two scholarly non-governmental bodies in the formation of what is known as "international water law" - The Institute of International Law and the International Law Association. Both established in 1873, they deal with various fields of international law. The difference between them is that the IIL is a smaller organization whose membership is by election and invitation. The ILA, on the other hand, is larger and its membership is open to all international lawyers by recommendation. Nevertheless, what both institutions have in common is that they adopt resolutions and rules which aim to codify international law as it exists.[306]

The nature of the rules and resolutions that these bodies approve are not legally binding *per se*. Yet, their importance as a reflection of the established customary principles of international water law, along with the well known level of expertise of their

[304] Slavko Bogdanovic, 'The impact of the International Treaties on Water Management in South – Eastern Europe', in: Massimiliano Montini, Slavko Bogdanovic (eds.), *Environmental Security in South – Eastern Europe,* Dordrecht: Springer, 2011, p. 78.
[305] Ibid. p. 80.
[306] Salman Salman (2007), p. 628.

members and their respectability in academia establish them as significant "players" in the discussion.

Discrimination between the two is related to the subject matter of their resolutions. The IIL's resolutions emphasize the obligation not to cause significant harm to other riparian states. For instance, its first resolution, known as the Madrid Declaration and back in 1911, has established complete prohibition against activities that may injure other riparian states. As scholars have correctly pointed out, this Declaration stood in opposition to the Harmon Doctrine. In 1961, the Salzburg Resolution adopted by the IIL clarified the obligation of states to avoid causing harm to other states, but subjected the right of that state to use the waters of the shared river to the right of use by other states. In other words, this resolution worked to relax the absolute prohibition of the Madrid Declaration. The resolutions that followed, in 1979 and 1997, mostly dealt with the environment by setting prohibitions for any acts that might cause pollution to shared watercourses or harm other riparian states.[307]

On the other hand, the ILA's resolutions put emphasis on the norm of reasonable and equitable utilization of shared watercourses. For instance, the 1956 resolution, known as the Dubrovnik Statement, while initially confirming the sovereign control of each state on international rivers within its own boundaries, at the same time necessitated that states implement this control considering its effects on other riparian states. The New York resolution that followed in 1958 refined the previous statement by affirming the obligation of each co-riparian to a rational and just share in the beneficial uses of the waters of the basin. The ILA continued working towards identifying laws (customary, conventional, and municipal) to apply to the multifaceted issue of shared waters.[308] The outcome was the Helsinki meeting in 1966 and the introduction of the principle of reasonable and equitable utilization of water in international drainage basins.

In Europe and particularly in the South-East region which is being examined in this thesis, a wave of significant water treaties were implemented during the 1950s and 1960s. A major player was the socialist – unified Yugoslavia, which, as Bogdanovic

[307] Ibid.
[308] Slavko Bogdanovic (2011), p. 78.

argued, 'tried to establish a long-term co-operation with its neighbours with regard to different issues related to trans-boundary waters.'[309]

The main subject of the treaties signed during the 1970s and 1980s had to do with research issues, flood control, drainage improvement, dams' construction and exploitation of hydro – electric power production facilities, navigation and fisheries. Pollution issues were also on the agenda. Yet, to some extent, these treaties were the forerunners of the establishment of mixed commissions empowered to implement them. Unfortunately, history has shown that the outcome of the work of those commissions was a dispersed issue deserving further investigation.

The fact that the Balkans are geographically within the European continent and also that some of the states in the region are EU members while others are willing to join the EU underlines the importance of regional legislative initiatives. EU legislation requires a change in the existing national systems of legal norms on water management issues. All the countries in SEE are integrated in, or committed to integrate into, the EU, so they must transpose, implement and enforce EU legislation (i.e. the entire *acquis communautaire*). In this context, the impact of the EU not only as a regional body but also as a legislator is very important.

Within the next pages this chapter will start by describing the basic international instruments for transboundary water management and will end with an analysis of the EU directive on water policy. This analysis will help to compare the current status of agreements, if any, in the five case studies that will be examined in the next chapters with the directive in order to come up with important findings concerning their success or failure as well.

[309] Ibid.

4.2International Water Law

The Helsinki Rules (Annex 1)

In 1966 the International Law Association compiled the most famous report of customary law on trans-boundary water resources.[310] The outcome of this attempt is known as the Helsinki Rules on the Uses of the Waters of International Rivers. These rules represented the first attempt made by an international organization to encode the entire legal framework of the international rivers. In fact it represents the first attempt ever from an international legal organization to include and combine rules concerning navigational and non – navigational uses of international rivers. This also was the first time that the concept of a "drainage basin" was accepted.[311] In particular, article I notes that the Rules are applicable to the use of the waters of an "international drainage basin". The latter is translated as "a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus". Yet, while initially the Rules have left aside issues such as environmental problems and the status of groundwater, later on they were completed by various additional texts enclosing these issues.[312] For instance, following the new challenges that were arising from the growing use of international rivers, the Association responded initially in 1972 by issuing its articles on flood control and by adopting in 1976 the Rules on Administration of International Watercourses. The evolution continued in 1980 during the Belgrade Conference where the Association adopted two sets of rules. The first one was about the regulation of the flow of water in international watercourses, while the other focused on the relationship of international water resources to other natural resources' environmental elements. During the Montreal Conference that followed in 1982, new Articles regarding pollution of waters in international drainage basins were introduced, while in 1986 during the Seoul conference, the ILA adopted the "Complementary Rules Applicable to International Water Resources" in order to address specific issues regarding the application of the Helsinki

[310] International law Commission is a body of the UN, according to the UN Charter, art. 13(1); Statute of the International Law Commission, UN Doc. A/CN.4rev.2 (1982)
[311] Dante A. Caponera, 'Patterns of Cooperation in International Water Law: Principles and Institutions', *Natural Resources Journal,* Vol. 25, no. 3, July 1985, pp. 563-588.
[312] Lucius Caflisch (1998), p. 8.

Rules. According to Salman, these Complementary Rules dealt with three issues: 'substantial injury to co-basin states, the installation of works or the use of water resources in the territory of co-basin states, and notification procedures, all of which were addressed in a general way under the Helsinki Rules'.[313] Moreover, in the text of the Seoul Rules another significant evolution is included. It is the first time that transboundary groundwater is addressed by any international legal instrument. In particular, the Rules extend the application of the Helsinki Rules to transboundary aquifers that do not supply water to, or collect water from, surface waters of an international drainage basin. They also urge the riparian states to consider the integrated management of their international groundwater along with their surface waters.[314]

The Helsinki Rules outlined principles related to the "equitable utilization" of shared watercourses and the commitment not to cause "substantial injury" to co-riparian states. In particular, Article IV sets out the rule of equitable and reasonable apportionment, while Article V lists no fewer than eleven factors defining what is reasonable and equitable.[315] Probably, the breakthrough of the Helsinki Rules was, as Housen-Couriel argued, the fact that they address the right to beneficial use of water, rather than to water *per se*.[316] Articles VI, VII and VIII are supporting the two previous ones by stressing that there is no discrimination between uses and that no state may reserve future uses for itself underlying also that existing activities may be deemed rational, unless the riparian state challenging them establishes their inequitableness.[317]

One important point that characterizes the content of these rules is the decrease of international interest over the navigational uses of international watercourses. This departure from the monopoly of the discussion over navigational uses of international watercourses is obvious in Article VI where the text states that a use or a category of uses is not entitled to any inherent preference over any other use or category of uses, equating

[313] Salman Salman (2007), p. 628.
[314] Ibid.
[315] These factors include: a basin's geography, hydrology, climate, past and existing water utilization, economic and social needs of the riparians, population, comparative costs of alternative sources, availability of other sources, avoidance of waste, practicability of compensation as a means of adjusting conflicts, and the degree to which a state's needs may be satisfied without causing substantial injury to a co-basin state.
[316] Deborah Housen-Couriel, 'Some Examples of Cooperation in the Management and Use of International Water Resources', Hebrew University of Jerusalem, Truman Research Institute for the Advancement of Peace, March 1994.
[317] Lucius Caflisch (1998), p. 8.

in that way all uses of international drainage basins. While Salman argues that the Rules incorporate the customary international law principle that gives the right of free navigation on the entire course of the river to each riparian state on a reciprocal basis, on the other hand, according to Caflisch, 'despite the provisions on navigation it contains, the Helsinki text's main interest lies in its rules on the non-navigational uses of international drainage basins'.[318]

Of course, the rules have no formal standing or legally binding effect *per se*. However, since the adoption of the UN Convention thirty years later, this set of rules has remained the most quoted set of rules for regulating the use and protection of international watercourses. Indeed reference to these rules or even adoption of parts of them took place by many organizations and countries such as the Asian-African Legal Consultative Committee, Sub-Committee on International Rivers, where through its 1973 meeting in New Delhi the norm of reasonable and equitable share, alongside with the causes cited in Article V of the Helsinki Rules defining such share, were incorporated. In addition, the 1995 Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) was grounded primarily on the Helsinki Rules, making detailed references to those Rules. The same happened in cases where bilateral treaties have been negotiated. A striking example is the 1992 Agreement between Namibia and South Africa concerning the establishment of a Permanent Water Commission, or the dispute between India and Bangladesh over the Ganges River which the two countries addressed to the United Nations in 1975, both using as argumentation the Helsinki Rules.[319]

Nevertheless, from a quick retrospection throughout the history of transboundary water management, the Helsinki Rules have explicitly been used only once, in the case of Mekong River.[320] There the Mekong Committee used the framework of "reasonable and equitable use" provided by the Helsinki Rules in order to create the Declaration of Principles for the Mekong River in 1975.

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[318] Ibid.
[319] Salman Salman, Kishor Uprety, *Conflict and cooperation on South Asia's international rivers*, The Hague: Kluwer Law International, 2002 cited in: Salman Salman, 'The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on international water law', *Water Resources Development* 23(4), 2007, p. 630.
[320] Aaron Wolf (1999), pp. 3-30.

The non-binding character of the rules, however, led some states, according to Biswas, to object to the whole idea of the drainage basin approach, arguing that it could be interpreted as a violation of a nation's sovereignty (Brazil, Belgium, China, and France).[321] Others, such as Finland and the Netherlands, supported the idea that a watershed was the most rational and scientific unit to be managed, while others argued that given the complexities and uniqueness of each watershed, an attempt to codify some general principles could be quite risky.[322]

Within this general climate of disagreement, the United Nations General Assembly created its own legal advisory body, the International Law Commission, on December 8 1970, in an attempt to effectively deal with the codification of the Law on Water Courses for Purposes other than Navigation.

UN Convention on the Law of the Non-navigational Uses of International Watercourses, May 1997

The ILC, which was asked to study issues relating to international watercourses, is a UN body with legal experts nominated by states, elected by the United Nations General Assembly. The commission started by working the first draft of the Convention in 1971, and finally completed its work by adopting a set of 32 draft articles in 1994.[323] After three years of continuous official and unofficial deliberations by the Sixth UN Committee and by the General Assembly, the Convention was finally adopted on 21 May 1997. A total of 103 countries voted for the Convention, with 3 against (Burundi, China and Turkey), and there were 27 abstentions, while 52 countries did not participate in the voting. There was ongoing and vehement debate on important issues mentioned in the treaty, such as the degree to which the Convention affected past and future treaties, and the relationship between "reasonable and equitable use" and the "obligation not to commit harm".[324] This

[321] Asit Biswas, 'Management of International Waters: Problems and Perspectives', *Water Resources Development,* Vol. 9, no. 2, 1993.
[322] Aaron Wolf (1999), pp. 3-30.
[323] ILC Draft Articles on the Non-navigational Uses of International Watercourses, 1994. UN Doc. A/CN.4/L492 (1994). For history and commentary, see United Nations. Yearbook of the ILC from 1974-1991.
[324] Attila Tanzi, 'Codifying the Minimum Standards of the Law of International Watercourses', *National Resources Forum,* Vol. 21, no. 2, May 1997, pp. 109-117.

kind of debate had a serious impact on the ratification of the convention. Indeed, since 2002 only 12 countries have ratified it.[325]

The work of the ILC was from its creation very difficult, in the sense that it had to unite legal and hydrological intricacies. Under those circumstances even an attempt for codification during the UN Water Conference at Mar de Plata in 1977 was unsuccessful. A quick review of the obstacles to this attempt reveals two important incidents. There were, first of all, political and hydrological problems concerning the definition of the term "international watercourse" that dramatically slowed down the negotiations. So, as Wescoat has pointed out, in a 1974 questionnaire submitted to member states, about half the respondents (only 32 of 147 nations responded by 1982) were in favor of the concept of a drainage basin (eg. Argentina, Finland and the Netherlands), while half were intensely against it (eg. Austria, Brazil and Spain) or hesitant.[326] Within this crucial ambiguity, the ILC adopted a definition of the term "international watercourse" in 1984, ten years after the beginning of the discussion.[327] The question is, why all this delay? The answer is quite simple: defining a watercourse system and including in this definition untouched border line issues such as glaciers and confined aquifers is a challenge, as some states could have claimed important sovereignty issues.[328]

The Convention was opened for signature on 21 May 1997, and remained open for three years until 20 May 2000. By that time only 16 states had signed the Convention. Although signatures closed on 20 May 2000, states can still become parties to the Convention by acceding to it. This means that they can have the Convention approved or accepted through their legislative process without having it signed. The Convention needs 35 instruments of ratification or accession to enter into force. In 2007, 10 years after its adoption, the Convention has only been ratified or acceded to by 16 states still pending to enter into force. .

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[325] UN General Assembly Vote, United Nations (1997). Current Status of Convention, United Nations (2002) available at www.un.org/law/ilc/texts/nonav.htm and "The world' s international freshwater agreements: Historical developments and future opportunities", Atlas of freshwater agreements, UNDP, FAO, 2002

[326] James L. Wescoat Jr., 'Beyond the River Basin: The Changing Geography of International Water Problems and International Watercourse Law', *Colorado Journal of International Environmental Law and Policy,* Vol. 3, 1992, p. 311.

[327] Aaron Wolf (1999), pp. 3-30.

[328] James L. Wescoat Jr. (1992), p. 311.

Seven parts and 37 articles consists of the Convention addressing important issues such as the definition of the term "watercourse"; watercourses agreements; equitable and reasonable utilization and the obligation not to cause harm; planned measures; protection, preservation and management; and dispute settlement. It also includes an Annex on arbitration.

Focusing on the content of the Convention itself, it is more than obvious that the concept and the language are quite similar to the Helsinki Rules. In fact, it refers to measures that have to do with the maintenance, management and protection of water resources. Characteristically, according to the Convention, the parties have to proceed to the utilization of an international watercourse in an equitable and reasonable manner, within the definition of Article 5 that requires taking into consideration all relevant factors and conditions, containing geographic, hydrographic, hydrological, climatic, ecological and other issues of a natural character along with the current and prospective uses of the watercourse. Quality considerations were also addressed in this article by noting that the optimal use of the watercourse must be 'sustainable and consistent with the adequate protection of the watercourse*;'* nevertheless, as in the Helsinki rules, there is no prioritizations of these factors, suggesting only in Article 6 that, 'the weight to be given to each factor is to be determined by its importance' and that 'a conclusion must be reached on the basis of the whole,' while Article 10 says both that 'in the absence of agreement or custom to the contrary, no use…enjoys inherent priority over other uses,' and that, 'in the event of a conflict between uses…(resolution should be given) with special regard being given to the requirements of vital human needs.'[329]

At the same time, a noteworthy part of the convention is being dedicated on indicating the philosophy that watercourse states shall have by taking all necessary measures to avoid causing significant harm to other watercourse states when they ittend to utilize and international watercourse in their territories. According to Cooley et al, several articles of the Convention, 'are designed to reduce the risks of disputes over shared rivers'.[330] For instance, Article 7 obliges states to take all appropriate measures to prevent harm to other states from their use of water, while Article 33 offers insights of potential dispute resolution techiniques for peacefull resolution such as conciliation,

[329] Elli Louka, *International Environmental Law,* Cambridge: Cambridge University Press, 2006, p. 188-189.
[330] Heather Cooley et al (2012), p. 4-5.

negotiation, arbitration, or appeal to the International Court of Justice.[331] Watercourse states shall also work together on the basis of sovereign impartiality, territorial integrity, mutual profit and good faith in order to attain optimal utilization and adequate protection of an international watercourse. According to Article 8.2, a technique of improving the potentiality of such cooperation is the establishment of joint mechanisms or commissions from the watercourse states, whenever they believe is necessary in order to expedite cooperation on relevant measures and procedures in the light of best practices in existing joint mechanisms and commissions in various regions. Following Article 8, Article 9.1 underlines the significance of information exchange in a regular basis relevant to the condition of the watercourse andin particular hydrological, meteorological, hydrogeological and ecological data and figures related to the water quality as well as related projections.

Moreover, Articles 12 and 13 provide details on the procedure that should be followed in cases where a new use of a watercourse is being proposed. So, in cases where a state needs to undertake measures that would affect a shared watercourse, it has to notify the affected state and to wait for six months for a response to its notification. During this six-month period, the notifying state is not permitted to carry out the planned measure without the permission of the affected state.

Yet a strong critique has emerged concerning the effectiveness of the convention. Experts have argued that there is confusion in the interpretation of the obligation not to cause significant harm. According to Louka, 'the obligation not to cause significant harm is implied in the principle of reasonable and equitable utilization and that adding the no significant harm obligation, as a separate principle, only fuels confusion and undermines the normative character of the convention.'[332]

Moreover, related to the convention's attempt to establish the protection of groundwater, more work needs to be done. To be more specific, as mentioned earlier the treaty establishes the fortification of groundwater based on the idea that groundwater is connected to surface water. In this context, confined groundwater remains unregulated.

[331] Ibid.
[332] Elli Louka (2006), p. 188-189.

In addition, according to Louka, the 1997 UN Watercourses Convention, 'has been derided, particularly, for failing to provide simple and effective criteria for the allocation of water sources and uses.'[333] Consequently the requirement of reasonable and equitable utilization is generally not adopted, with states preferring to move towards *ad hoc* arrangements according to their specific situations.

The Berlin Rules

The well-known Berlin Rules are actually a revision of the Helsinki Rules. They attempt to compose a clear, rational and coherent summary of the relevant customary international law, taking into account the development of important bodies of international environmental law, international human rights law, and humanitarian law relating to war and armed conflict, as well as the adoption by the General Assembly of the UN Convention. Historically speaking at its meeting in Edinburgh in January 1996, the ILA's water resources law committee voted to compile and review the entire body of its work. This revision started in 1997, the same year as the adoption of the UN Convention by the Water Resources Committee of the ILA. The first discussion was made in London in 2000 during the ILA conference and continued in 2002 during the New Delhi Conference where the Committee presented its third report. Participants agreed to set a goal of completing the project by 2004. Accordingly, in March 2004 during a meeting of the ILA's Water Committee in Ghent, the 11 members who attended (out of 22 members total) finalized the revision and voted unanimously to present the new set of rules to the ILA. As a result, the 71st Conference of the ILA that was held in Berlin in August 2004 became the birthplace for "The Berlin Rules on Water Resources."

This set of rules consists of 73 articles, divided into 14 chapters. The preface of the text underlines that, 'these Rules incorporate the experience of the nearly four decades since the Helsinki Rules were adopted, taking into account the development of important bodies of international environmental law, international human rights law, and the

[333] Ibid.

humanitarian law relating to the war and armed conflict, as well as the adoption by the General Assembly of the United Nations of the UN Convention.'[334]

As far as the content of the legal text is concerned, Chapter 2 demonstrates the general principles applicable to all waters: the right of public participation, the obligation to use best efforts to achieve both conjunctive and integrated management of waters, and the responsibility to achieve sustainability and the minimization of environmental harm. Chapter 3 analyses the basic principles applicable solely to international waters. In particular, Article 12 states that, 'Basin states shall in their respective territories manage the waters of an international drainage basin in an equitable and reasonable manner having due regard for the obligation not to cause significant harm to other basin states'.[335]

Great attention is also given to the protection of the environment. For example, Chapter 5 includes the obligation to protect the ecological integrity of the aquatic environment, the obligation to apply a precautionary approach and the duty to prevent, eliminate, reduce or control pollution as appropriate. In addition, Chapter 6 addresses the obligation to commence the evaluation of environmental impacts of programs, projects, or activities relating to all waters—national and international, while Chapter 7 sets forth obligations for mutual and separate responses to severe situations, including extremely polluting accidents, floods, and droughts.

Contrasting the Berlin Rules to their predecessors, the Helsinki Rules and the UN Watercourses Convention, reveals some relevant conclusions. As experts have argued, closely studying and interpreting the new set of rules, there are two main features that distinguish them from previous rules. Initially, a number of the Berlin Rules apply to both national as well as international waters. This is an apparent departure from previous instruments of international water law which were strictly occupied with shared waters. Secondly, their difference lies on the principle of equitable and reasonable utilization. As Salman has written, the Berlin Rules, 'have downgraded the established and cardinal principle of international water law of equitable and reasonable utilization, and have equated it with the obligation not to cause significant harm'.[336] This means that the Berlin Rules contrast with both the Helsinki Rules and the UN Watercourses Convention on the

[334] International Law Association, *Water Resources Law,* Berlin Conference 2004, p. 4.
[335] Ibid. p. 20 – 21.
[336] Salman Salman (2007), p. 628.

grounds that while these two actually accept "harm" as one of the vital factors for determining equitable and reasonable utilization and thus subordinate the commitment not to cause harm, the Berlin Rules in fact equate harm with the principle of equitable and reasonable utilization.

UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

On 17 March 1992, during the UNECE meeting, the Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes in Europe was adapted.[337] This convention, ratified by the EU and twenty-two other European countries, forecasted the deterrence, the control and the reduction of water pollution from dangerous substances whenever they come from.[338] The countries that participated also agreed to build stronger bonds of trust among themselves in order to avoid any potential conflicts that could be caused from such activities.

As already mentioned, this convention was ratified not only by the countries of the European Economic Community (EEC), but also by the connected members and some other countries as well, ultimately numbering thirty-two countries.

By signing the Convention, the states decided that, 'the protection and use of transboundary watercourses and international lakes are important and urgent tasks, agreeing also that the effective accomplishment of their protection can only be ensured by enhanced cooperation.'

Accordingly, in order for the parties to achieve these goals they would have to take all appropriate measures described as follows:

- to prevent, control and reduce pollution of waters;
- to ensure that trans-boundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection;

[337] United Nations Economic Commission for Europe
[338] Alexandre Kiss, Dinah Shelton, *Manual of European Environmental Law*, Cambridge, 1997, p. 293

- to ensure conservation and, where necessary, restoration of ecosystems.

Cooperation among the riparian parties through the formation of bilateral and multilateral agreements shall be based upon the principles of impartiality and reciprocity. In this way, it would be easier for the parties to develop an ingegrated framework of cooperation by developing harmonized policies, programmes and strategies covering the relevant catchment areas, or parts of it and thus achieving the control and reduction of trans-boundary impact aiming at the fortification of the environment of trans-boundary waters or the environment influenced by such waters, including the marine environment.

Additionally, to prevent, control and reduce trans-boundary impact, the Parties shall develop, adopt, implement and, when needed, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, *inter alia*, that:

- The emission of pollutants is prevented, controlled and reduced at the source through
- the application of, *inter alia*, low- and non-waste technology;
- Trans-boundary waters are protected against pollution from point sources through the prior licensing of waste-water discharges by the competent national authorities, and that the authorized discharges are monitored and controlled;
- Limits for waste-water discharges stated in permits are based on the best available technology for discharges of hazardous substances;

Appropriate measures and best environmental practices are developed and implemented to reduce the input of nutrients and hazardous substances from diffuse sources, especially where the main sources are from agriculture. At the same time suggestions were made for further collaboration and the realisation of common research that could lead to new methods for the prevention of any type of pollution.

To sum up, while this convention is not as popular as preceding ones, its significance is unquestionable. It aims on the one hand to prevent, control and reduce pollution and on the other to promote the integrated management of transboundary waters. It also has a strong ecological character since it focuses on the conservation and restoration of ecosystems. In order to achieve its objectives, the convention sets three basic principles: The precautionary principle; the polluter – pays principle; and the principle of sustainable water management. At the same time, it sets specific provisions to prevent, control and reduce trans-boundary impacts especially focusing on riparian states by arguing their obligation to conclude specific bilateral or multilateral agreements that would lead to the establishment of joint bodies.

4.3 EU Legislation: The Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy and the Directive 2007/60/EC of the European Parliament and Council on the assessment and management of flood.

According to scholars, the legislation in Europe concerning water resources began in 1975 and since then has been modified in order to respond to economic, political and social changes which are affected by water management.[339] The most precise rule that has been produced during the European Integration process was the directive 2000/60 (hereafter referred to as WFD). The WFD establishes a new institutional framework, giving directions for the common approach, the common objectives, principles, definitions and measures for the management of waters in Europe. Nevertheless, it has been said that the WFD apart from a new innovative approach to river management which will be discussed later on, has actually taken the United Nations convention on the protection and use of transboundary watercourses and international lakes into serious account.[340] The main philosophy of the WFD lies on the grounds that the member states

[339] Giorgos Kallis, Peter Nijkamp, 'Evolution of EU Water Policy: A critical Assessment and a Hopeful Perspective', *Journal of Environmental Law and Policy* 3, 2000.
[340] Andreas Kallioras, Fotis Pliakas, Ioannis Diamantis, 'The Legislative Framework and Policy for the Water Resources Management of Transboundary Rivers in Europe: The Case of Nestos/Mesta River, Between Greece and Bulgaria', *Environmental Science and Policy,* 9, 2006, p. 294.

should move towards cooperation among themselves and with non-member states as well concerning the management of international rivers. In particular as Kallioras et al have pointed, Articles 3, 5, 11 and 13 pay significant attention to the coordination of administrative arrangements within river basin districts, the characteristics of the river basin districts, the programme of measures and the river basin management plan.[341]

The WFD sets the legal framework for the equitable management of water resources and the protection of the ecosystems that are dependent on them. The key point of the directive concerns the use of inland surface waters, transitional waters, coastal waters and groundwater. Moreover, it establishes specific measures and settles on the required strategies needed to achieve the specific goals that were set. At the same time, it mandates that all the parties submit regular reports on the results from the implementation of the directive.[342]

According to Kolokytha, it is widely accepted that through the WFD the EU policy has moved from the fortification, 'of particular waters of special interest (such as drinking water, a nature area, coastal waters, etc.) to protection and use, based on an overall approach and extended to all waters, both surface and groundwater.'[343] In particular, the directive sets an objective that all European water bodies should reach a good water status by 2015, provided that they are not under one of the derogation regimes that allow this deadline to be extended. This ambitious objective applies to all soft water bodies, including continental surface water and groundwater.[344] In order to ensure success, the WFD provides the states with a step-by-step approach, with fixed deadlines for each step, requesting at the same time the designation of national entities to be in charge of its implementation.[345] In particular, the directive sets three management cycles: 2009-2015, 2015-2021 and 2021-2027. The idea is to allow continuous improvement

[341] Ibid.
[342] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:HTML
[343] Elpida Kolokytha, 'The European Union Water Framework Directive, a Driving Force for Shared Water Resources Management', in: Jacques Ganoulis, Alice Aureli, Jean Fried, *Transboundary Water Resources Management',* Weinheim: Wiley-VCH, 2011, p. 53.
[344] Didier Pennequin, Hubert Machard de Gramont, 'Implementation of the Water Framework Directive Concepts at the Frontiers of Europe for Transboundary Water Resources Management', in: Jacques Ganoulis, Alice Aureli, Jean Fried, *Transboundary Water Resources Management',* Weinheim: Wiley-VCH, 2011, p. 67.
[345] Ibid.

while urging the member states to adopt a common process, with the same objectives, the same methods and tools.[346]

The main principle on which the directive has been constructed is that water resources as a patrimony should be used in a balanced and equitable way and preserved for future generations. A breakthrough on river management was the shift to approaching them as physical rather than administrative boundaries. According to the directive, managing the river basin as a whole is the best way to ensure the integrity of the ecosystem. Article 2 and in particular Paragraphs 13 and 15 describe the meaning of a river basin and give a more precise idea of how it should be approached:

> 13. "River basin" means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

> 15. "River basin district" means the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.

The WFD introduces the "water body" concept as a management unit that is defined by each member state according to water resources management criteria. Moreover, the directive requires member states to thoroughly characterize and monitor water resources establishing programmes of measurement to decrease levels of contamination and to improve water quality when necessary. The directive provides explicit means to do so. So, Article 5 imposes a review of the environmental impact assessment, while Article 6 requests the establishment of a register or registers, 'of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending

[346] Elpida Kolokytha (2011), p. 56.

on water.'[347] In addition, Article 8 requests that member states establish appropriate programmes to monitor water status, while Article 16 urges that specific measures be taken against pollution, 'of water by individual pollutants or groups of pollutants presenting a significant risk to or via the aquatic environment, including such risks to waters used for the abstraction of drinking water.'[348] In general, the issue of water quality is diffused across the whole directive. Many articles deal with this issue, such as Article 4 which deals with environmental objectives, Article 5 which stresses the environmental impact of human activities and Article 8 which is dedicated to monitoring the status of both surface and groundwater status.

National treaties and agreements are also taken into serious account by the WFD. Indeed, through the directive the Commission calls the member states to consider the national treaties, while in case of failed negotiations that could lead to coordination between adjacent countries, both of them [349] can request the Commission to act in order to facilitate the establishment of the measurement programs.[350]

In 2007 another supplementary directive came into force. The EU Directive 2007/60 also known as "the Flood Directive", responded to a major need for protection against the catastrophic floods of the recent European past. From 1998 until 2004, Europe suffered significant economic and human loss. During that period more than 100 major floods occurred, and the largest scale were those on the Danube and Elbe rivers in summer 2002. In 2005 Europe faced more severe floods that reinforced the need for flood protection measures. Indeed, according to estimations and data, since 1998 floods in Europe have caused some 700 deaths, the displacement of about half a million people and almost €25 billion in insured economic losses.[351] Between 2003 and 2007, the trend continued, and the number of large scale flooding incidents across Europe slightly increased, surpassing 120 and causing some 345 fatalities and an estimated economic loss of at least €12 billion.[352] In 2005 a report published by the European Commission

[347] Article 6, paragraph 1.
[348] Article 16, paragraph 1.
[349] If a Member-State is engaged.
[350] Andreas Kallioras et al. (2006), p. 294.
[351] Catherine Freissinet, 'The EU Flood Directive', ASEMWATERNET, WP3 "Flood" Version 1.3 – 8th of July 2009, p. 1, available at http://www.asemwaternet.org/FILESERVER/PROJECT/asem-WP3-CFt-090708.pdf
[352] Giorgos Tsakiris, Ioannis Nalbantis, Aimilia Pistrika, 'Critical Technical Issues on the EU Flood Directive', *European Water 25/26,* 2009, p. 39..

predicted that the scale and frequency of floods will increase in the future mostly due to the effects of climate change, improper river management and ill-advised infrastructure expansion in flood prone areas.[353]

The EU decided to change its strategy towards the flooding incidents by adopting Directive 2007/60/EC of the European Parliament and Council on the assessment and management of flood[354] risks of 23 October 2007 which entered into force on 26 November 2007. The main focus of the directive was to develop and establish a framework for assessment and management of flood risks in order to combat and prevent negative consequences for human health, the environment, cultural heritage and economic activities associated with floods.[355] It contains three basic requirements for EU Member states. Initially, it requires them to identify whether they have areas adjacent to their water courses and coast lines which are at risk from flooding. Secondly, it requires them to map the extent of flooding, and the assets and populations at risk within these areas and thirdly to take sufficient and coordinated measures to minimize flood risk.[356]

Due to the differentiation of flood typologies (river floods, flash floods or progressive, coastal floods etc.), the risk varies across the countries and regions of the EU, and the same goes for the consequences of flooding. Consequently, the directive, in order to reach the highest level of protection, suggests floods be defined at the local/regional level with coordination between the neighbor riparian states (upstream and downstream).[357] Additionally, as Tsakiris et al underlined, the new directive includes the recommendation to, 'base cooperation, planning and acting on flood problems on river basins or sub-basins as the coordination and management unit while coastal areas at risk should be assigned to the nearest or most appropriate river basin.'[358] The directive does not exclude non-member states. On the contrary, member states shall furthermore organize their flood risk management practices in shared river basins with third counties

[353] European Commission, Final Report: Evaluation of the Impact of Floods and Associated Protection Policies, DG Environment, 2005. (cited in: G. Tsakiris, I. Nalbantis, A. Pistrika, 'Critical Technical Issues on the EU Flood Directive', *European Water 25/26, p. 39.)*
[354] Floods are defined as "the temporary covering by water of land not normally covered by water including floods from rivers, mountain torrents, Mediterranean ephemeral water courses, floods from the sea in coastal areas".
[355] UNECE, Transboundary Flood Risk Management, New York/Geneva: UN, 2009, p. 17, available at: http://www.unece.org/fileadmin/DAM/publications/oes/Transboundary_Flood_Risk_Management_Final.pdf
[356] Ibid.
[357] Giorgos Tsakiris et al (2009).
[358] Ibid.

and shall in solidarity not commence measures that would amplify the flood risk in neighboring countries.

The timetable that the directive places in order for the requirements to be met suggests that by 2011 the member states should have carried out a preliminary assessment to identify the river basins and associated coastal areas at risk of flooding. By 2013, member states should have drawn up flood risk maps in those identified areas. By 2015, member states are bound to establish flood risk management plans focusing on prevention, protection and preparedness.[359]

Yet, it is significant to underline that this directive also reinforces the rights of the public to have access to related information and to actively participate in the planning process, in the same way as the WFD.[360] Indeed, all assessments, maps and plans prepared shall be made open to the public. Moreover, the implementation of the two directives cannot be taken as a separate procedure. On the contrary, the flood directive must be carried out in synchronization with the WFD. In particular, the above-mentioned steps to fulfill the requirements of the flood directive shall be reviewed every six years in a cycle coordinated and harmonized with the implementation cycle of the WFD.[361]

4.4 Conclusions

Comparing these basic rules that actually represent the legal basis of transboundary water management both at the international and European level, it is clear that both legal texts have spread the spirit of collaboration. To begin with, as far as the first three legal texts are concerned, we are dealing with some basic principles such as collaboration, negotiation in good faith, the obligation to avoid causing damage, the principle of informing neighboring countries and the principle of the equivalent use of common water. At the EU level, the directive 2000/60 pays more attention to the protection of ecosystems, focusing mostly on quality issues and preventing pollution.

[359] UNECE, Transboundary Flood Risk Management, New York/Geneva: UN, 2009, p. 17, available at: http://www.unece.org/fileadmin/DAM/publications/oes/Transboundary_Flood_Risk_Management_Final.pdf
[360] Catherine Freissinet (2009), p. 1, available at http://www.asemwaternet.org/FILESERVER/PROJECT/asem-WP3-CFt-090708.pdf
[361] Giorgos Tsakiris et al (2009), p. 41.

Nevertheless, there are some problems concerning the implementation of international water law. First of all, it is a common belief that it is very difficult to adapt these general principles to specific situations of water conflict, something which derives from the uniqueness of each basin. Thus, these rules have to be and in reality are, quite general in order to address most of the cases. Another significant disadvantage of international water law is that it is actually non-binding. In fact, the whole thing as Wolf argues, 'is further complicated in the rare cases of formal litigation or arbitration.'[362] This is due to the lack of specialized institutions for international law making, interpretion or enforcement. We should also add that international law only concerns itself with the rights and responsibilities of states, and so, some non-state political entities such as the Palestinians or the Kurds who might claim water rights would not be represented.[363] However, contrary to the non-binding character of international water law, European water law has an obligatory character. Therefore, it requires that all parties submit reports on a regular basis on the results of the directive's implementation and if there are inaccuracies in the implementation, then the EU imposes fines.

But why is international water law so vague? The answer is simple. Water scarcity increases the importance of water resources for states; thus, in order to protect their welfare, states perceive water resources as an integral part of their sovereign rights. Within this framework, a long-lasting debate has emerged, at the centre of which are sovereignty discussions that have already been presented in a previous chapter of this thesis.

Nevertheless, the mostly likely answer for sustainable water management, especially in Europe, is regional integration through the EU and EU legislation. The management of shared water resources in Europe faces both the difficulties deriving from geographic setting and the different national legislations and the void of international legislation on trans-boundary waters, which resulted in cooperation focused on specific water issues rather than in promotion of integrated approaches. Nevertheless, the EU directives gave a boost to integrated water management plans.

[362] Aaron Wolf (1999), pp. 3-30.
[363] Ibid.

Indeed, the WFD and the Flood Directive provide the proper and most effective approach to international water management between two or more EU members and third countries as well. In particular, the WFD aims at protecting all waters in the EU, such as rivers, lakes, coastal waters and groundwater, setting as an objective to achieve and maintain good status of all waters by 2015. This will be possible through extensive cooperation following data and information exchange towards the formulation and implementation of common management plans in European basins.

Nevertheless, recent official reports have shown that the progress of the implementation of WFD in the member states is quite slow, while major deficiencies exist in the harmonization of national legislations, the set up of administrative structures and the economic analyses of river basin districts as well.[364] Of course there are also positive aspects mentioned in the reports, especially regarding the monitoring of water status where, in general terms, there is progress with the exception of Greece and Malta, which did not report on their monitoring status until 2010.[365] Moreover, according to Mylopoulos et al, the innovative character of the WFD lies in the increase of public participation in the water resource management process.[366]

However, there is also criticism of the WFD. For instance, as Tsakiris et al argue, 'no further directions, guidelines or recommendations were given at the EU level about specific ways to support and intensify the international cooperation.'[367] These directions should focus mainly on the construction of the proper administrative structures of the riparian states, and should also more specifically define the role of the community in the decision-making process.

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[364] European Commission, 2007. Staff Working Document; Towards Sustainable Water Management in the European Union. First stage in the implementation of the Water Framework Directive 2000/60/EC. (COM (2007)128 final) available at: http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0128en01.pdf
&
European Commission, 2009. Report in accordance with article 18.3 of thw Water Framework Directive 2000/60/EC on programmesfor monitoring of water status. (SEC(2009)415) available at: http://ec.europa.eu/environment/water/water-framework/implrep2007/pdf/com_209_156_en.pdf

[365] Giorgos Tsakiris et al (2009), p. 39.

[366] Yannis Mylopoulos, Elpida Kolokytha, 'Integrated Water Management in Shared Water Resources: The EU Water Framework Directive implementation in Greece', *Physics and Chemistry of the Earth,* 33, 2008, pp. 348-349.

[367] Ibid.

Chapter 5

Analyzing cases of International Rivers in Europe.

The Danube River

5.1 Introduction

This chapter aims to present and analyze a significant case of international river management in Europe. While it has become clear from the previous chapter that cooperation is the prevailing norm concerning transboundary water management, it is also important to understand the basic driving factors in some key case studies. Within this framework, this chapter will provide an in-depth analysis of a major European river, the Danube.

The decision to focus on a river within Europe rather than on other cases around the world (such as the Mekong River, the Nile, etc.) was taken for different reasons. The Danube, as will be discussed in detail later on, is a very complex system. It is the second longest river in Europe after the Volga, affecting almost 83 million people in nineteen countries. Consequently, the river has to meet the wide and diverse needs of this population, which differ from one riparian country to another resulting in a great variation of how these countries use the river. Moreover, the geographical setting of the river within Europe, as well as the different status of the riparian states (not all of them are EU member states) are also reasons to focus on this particular case study since it resembles, to some extent, the focal case studies to follow where Greece is engaged as a riparian state. Besides, as in the Danube case, in the Greek cases the uses of the rivers in the case studies are different and will be examined in the forthcoming chapters. It is also important to mention that in the Danube case, although there is cooperation and to certain extent integration, it is still not an ideal case since many issues are still under discussion. Lastly, the choice of the Danube is related to the interest that this river has attracted, since it is one of the most studied cases in the international literature

Nevertheless, before analyzing this case study we must categorize two different factors which play an important role, either positive or negative, as far as the formation of water regimes is concerned. These are: i) Regional context; and ii) power asymmetries.

Regional Context

One of the most crucial aspects to be examined is under which political circumstances the interactions over water resources are taking place, meaning the historical context that has shaped the relations of the states involved.[368] The significance of such an approach lies on the grounds that wider regional or bilateral conflicts can in fact strain the relationship between states and thus affect the interaction over shared waters.[369] In contrast, a high level of economic and political integration in the region can contribute to increased confidence and communication between parties and can also augment the potential to overcome competing interests.[370] In the case of the Danube River, the history of European integration is to a large extent related to the integration of its management.

Power Asymmetry

It is very common throughout the literature on transboundary water governance to see multiple variations on the theory of hegemonic stability. Specifically, the idea that international water regimes are the result of determined actions from powerful states that impose institutional solutions on weaker states is widespread.[371] Turton, for example, referring to South Africa, argues that water regimes there, 'originated as a result of national security threats to the hegemonic riparian. This means that the water regimes are in fact a form of security regime with the preference structure having been defined by

[368] Stefan Lindeman, 'Success and failure in international river basin management – the case of southern Africa', in M. Janicke and K. Jacob (Eds.) *Environmental Governance in Global Perspective: New Approaches to Ecological Modernization,* Berlin: Freie Universitat Berlin, 2006, pp. 411-435
[369] Anthony Turton, 'The political aspects of institutional developments in the water sector: South Africa and its international river basins', Unpublished PhD Dissertation, Pretoria: University of Pretoria, 2003.
[370] Stefan Lindeman, 'Understanding water regime formation – a research framework with lessons from Europe', *Global Environmental Politics* 8(4), 2008, pp. 117-140.
[371] Robert Keohane, 'Theory of Hegemonic Stability and Changes in International Economic Regimes, 1967-1977', in: O.Holsti, R.Siverson, A.George (eds), *Change in International System,* Boulder/Colo: Westview Press, 1980, p.133.

South Africa as the hegemonic state.'[372] In other words, South Africa's relative dominance in southern African basins serves as an accelerating factor behind the formation of water agreements in the region. Spector underlines the important role that inequality plays as a, "seed for cooperation."[373]

Moreover, Lowi states that water regime formation is most likely in those cases where there is a downstream hegemon with an interest in securing its water supply and the power resources to compensate for its geographic position.[374] On the contrary, there are also supporters of 'hydro-hegemony' who posit that power asymmetry within transboundary basins is an essential driver of both conflict and cooperation between riparian states.[375] Nevertheless, the basic assumption is that a powerful actor's interest in a particular basin creates the crucial framework that can accelerate the discussion for a solution concerning the management of an international river basin. Thus, if the dominant power in the basin understands that it will benefit from regional cooperation in water utilization, it will take the lead in creating, customizing and maintaining a regime. Indeed, this conclusion can easily be adapted to the case of the Danube River, since diachronically the boost for cooperation was in the interest of a regional hegemon.

[372] According to Turton (2003), p. 302, water regimes in southern Africa "originated as a result of national security threats to the hegemonic riparian. This means that the water regimes are in fact a form of security regime with the preference structure having been defined by South Africa as the hegemonic state."
[373] Bertram Spector, 'Motivating water diplomacy: finding situational incentives to negotiate', *International Negotiations* 5(2), 2000, pp. 223-236.
[374] Miriam Lowi, *Water and Power – The Politics of a Scarce Resource in the Jordan River Basin*, Cambridge: Cambridge University Press, 1993, p.10.
[375] Mark Zeitoun, Jeroen Warner, 'Hydro-hegemony: A framework for analysis of transboundary water conflicts', *Water Policy*, 8, 2006, pp. 435-460.

5.2The Case of the Danube River

Figure 5.1. The Danube River

5.2.1 Profile of the River

The Danube's name has its origin in the Indo-European word *danu,* which means stream or river. In German the river is known as the *Donau,* in Hungarian *Duna,* and in Bulgarian *Dunav.*[376] The beauty of the Danube was memorialized in the *Blue Danube Waltz* by Johann Strauss and also by a circle of landscape painters in the 16th century known as *The Danube School'*.[377]

[376] 'World's Major Rivers: An introduction to international water law with case studies', Colorado River Commission of Nevada, November 2008, pp.12-13.
[377] Ibid.

The Danube River lies at the heart of Central Europe. It is Europe's second largest river after the Volga (it ranks 21st in the world) with a total length of 2780 km, flowing from the Black Forest to the Black Sea and draining 817000 km2.[378] According to estimations, almost 83 million people in nineteen countries call the basin their home. Nine riparian countries and five national capitals share the Danube itself, with half a million to 2.5 million inhabitants contributing to wide water use and pollution. Drinking water production from river reservoir filtrates and the supply of water for domestic, agricultural and industrial use are of major significance in all of these countries. Moreover, the Danube is an important international transportation route and recreation area.[379]

Near its source, the Danube is a mountain river flowing through Germany and Austria (passing Regensburg and Vienna) into Slovakia, where at Bratislava it forms the border between Slovakia and Hungary. Flowing south through the Great Hungarian Plain (passing Budapest), it turns eastward into Former Yugoslavia (passing Belgrade) and later forms the border between Serbia and Romania. The lower section of the river serves again as a geographic boundary between Romania and Bulgaria, where shortly before the Black Sea it separates Romania and the Former Soviet Union (currently Moldova), and empties into a stunning delta.[380] Over 300 tributaries flow into the Danube. The tributary with the largest basin (in terms of area) is the Tisza River, which drains parts of Hungary, Romania, Serbia, Slovakia, and the Ukraine. The Tisza is also the longest tributary (966 kilometers). In terms of river flow, however, the largest tributary to the Danube River is the Sava River, which drains part of Albania, Bosnia-Herzegovina, Croatia, Montenegro,

[378] Alexander Kirschner, Gerhard G. Kavka, Branko Velimirov,Robert L. Mach, Regina Sommer, Andreas H. Farnleitner, 'Microbiological water quality along the Danube River: Integrating data from two whole-river surveys and a transnational monitoring network', *water research* 43, 2009, p. 3673.

[379] 'Danube Basin Analysis (WFD Roof Report 2004). The Danube River Basin District – River Basin Characteristics, Impacts of Human Activities and Economic Analysis Required Under Article 5, Annex II and Annex III, and Inventory of Protected Areas Required Under Article 6, Annex IV of the EU Water Framework Directive (2000/60/EC) – Part A – Basin-wide Overview', *ICPDR, Vienna, Austria,* p.191.

[380] Joanne Linnerooth, 'Negotiated River Basin Management, Implementing the Danube Declaration', *International Institute for Applies System Analysis*, wp 88-04, 1988, p.4.

Serbia and Slovenia. The Sava River merges with the main stem of the Danube River in Belgrade, Serbia.[381]

From the above it is quite impressive how many riparian countries this basin includes. Specifically, the basin area includes all of Hungary, nearly all parts of Austria, Romania, Slovenia, Slovakia, Serbia and Montenegro; significant parts of Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Moldova and small parts of Germany and Ukraine. Very small areas can be found in Switzerland, Italy, Poland, the Former Yugoslav Republic of Macedonia and Albania. As mentioned earlier the Danube discharges into the Black Sea through a delta that is the second largest wetland area in Europe.

There is a great variation in how riparian countries use the river. Indeed, as Linnerooth et al. argue, downstream from Slovakia, the river is used mainly for drinking water in all the countries except Bulgaria being a very important source in Austria and Slovakia, while in the Hungarian plain the river is also used extensively for irrigation. Measurements calculate that the Danube River is the source of drinking water for 10 million people. Within the lower areas of the basin, fisheries are also a key food source and source of income as well.[382]

According to Linnerooth et al, the Danube's importance also lies in its capacity for hydroelectric energy production. Indeed, from a geomorphologic point of view the mountainous character of the Danube at its upper location, combined with the large number of tributaries further downstream, make it a significant potential energy producing river. There are over 40 hydropower stations on the upper Danube, which are matched in energy output by the two enormous stations between Serbia-Montenegro and Romania. It also is worth pointing out the significance of the Danube for industrial cooling and waste disposal. There are also a large number of dikes, navigation locks and other hydraulic structures to aid navigation.[383] Indeed, small- and medium sized ocean-going vessels can travel from the mouth of the river at the Black Sea upstream 105 miles (169 kilometers) to Braila, Romania, while smaller ships can cross the river all the way to

[381] 'World's Major Rivers: An introduction to international water law with case studies', Colorado River Commission of Nevada, November 2008, pp.12-13.
[382] Joanne Linnerooth-Bayer, Susan Murcott, 'The Danube River Basin: International Cooperation or Sustainable Development', *Natural Resources Journal* vol. 36, 1996 pp. 524-526.
[383] Ibid.

Germany. Many of the Danube's tributaries are also traversable for barges and shallow boat traffic.[384]

In Germany, the Danube River is connected by the Main-Danube Canal with the Rhine River. The importance of this connection is quite big since it allows commercial barge traffic to travel between the North Sea and the Black Sea. The canal, completed in 1992, is 106 miles (171 kilometers) long. Other important canals in the Danube River basin are the Danube-Tisza-Danube Canal System, located in Serbia, and the Danube-Black Sea Canal in Romania.[385]

The ecological importance of the Danube also is unquestionable. Indeed, the Danube River and its tributaries combine to make up an internationally recognized and, in many ways, unique aquatic ecosystem. The catchment area, which is comprised of floodplain areas, meadow forests and wetlands, connects the three distinct bio-geographical regions of Central Europe, the Mediterranean and Eurasia. Despite extensive development, the broad environmental diversity supports important species and genetic variety. Some original floodplain ecosystems still survive, providing habitat for endemic and endangered species such as the white-tailed eagle, black stork, black kite and night heron. The Danube Delta is the second-largest, natural wetland area in Europe, providing habitat for many diverse and sometimes endangered plants, fish (at least 100 species of fish out of 227 found in all of Europe), birds and mammals.

Table 5.1. Riparian States of the Danube

Country	**% of the Basin**
Albania	<1
Austria	10.0
Bosnia and Herzegovina	4.6
Bulgaria	5.9

[384] 'World's Major Rivers: An introduction to international water law with case studies', Colorado River Commission of Nevada, November 2008, pp.12-13.
[385] Ibid.

Croatia	4.4
Czech Republic	2.9
Germany	7.0
Hungary	11.6
Italy	<1
Macedonia	<1
Moldova	1.6
Poland	<1
Romania	29.0
Serbia-Montenegro	11.1
Slovak Republic	5.9
Slovenia	2.0
Switzerland	.2
Ukraine	3.8
TOTAL	**100.0**

5.2.2 Historical Background

The Danube River Basin is not only the geographical catchment area of the second largest river in Europe, but it has also played in the past and still plays today an important role as a cultural and historical center of political, social and economic development in Europe. Historically, the importance of the Danube has always been exceptional, not only on the basis of ecology, but also in terms of its strategic role as a crucial Central European waterway. Moreover, this significance was made clear by the

early attempts during the 19th and 20th centuries to establish multilateral cooperation along the Danube, usually as Linnerooth et al argued, in the form of federalism.[386] However, according to experts, these attempts remained unsuccessful due to nationalistic tendencies and because the international powers of that time were suspicious of *Danubian unity.*[387] Indeed, as Khrebiel has written at the beginning of the 20th century, since 1829 and until the Crimean War, the commerce of the Lower Danube was *greatly hampered* by Russia and the regulations that she imposed by establishing a series of quarantine stations at the river's mouths.[388] Yet, the defeat of Russia at the end of the Crimean War brought important developments regarding the international regime of the Danube. The "forgotten" principles of river law that were embodied in the Final Act of the Congress of Vienna in 1815 were revived with the Treaty of Paris in 1856 and applied to the Danube, putting the river under an international regime. Another breakthrough was the establishment of two commissions: a riparian Commission which was to be permanent but the Statute of which never entered into force, and a European Commission, intended as a temporary technical body but the mandate of which was extended and widened by later treaties.

The European Commission established with Article 16 was originally composed of representatives of Austria, France, Great Britain, Prussia, Russia, Sardinia and the Ottoman Empire. The latter was the territorial sovereign of the mouths and lower reaches of the river. The Commission was responsible for administration of the Danube River.[389] The primary consideration at the time was navigation, and the Commission was successful in establishing free navigation along the Danube for all European countries.[390]

The Commission first met on 4 November 1856. The headquarters were set at Galatz, while the members appointed Charles Hartley as chief engineer. The Ottoman

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[386] Joanne Linnerooth-Bayer, Susan Murcott (1996), p. 525.
[387] Ibid.
[388] Edward Krehbiel,'The European Commission of the Danube: An Experiment in International Administration', *Political Science Quarterly* vol. 13 no.1 , 1918, p. 38.
[389] The treaty ended the Crimean War. *General Treaty of Peace of, Paris*, March 30, 1856. The treaty expanded the concept of free navigation, first agreed to among eight leading European nations in *The Final Act (General Treaty), Congress of Vienna*, art. 108-116, June 9, 1815, 64 Parry 453. Article 15 of the treaty stated: "The Act of the Congress of Vienna having established the principles intended to regulate the navigation of rivers which separate or traverse different States, the Contracting Parties [in this treaty] stipulate among themselves that those principles shall in future be also applied to the Danube and its mouths. They declare that this arrangement henceforth forms a part of the public law of Europe . . . ."

[390] Beach et al (2000), pp. 84-87

Empire had agreed exclusively to provide funds for the works of the commission, limiting the participation of another nation. As far as its power in the decision making process, it had been agreed that the commission should not form an opinion on the best way to solve the river problem. Its main concern, however, would have been the opening of the river's stream within a period of two years.[391]

The creation of the Commission was continuously postponed. As such, the Treaty of Berlin of 1878 granted a seat on the Commission to Romania, now independent, and at the same time extended to Galatz, in Romanian territory, the powers of the Commission. The following Treaty of London of 1883 extended this jurisdiction to Braila, also in Romanian territory.[392]

The history of the river is inextricably linked to regional and geo-political developments. Therefore, given the changes in the geo-political scene within the Danube basin, coupled with the extraordinary complexity of this river system, the management history of the river becomes very interesting. On the eve of World War I, the major basin power was the Austro-Hungarian Empire, but with the end of the War, things changed dramatically with the dissolution of the empire. A reshuffle of membership occured after World War I, through the 1919 Versailles Treaty. Under the Treaty of Versailles, the Danube was declared an international river (from Ulm to the sea). The powers of the European Commission were confirmed as had been agreed before the war. Yet, a "provisional measure" included in the Treaty related to the Commission's composition indicated that it would have been made up of only representatives of Great Britain, France, Italy and Romania. The Definitive Statute of the Treaty, in accordance with Article 349, was finally signed on July 23rd 1921 during an international conference that took place in Paris. The relevant articles of this Statute are as follows:

Article 5. The European Commission retains the powers which it possessed before the war. No alteration is made in the rights, prerogatives and privileges which it possesses in virtue of the treaties, conventions, international acts and agreements relative to the Danube and its mouths.

[391] Edward Krehbiel (1918), p.44.
[392] http://www.internationalwaterlaw.org/cases/ec-danube.html

Article 6. The authority of the European Commission extends, under the same conditions as before, and without any modification of its existing limits, over the maritime Danube, that is to say, from the mouths of the river to the point where the authority of the International Commission commences.

Moreover, with Article 9 of the Statute, an International Commission was established with the same members mainly focusing on issues of inland shipping with a jurisdiction from Ulm to Braila. The agreement achieved through the Treaty of Versailles lasted until the summer of 1940 when the outbreak of World War II halted the work of the Commission [393]

During World War II there was an undercurrent of discussion on the international development of the Danube. These suggestions were brought to light right after the end of the war. For instance, Julian Huxley, the first director of UNESCO, wrote "(a) 'DVA' (Danube Valley Authority, VCL) would have to be fitted in to the framework of a European economic organization and political control."[394] In the aftermath of the Second World War, the East-West division also was reproduced among the riparian states. In particular, most of the riparian states became part of the Soviet Bloc and only West Germany joined the Western Bloc, while Austria remained politically neutral, Yugoslavia was non-aligned and Albania decided to remain independent later on.[395] Nonetheless, the hegemony of the Soviet Union over Central Europe dominated the politics of the Danube River during the Cold War period.

World War II created new political alliances for the riparians, resulting in a new management approach. At the 1945 Potsdam Conference, Washington and Moscow clashed over the administration of the Danube. The reason was the disagreement on the Interwar arrangements that the West accepted as valid, while the Soviet Union did not. The conference of 1948 in Belgrade proved to be the theater for the collision between the two camps. There, Washington demanded a Danube running from Ulm all the way to the

[393] Vincent Lagendijk, Transnationalising the TVA: International River Development in Troubled Waters, NOW sponsored (VENI) book project (2010-2013).

[394] Julian Huxley, *TVA: Adventure in Planning*, London: The Architectural Press, 1943, p. 136; cited in: Vincent Lagendijk, Transnationalising the TVA: International River Development in Troubled Waters, NOW sponsored (VENI) book project (2010-2013)

[395] Joanne Linnerooth-Bayer, Susan Murcott (1996), pp. 524-526.

Black Sea. The target was to achieve representation on the board since at that time the Western occupational zones in Germany and Austria were part of the river's course. On the contrary Moscow interpreted the American attempt to gain influence on the European Danube Commission as an effort to increase its political and economic influence in the Balkans. Momentum favored the Soviet Union since the East Bloc riparians made up the majority of delegates. It was at this conference where the dominant role of the Soviet Union, concerning the management of the basin, was established. The USSR, its satellite riparian countries, as well as France, Great Britain, and the U.S attended the conference. At this conference, as Linnerooth argues, 'western interests were overruled by the majority in the East,' and the resulting Belgrade Convention substituted the notion of free navigation with navigation under the exclusive control of the participating countries which included all eight riparian countries existing at that time, with the exception, however, of the Federal Republic of Germany. The Belgrade Convention also set up a river commission. Although a Danube Commission existed before the Belgrade Convention, the convention changed the commission's structure by giving it quasi-legislative powers, but limiting its mandate to river navigation and river inspection. On the other hand, a river management commission was also created by the West and named the "Rome Commission". It however had little influence on the river. According to the Belgrade Convention, the Danube Commission's composition included one representative from each of the riparian countries; however, the Federal Republic of Germany had only observer status in the Commission and neutral Austria joined in 1960. The Convention was set up so that it did not allow for membership outside of the contracting countries.[396]

The end of Cold War brought radical changes inside the European Continent. The collapse of the Soviet Union in 1991 and the separatist movements in the former socialist countries radically transformed the geopolitics of the Danube basin and switched alliances westward.[397] Czechoslovakia, Yugoslavia and the Soviet Union were split up, resulting in a total of eighteen basin countries. This new scenario makes the Danube basin the most international basin in the world (see table). Additionally, the European

[396] Ibid. p. 526.
[397] Ibid.

integration process introduced a new variable, since several basin countries have already joined the EU, while the remaining ones hope to do the same.[398]

As already mentioned, the history of agreements concerning the management of the Danube, began with the Treaty of Paris and the creation of the European Commission of the Danube, giving priority to navigation issues. Later on with the end of World War I, this treaty was complemented by the Trianon Peace Treaty of 1919, which established the Permanent Technical Hydraulic System Commission of the Water Regime. The novelty of this treaty lies in the creation of a legal framework of detailed regulation which had to be agreed upon bilaterally between the different new states. According to Bruhàcs, this system managed to ensure, among other things, a faultless functioning of the water level and an effective flood warning service.[399]

Following the end of World War II, the Paris Peace Treaties of 1947 did not bring any innovations concerning the management of the Danube, with the exception of some provisions concerning its navigational use. The two former Danube Commissions were merged into one.[400] The Belgrade Convention signed in 1948 was another multilateral treaty. There the East Bloc riparians were the majority of the delegates and managed to shift navigation over to the exclusive control of each riparian.[401] In 1952, Austria, Germany and its state of Bavaria signed an agreement authorizing the construction of a large hydroelectric project on the river at Jochenstein, east of Passau, in southeast Germany.[402] In 1958 another convention was signed, only by the Eastern bloc countries, concerning fishing.[403]

The use of the water for the production of hydroelectric power was also a matter of great concern. This was addressed through the formation of another body focusing on exploiting the river economically and included developing the hydroelectric potential of

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[398] Bernard Barraque, Erik Mostert, 'Transboundary River Basin Management in Europe', *thematic paper for the Human Development Report 2006, UNDP.*

[399] Jànos Bruhàcs, *The law of non-navigational uses of international watercourses*. Dordrecht/Boston: M. Nijhoff, 1993.

[400] The 2nd UN World Water Development Report : 'Water a Shared Resposnibility', 2006, pp. 474-477

[401] Beach et al (2000), pp. 84-87

[402] *Agreement Between the Government of the Republic of Austria and the Government of the Republic of Germany and of the Free State of Bavaria Concerning the Donaukraftwerk-Jochenstein-Aktiengesellschaft (Danube Power-Plant and Jochenstein Joint-Stock Company)*, Austria-F.R.G. Bavaria, Feb. 13, 1952 ("*Jochenstein Dam Treaty")*, *available at* www.waterlaw.org/regionaldocs/danube-austria-germany.html .

[403] Joanne Linnerooth-Bayer, Susan Murcott (1996), p. 534

the river and its tributaries. The planning for these actions was placed within the framework of the Council for Mutual Economic Assistance (CMEA, 1949). This body counters the USSR's efforts to control the development of Central and Eastern Europe. To this end, in 1956 the CMEA began discussing the construction of links to promote the delivery of power to the German Democratic Republic and Poland, with a possible extension to Czechoslovakia. The reason for the implementation of such an ambitious project was the utilization of the River. Electricity was thought to be at that time the cornerstone of economic growth,[404] and so the task was begun under the supervision of the Standing Commission for the Exchange of Electricity and the Complex Utilization of the Waterpower of the Danube. [405] The project divided the river into seven parts. For each part, one or two riparian states were made responsible for studying the possibilities for harnessing water power. Yet, apart from the generation of electricity, the CMEA report of 1956 underlined the role of the Danube as an important European waterway artery and a significant irrigation system.[406]

Under these circumstances and conclusions, the CMEA countries built more cross-border transmission lines and initiated an electricity pool. According to Antoshin, in 1957 the first outlines of the Danube exploitation scheme, with the creation of eleven dams, were put on the agenda for discussion.[407] The decision included not only the creation of several storage dams capable of regulating water levels and thus preventing flooding and improving navigation, but also the construction of a series of dams to generate electricity. In addition, studies were made on land reclamation and irrigation projects. Austria's strong interest in participating in the development process of the Danube was also important.

In general, it could be claimed that the development of the Danube moved into the background, and was left to the CMEA members. Bilateral agreements were signed, such as those between Bulgaria and Romania on 29th November 1955, and between Hungary

[404] Vincent Lagendijk, *Electrifying Europe: The Power of Europe in the Construction of electricity networks* , The Netherlands: Aksant, 2008 p.152.
[405] Ibid.

[406] Ibid.

[407] N. N. Antoshin, 'Cooperation Between the Member Nations of the COMECON and the Socialist Federal Republic of Yugoslavia in the Hydropower Field', *Hydrotechnical Construction* 8, no. 11 (11, 1974): 999-1000.

and Czechoslovakia on 16 April 1954 focusing on arranging inland shipping and building water power plants as well. Additionally, the largest potential for hydroelectric power between Yugoslavia and Romania was at the so-called 'Iron Gates,' a gorge in the river Danube bordering Yugoslavia and Romania. Nevertheless, it was only in 1964 that the construction of a dam there began.[408]

During the 1980s issues other than navigation came to the surface. These new concerns had to do with water quality. This was an unsurprising problem, since the river passes by numerous large cities, including four national capitals (Vienna, Bratislava, Budapest, and Belgrade), receiving the attendant waste of millions of individuals and their agriculture and industry.[409] Additionally, thirty important tributaries have been identified as "highly polluted." The recognition of the significance of the problem along with the increasing tendencies of water quality degradation led the eight riparians (at the time) in 1985 to sign the "Declaration of the Danube Countries to Cooperate on Questions Concerning the Water Management of the Danube," also known as the Bucharest Declaration.[410] The main contribution of the Declaration was that it actually underlined the theory that the environmental quality of the river depends on the environment of the basin as a whole, and assigned the riparians a regional and integrated approach to water basin management, beginning with the founding of a basin-wide unified monitoring network.[411] In 1986, following the same concerns for water pollution, another five-party convention was signed for the protection of the river Tisza, a major tributary of the Danube.[412]

The situation in Europe changed dramatically with the end of the Cold War and the collapse of the USSR. Indeed, as experts argue, 'the breakup of the USSR has also contributed to water quality deterioration, with nascent economies finding few resources for environmental problems, and national management issues being internationalized with redrawn borders.'[413]

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[408] F.E.Ian Hamilton, *Yugoslavia: Patterns of Economic Activity,* London: G. Bell and Sons, 1968, p. 82.
[409] Beach et al (2000), pp. 84-87
[410] Ibid.
[411] Ibid.
[412] Jànos Bruhàcs, (1993)
[413] Beach et al (2000), pp. 84-87

For others, however, the collapse of communism brought new opportunities for the management of the Danube River. In February 1991, the basin states agreed to strengthen collaboration on the management of Danube by developing a Convention on the Protection and Management of the River. During the meetings in September 1991 in Sofia, the riparians elaborated a plan for protecting the water quality of the Danube.[414] At that meeting, the countries and interested international institutions met to draw up a plan to support and underpin national actions for the restoration and protection of the Danube.[415] In particular, with the financial support of donors such as the European Union, UNEP, the World Bank and USAID, the initiative called "Environmental Program for the Danube River Basin" was implemented through a Programme Coordination Unit that played the role of a task force, while there were ongoing negotiations for an agreement on a convention to steer the programme.[416]

The core issue for the Environmental Program and the Coordination Unit was the so-called principle of "participation." Within this framework the riparian countries were trying to build a system for coordinating activities within the basin. So, initially, each riparian country was responsible for naming two individuals: the first, called "country coordinator", usually a senior official, would act as liaison between the work of the programme and the country's political hierarchy, while the second one (called the 'focal point') would be in charge of coordinating the actual implemention of the work plan. Progress was rapid and in July 1992 in Brussels, a workshop took place organized by the Coordination Unit (task force) to facilitate communication between the coordinators, the focal points, and the donor institutions. Every riparian state at the time (11 riparians), and 15 donor and non-governmental organizations attended the workshop.[417]

The most important outcome of the workshop was the design of a plan on how the riparians would react to a crucial issue. For instance, an issue that came up during the meeting was to establish an agreement dealing with the production of national reviews on data availability and priority issues within each country. The goal was that this information could be used by prefeasibility teams funded by donors in order to identify

[414] Bernard Barraque, Erik Mostert (2006)
[415] Irene Lyons Murphy, *The Danube : a river basin in transition*, The GeoJournal library , v. 40. Dordrecht/Boston: Kluwer Academic Publishers (1997).
[416] ICPDR, 'Active for the Danbube River Basin; 1994 - 2004: Ten years of cooperation in the Danube River Basin', Vienna: International Commission for the Protection of the Danube River, 2004.
[417] Beach et al (2000), pp. 84-87

priority investments in the basin. So, during the workshop, participants developed the criteria needed for the national reviews and reached an agreement on a schedule for their completion.[418]

In October 1993 in Bratislava, the third task force meeting took place, following the ones in Sofia (1991) and Brussels (1992). The main issue of discussion was, once more, the principle of participation. During the meeting the task force agreed to prepare a "Strategic Action Plan" (SAP) for the Danube basin on the condition of strengthening consultation procedures. This was the most crucial outcome obtained from the discussion since it was the first time ever that public participation was set as a requirement for the development of an international management plan. As Wolf et al argued, 'this concept rejects the principle that internal politics within nations ought to be treated as a geopolitical "black box", whose workings are of little relevance to international agreements, and instead embraces the vital need for input at all levels in order to ensure that the plan has the support of the people who will affect, and be affected by, its implementation.'[419]

The progress concerning the management of the Danube went even further when on 29 June 1994 in Sofia, the Danube river basin countries and the European Union signed the Convention on Cooperation for the Protection and Sustainable Use of the Danube River (also known as "The Danube River Protection Convention"), and also formed the International Commission for the Protection of the Danube River (ICPDR). The core of the convention was that the riparians expressed their concerns 'over the occurrence and threats of adverse effects, in the short or long term, of changes in conditions of watercourses within the Danube River Basin on the environment, economies, and well-being of the Danubian States.'[420]

The conventions included the agreement of the riparian states on a series of actions needed in order to achieve goals such as those of sustainable and equitable water management including conservation. Another important goal was the improvement of the rational use of surface waters and groundwater, and the cooperation on fundamental water

[418] Ibid.
[419] Ibid.
[420] Convention on cooperation for the protection and sustainable use of the river Danube (Convention for the protection of the Danube) - Final act
Official Journal L 342 , 12/12/1997 P. 0019 - 0043

management issues by taking all necessary legal, administrative and technical measures as well. As Beach et al argued, the focal point of concern for the convention was that the riparian states, 'at least maintain and improve the current environmental and water quality conditions of the Danube River and of the waters in its catchment area and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to occur.'[421]

The Yugoslav wars delayed Serbia and Montenegro, and Bosnia-Herzegovina from acceding to the Convention, which finally occured only in 2002 and 2004 respectively. Nevertheless, the significance of the Danube Convention, as a vital legal continuation of a 140-year tradition of regional management, cannot be questioned. Indeed, as a political document, it provides a legal framework for integrated watershed management and environmental protection along a waterway which, as Beach et al argue, always had tremendous potential for conflict due to the large, 'and ever growing number of riparian states that for decades were allied with hostile political blocs.'[422]

The riparian states took the progress around the managerial status of the basin still further, especially in recent years, with the deepening of the principle of integrated management and the establishment of a programme for the basin-wide control of water quality. The innovation of the Environmental Program for the Danube River lies on the fact that it is the first basin-wide international body that actively supports and promotes public and NGO participation throughout the planning process, something which, as many experts argue, could help prevent potential conflicts both internally at a national level, and internationally as well.[423] Yet, things are not exactly ideal, as to reach this international management a number of obstacles must be overcome.

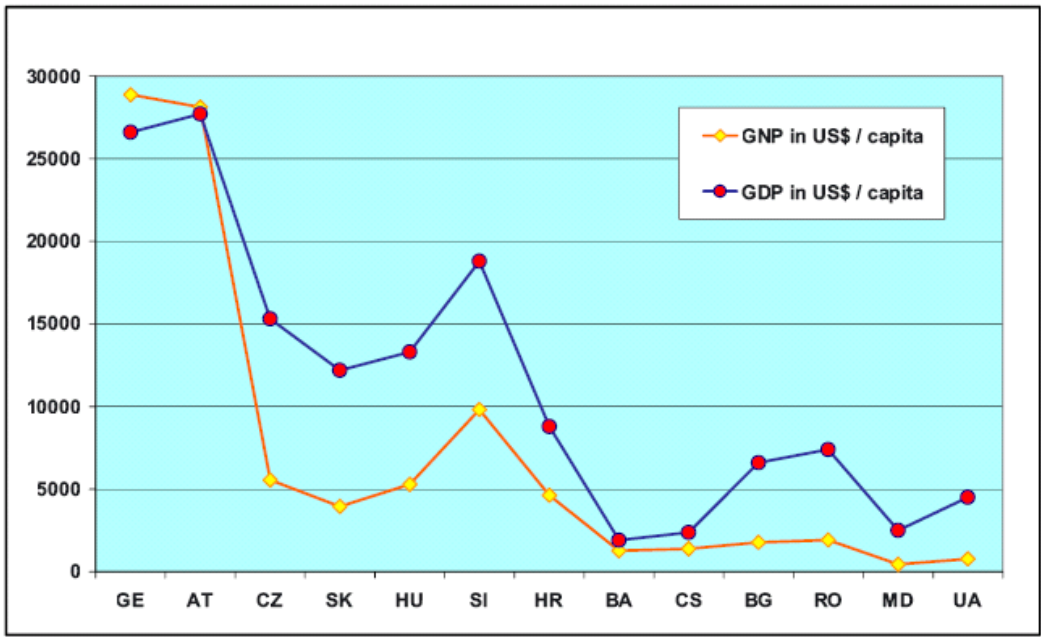
Perhaps one of the most profound issues was and still is the inconsistencies in the social and economic situation among the riparian states. Therefore, before moving to the analysis of the ICPDR's structure and effectiveness, it is perhaps of some importance to present and analyze the different social and economic statuses of the riparians in order to understand the inequalities concerning the different level of integration between the riparian states. Indeed as Bendow argued, 'an in-depth analysis of the social and economic context of the different countries in the Danube River Basin is necessary to

[421] Beach et al (2000), pp. 84-87
[422] Ibid. p. 85
[423] Ibid.

understand the problems of cooperation and the efforts to be undertaken to achieve common regional and global goals.'[424]

The following diagram shows the economic disparities between the riparians. The sharp differences in GDP per capita between the upstream countries like Germany and Austria, with about $28,000 US in 2002 and the downstream countries of which the Ukraine accounts for less than $5,000 US per capita, undoubtedly can lead to the conclusion that this difference works as an deterrent factor for the promotion of an equitable integrated water management.

Figure 5.2. GDP per Capita 2002

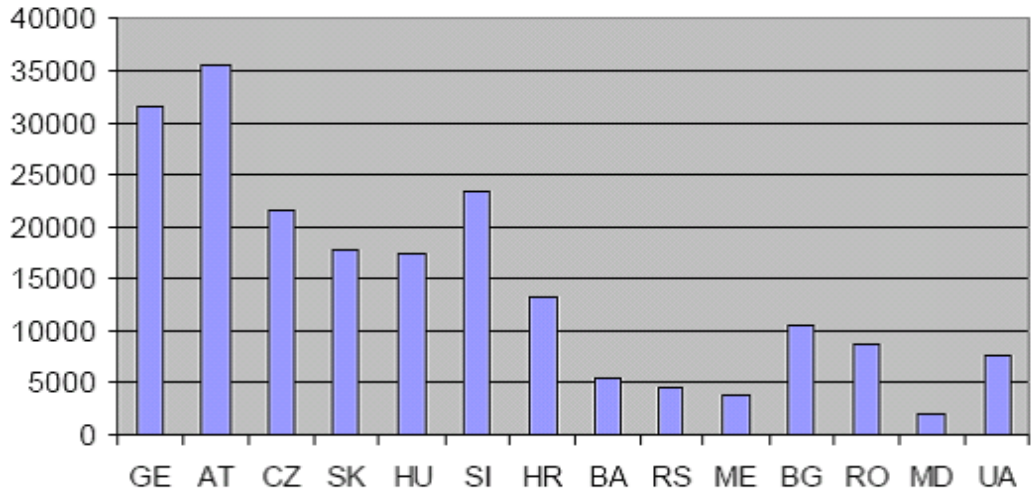


Source: ICPDR

[424] J.Bendow, 'Challenges of Transboundary Water Management in the Danube River Basin', in: Hartmut Vogtmann, Nikolai Dobretsov (eds.), *Transboundary Water Resources: Strategies for Regional Security and Ecological Stability*, The Netherlands: Springer, 2005, NATO Science Series, pp. 73-74.

Additionally, the situation since 2006 has not changed dramatically, and while the GDP of downstream states such as Ukraine rose, the distance between upstream and downstream states remained unchanged.

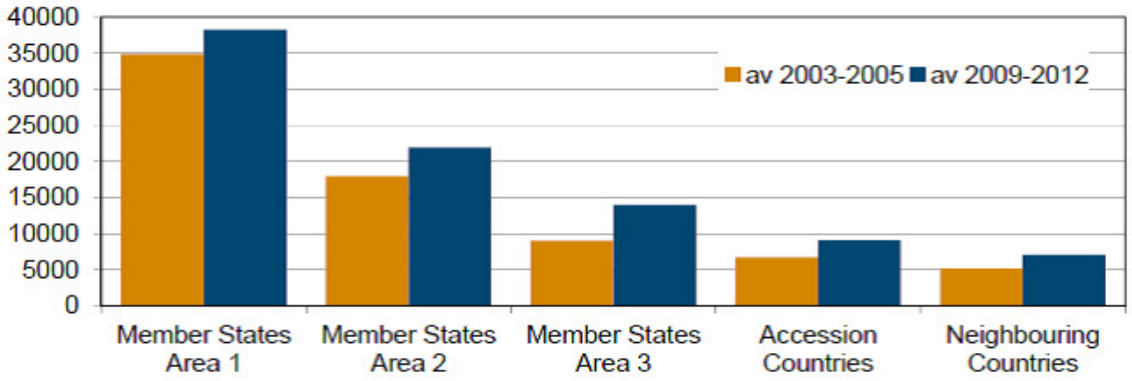
Figure 5.3. GDP per Capita 2006



Source: ICPDR

A study undertaken on behalf of the Ministry of Finance and Economics Baden-Wuerttemberg and presented at the 3rd annual forum of the EU Strategy for the Danube Region in Vienna, in June 2014 also depicted the aforementioned gap through a comparison between the past and the present.

Figure 5.4. GPD per Capita, PPP adjusted (2005 USD)

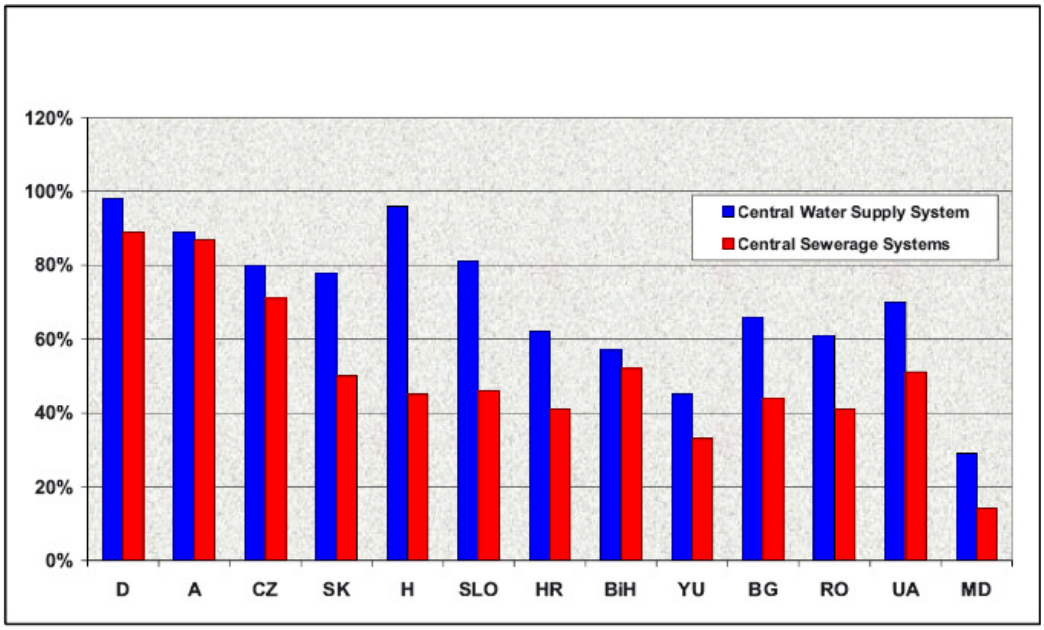


Source: Ministry of Finance and Economic Baden-Wuerttemberg (2014) [425]

Bendow also paid attention to the variation of the population connected to public water supply. In particular, studies have shown that out of the 83 million living in the Danube River Basin about 57% are living in urban areas. However, the share of population connected to public water supply varies from 29% in Moldova to 98% in Germany.[426]

[425] Notes: Member states area 1: BW, BY, AT; member states area 2: HU, CZ, SK, SL, Member states area 3:BG, RO, HR; Accession Countries: RS, BA, ME; Neighbouring Countries: MD, UA
[426] Ibid.

Figure 5.5. Population link to water supply and central sewerage systems



Source: Ministry of Finance and Economic Baden-Wuerrtemberg (2014).

Moreover, according to Bendow again, the share of population linked to the public sewer system varies from 14% in Moldova to 89% in Germany.

Nevertheless, leaving behind all the existing differences between the riparian states, the final part of this chapter will focus on the most tangible outcome of the initiatives for cooperation regarding the River's management, the ICIPDR.

5.2.3 The ICPDR

Twenty-four countries, the GEF/UNDP, EC and NGOs met in Sofia, Bulgaria in September 1991 to plan their next steps. This meeting led the formation of the 'Environmental Programme for the Danube River Basin (EPDRB)', a framework initiative for regional cooperation on water management that would increase priority studies and actions supporting the establishment of the DRPC. The funding of EPDRB

was mainly from the EU Phare Multi-Country Programme for Environment, the UNDP, and the emerging Global Environment Facility (GEF).

The UNECE Convention on the Protection of Transboundary Rivers and Lakes, signed in Helsinki in March 1992, was also a driving factor for the DRPC since the Danube countries became parties. The Helsinki Convention included all the obligations that parties should fulfill in order to prevent transboundary impact on watercourses by encouraging them to cooperate through river basin management agreements. In effect, the 'Helsinki Convention' was characterized as the basis for the DRPC.

The next episode occurred on June 29, 1994 in Sofia, where, eleven Danube countries (Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Romania, Slovakia, Slovenia and Ukraine) and the EC signed the DRPC. It became the overall legal framework for protecting and sustainably using water and other shared ecological resources. However, the DRPC came into force no earlier than October 22, 1998, and after a few days the International Commission for the Protection of the Danube River (ICPDR) and its Permanent Secretariat were established and based in Vienna. Within the first two years of its existence the ICPDR worked closely with the GEF/UNDP and the EC in implementing the EPDRB. The goals of the ICPDR are to safeguard the Danube's water resources, decrease the risk from toxic chemicals, and reduce hazards from floods and other natural accidents.

Since its creation, the ICPDR has established clean-up priorities and strategies for the Danube River and its tributaries. The year 2000 could be considered a milestone concerning the management of the Danube. It was then that the EPDRB officially stopped passing management from donors to the ICPDR and the Danube countries themselves, with the support, however, of the GEF/UNDP. Additionally, the ICPDR Heads of National Delegations agreed to prioritize the implementation of the EU's Water Framework Directive (WFD), gaining also the assurance of the Ministers from all of the Danube countries to back their decision, including not only members of the EU, but also prospective members and non-members as well.

The parties decided also to develop a single, basin-wide Danube River Basin Management Plan (DRBMP) with the support of the GEF/UNDP in order to strengthen cooperation between Danube countries. A second key focus was on reducing nutrient

pollution in the Danube Basin and thereby the ecologically fragile Black Sea. The DRP and significant involvement of the GEF/UNDP in Danube Basin management ended in 2007.

Nonetheless, internal conflicts between some of the former nations of Yugoslavia worked as an obstacle preventing their formal participation in either the DRPC or ICPDR processes. Since the wars ended Serbia and Montenegro became parties to the DRPC in 2003, and Bosnia-Herzegovina in 2005. By 2005, all of the Danube Basin's 13 biggest countries had become parties to the DRPC.[427]

The structure of the ICPDR

The ICPDR is made up of 15 contracting parties (Austria, Bosnia- Herzegovina, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia, Ukraine and the European Union) who have committed themselves to implementing the Danube River Protection Convention. The ICPDR operates as a forum for coordination and collaboration on basic water management issues and takes all appropriate legal, administrative and technical measures to preserve and improve the quality of the Danube River Basin and its tributaries.[428]

As far as its structure is concerned, the ICPDR is organized into an Ordinary Meeting Group, which deals with policy planning and strategy, and a Standing Working Group that provides guidance and prepares decisions. In addition, representatives of stakeholder groups, in accordance with Technical Expert Groups, provide scientific and technical advice for the implementation of ICPDR's work. Indeed, according to the ICPDR Annual Report, 'expert groups are a vital part of the structure of the ICPDR, and because of that significant role they meet the requirements specified under the Convention, but also in relation to the implementation of the Water Framework Directive and the Flood Action Programme.'[429] Expert groups include the River Basin Management Expert Group, the Monitoring and Assessment Expert Group, the Pressures and Measures Expert Group, the Flood Protection Expert Group, the Information Management-GIS

[427] 15 Years Managing the Danube River Basin, 1991-2006, ICPDR, Danube Regional Project, 2007.
[428] Shared Waters – joint responsibilities, ICPDR Annual Report 2009, p. 3
[429] Ibid.

Expert Group, and the Public Participation Expert Group. The Strategic Expert Group is an ad-hoc expert group formed for specific tasks.

Additional task groups are established under the responsibility of the permanent expert groups, with delegates from existing expert bodies or additional experts. Task groups include professionals specifically needed for a particular task. Several task groups dealing with hydromorphology, economics, accident prevention, accident warning systems, groundwater management, and nutrients have been formed.

5.3 Conclusions

The Danube River, the most international river in the world, is one of the greatest examples of successful cooperation between riparians. However, its history also reveals the driving factors shaping its management diachronically. Indeed, the Danube's history is closely connected with the political history of Europe. The theory of a hegemon imposing its will on other states is seen even in the case of the Danube's management in the past. Its importance as an economic resource and hydroelectric power resource as well placed the Danube on the agenda of every regional power that wanted to take advantage of it.

In particular, during the Cold War period, the East-West division was also visible in the Danube River management. In those years, the main focus was the use of the river's hydroelectric power capabilities.

Things have changed dramatically since the end of Cold War. The involvement of international donors such as the UN and later on the EU with the WFD, and of course the cooperation among the majority of EU states via the process of European integration, gave a boost to the creation of Danubian Unity. However, the war in Yugoslavia and the differences between the riparian states in terms of economic development, worked as an obstacle to an absolute integrated management of the Danube. In other words, problems of pollution are present and despite the measures and the initiatives taken by the riparians, these differences are still preventing the ICPDR from continuing its work.

In essence, despite the significant role of ICPDR and its attempts to establish mechanisms for the control of the Danube, such as a trans-national monitoring network which analyzes changes in water quality in the basin, problems still exist.[430] According to reports, unresolved environmental problems in the Danube River Basin include industrial contamination, loss of wetlands, and agricultural runoff. A characteristic example is the case of a cyanide spill from a gold mine in northern Romania which severely damaged portions of the Tisza River and prompted calls for increased environmental controls. Another source of tension is the case of the Gabcikovo-Nagymaros Project between Slovakia and Hungary, which once was envisioned as a cooperative venture to control flooding and produce power. The two states have still not reached an agreement and so the project is a continuous source of frustration between the two nations, who have yet to resolve their claims after a 1997 International Court of Justice opinion.[431]

International support seems to be needed in order to improve the conditions of the Danube's management. As Beach et al argued, the international community has responsibilities to 'respond to regional and global concerns of environmental protection, with particular attention to: Restructuring and modernizing the legal and institutional framework and administrative systems; Establishing development policies and programmes as well as funding mechanisms in compliance with international standards of modern market economies; Initiating privatisation and establishing new links for international economic cooperation; Further harmonizing of national legislation with EU directives and standards.'[432]

Besides attempting to make a projection for the future, it is anticipated that the population living in the Danube River Basin will by the year 2020 remain at its present level. However, the variation between the riparians works as an obstacle for progress on its management. The middle and downstream Danube countries are still in transition, facing serious economic and financial problems, being unable thus to meet the objectives of the DRPC by implementing the appropriate and required measures for pollution reduction and for environmental protection for accession to the EU.

[430] 'World's Major Rivers: An introduction to international water law with case studies', Colorado River Commission of Nevada, November 2008, pp.12-13.
[431] Ibid.
[432] Beach et al (2000), pp. 84-87

Chapter 6

The Maritza-Evros-Meric River.

In this chapter we focus on the River Evros. The Maritsa/Evros/Meriç is a characteristic case where collaboration between riparian countries on issues related to water and land resources usage patterns is essential to assuage adverse effects such as flooding, the modification of the geomorphology of the delta areas and salt water intrusion, as well as corrosion of soil, degradation of water quality and, to a certain extent, the decline of ecosystems.

The first part of this chapter will be dedicated to the geographical location and profile of this international river. A presentation of the catchment area of the basin is crucial for understanding the importance and the complexity of its management. The second part will focus on the major causes of mismanagement of the Evros. It will begin with the major problems, followed by an in-depth analysis of them. In particular there will be an examination of the history of relations between Greece, Bulgaria and Turkey. Unveiling the nature of the relations among the riparian states is essential for understanding the status of collaboration or mismanagement of the river. Moreover, and in continuation of the previous chapter there will be a thorough analysis of different factors playing a decisive role, positive or negative, in the management status of the basin, such as the lack of a trilateral agreement, and the complicated decision-making framework in each country.

In the third part, S.W.O.T. analysis will be applied to the current situation of the river in order to identify and categorize the basic problems concerning its management, and possible future opportunities as well.

6.1The profile of the River.

The history and the name of the Evros River are totally contingent on the history and name of the Greek region of western Thrace and the region of East-Macedonia-Thrace (part of which is the Prefecture of Evros). Digging into ancient Greek history, the first references to the river can be found in the writings of Plutarch in which the river was named Romvos. According to this story, the name Evros has its origins in the name of the son of an ancient Thracian king called Kassandros. As Hypolytos wrote, Romvos (Evros) was slandered by his stepmother, Damasipi, because he refused her love. His father chased him to the river because he believed Damasipi and Romvos, full of disappointment, jumped into the river. Since then, the river carries his name.[433]

Geographically, the Evros, the second longest river in the Balkans after the Danube at 430km (the whole sub-basin including Arda, Tundja and Ergene tributaries has a total length of 550 km and a total catchment area of 39,000 km²), has its sources in the Skomio mountains close to Sofia in Bulgaria. Flowing downstream and southeast, the river enters Greece, and forms a natural border between Greece and Bulgaria, from the village Ormenio to the village Dilofon. From there and until the village Marasia, where the river enters Turkey, and from the village Nea Vissa until the river's outfall, it forms the natural borderline between Greece and Turkey.[434] The river Evros flows into the Aegean Sea and, in the northeastern corner of Greece nearly 20km from Alexandroupolis, at the crossroad between East and West, North and South, the river forms an ecosystem of international importance, protected by the Ramsar convention[435] and the Bonn Convention, known as the Evros Delta. The delta covers 188.000 m^2, of which 150.000 m^2 belong to Greece, and it is considered one of the most significant hydrotopes worldwide.

6% of the river belongs to Greece, while 66% and 28% to Bulgaria and Turkey respectively. Specifically, 218km of the river is located in Greece, with 203 km of the river forming the borderline with Turkey. As mentioned earlier, the Evros has two major

[433] Encyclopaedia Papyros Larousse Britannica, 1996.
[434] http://www.grecian.net/ellada/default.aspx?process=show/en/thrace/evros/evros_river
[435] The Ramsar convention on Wetlands was signed in Iran in 1971.

tributaries with their own sub-catchments, the Arda and the Tundja. The Arda River flows eastward from the Eastern Rhodope Mountains (240 km and 5,200 km² in south-eastern Bulgaria; only 30 km and 345 km² in Greece) passing through Kardjali (60,000 inhabitants) and includes various big reservoirs. The Tundja river has a total length of 350 km, and the main cities in its path are Sliven (136,000 inhabitants) and Yambol (110,000).[436]

Apart from the river's ecological importance, it is significant in terms of economic development of the local communities in all three countries. To be more specific, for Bulgaria and Greece, the River serves as a water source for agricultural use. Particularly for Greece the land close to the delta is used for agriculture (about 150 km²), where cotton, medick, sugar beet, sunflower, tomatoes and asparagus are grown. Hunting and commercial fisheries are also part of river's usage.

For Turkey, half of the area is used for irrigational and dry farming. The area is also one of the most developed parts of Turkey which saw an important increase in industrial facilities during the 1990s due to the geography of the area: very near EU borders on one side and very close to the economic capital of Turkey on the other.[437]

6.2Existing problems of Evros Management

The complexity of management of this particular river is mainly due to politico-historical factors. At first glance, the Evros is not as complicated a case as other international rivers on the basis of the number of riparian states involved (e.g. the Mekong River, the Nile, the Rhine etc.). Nevertheless, the historically poor relations between the riparian countries have led to a non-cooperative approach. Specifically, almost 208km of the river constitutes a borderline between Greece and Turkey; thus, both the Evros and its tributary the Ardas (shared by Greece and Bulgaria) are located in a

[436] International Network of Water-Environment Centres for the Balkans (INWEB). http://www.inweb.gr/index.php?option=com_wrapper&view=wrapper&Itemid=151

[437] Data collected from the International Network of Water-Environment Centres in the Balkans, < www.inweb.gr>.

military-controlled area. Special permits must be requested from military authorities for any scientific monitoring or other activity on the river and its banks. Additionally, the historically poor relations between Turkey and Greece can easily lead to the conclusion that cooperation on the river is almost impossible.

Another important differentiation can be identified among the riparian countries in the case of the Evros River. Bulgaria, the upstream state, is a new EU member in a transition period and with many institutional reforms streamlined under the pressure of conforming to the European *acquis* (including the WFD 2000/60). Greece, one of the two downstream states, is an EU member with high dependence on upstream transboundary waters while Turkey, the other downstream state, has began negotiations for joining the EU. Therefore, Turkey is not actually obliged to comply with the Water Framework Directive. At the same time, the implementation of the WFD by both Greece and Bulgaria is very slow and the progress of cooperation between the two states rather sluggish, reflecting an underlying unwillingness for cooperation, especially from the upstream country. Paradoxically, according to Bulgarian experts, national legislation of their country, adopted since 1999, has been fully harmonised with the *acquis communautaire* in the field of Water Resources Management. But at the same time the Bulgarian administration seems to paraphrase the WFD regarding crucial issues[438], such as mutual cooperation and the exchange of information between the riparian states. [439]

The great importance of the Evros River for Bulgaria constitutes a major explanatory factor for the political tension between the three riparian states. Bulgaria uses the River for electric power generation through three major hydroelectric dams (and as many as 722 reservoirs), with the dam of Ivaelograd the largest and most recent. In order to safeguard its energy needs, Bulgaria keeps the level of water in the dams high, a fact which, in periods of extended rainfalls, translates into unavoidable overflow and leads to extended floods in the Greek and Turkish part of the River, especially during winter.

The situation is completely different, albeit equally adverse, in the summer months when the water discharge drops to 4.9 m^3/sec. The significant decrease has

[438] Central facet of the WFD is the development of an integrated river basin management system: watercourses need to be managed according to the river basin rather than on the basis of administrative borders; river basin is considered the most suitable unit for the development of an integrated and coherent management.

[439] *Int*erview taken from the General Secretary of Evros Prefecture, Mr. Chris Petritzikis, on 25 June 2008.

serious adverse impacts on the river mouth, the delta's morphology and its ecology.[440] In general, these problems stem from the absence of a common cooperative framework. This difficulty is also translated into lack of scientific, technical and institutional infrastructure, especially in the field of monitoring. Consequently, extended and possibly severe pollution is almost unavoidable, causing significant destruction of protected areas such as the Delta of the river and its biodiversity.[441]

The unwillingness or indifference of the riparian states to collaborate efficiently, creating a common plan for the management of the River, has been quite costly for Greece's economy. In parliamentary discussions in 2011, the flood problems that affect the region around Evros River, were mentioned by the local MP Mrs. Rentari-Tente. She referred to the catastrophic consequences that these incidents have had for the region. Every year thousands of acres of rural property are destroyed, villages and roads are devastated and the reaction is almost always the same: monitoring of the losses, payment of compensation to the victims and repair of the dykes.[442]

According to recent data collected by the Region of Eastern Macedonia-Thrace, in 2010 the cost for flood prevention works was €1.609.430,00. In previous years, the cost was €4.720.000,00 in 2006 and €2.540.000,00 in 2007. These amounts were mainly for the restoration of old dykes and the construction of new ones. Substantial sums were also spent on compensation for the 3.263 farmers of the Evros region for the destructions of their product (during the floods in 2010), estimated at €7.140.306,64.[443] Nevertheless, there are also losses in terms of population density. Practically, the rural population is decreasing since extensive flooding in previous years caused significant economic losses for local farmers, leading to an increase in urbanization, especially for younger people who do not see their future in agricultural production.

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[440] Ahmet Samsunlu, Derya Maktav, Sedat Kapdaslii 'Tranboundary water issues between Greece-Bulgaria and Turkey: the case of the Meriç/Evros River', in Jacques Ganoulis, Lucien Duckstein, Peter Literathy, Istvan Bogardi (eds.), *Transboundary Water Resources Management, Institutional and Engineering Approaches,* Berlin: Springer, 1996, p.447.

[441] Yannis A. Mylopoulos, Elpida G. Kolokytha, 'Integrated water management in shared water resources: The EU Water Framework Directive implementation in Greece', *Physics and Chemistry of the Earth,* vol. 33, 2008, p. 352.

[442] Parliamentary Discussion, 5/5/2011.

[443] Source: Ministry of Rural Development and Food. ELGA.

6.3 The causes of Mis-management

As already mentioned, the Maritza/Evros/Meric River, shared by Greece, Bulgaria and Turkey, is the second longest river in the Balkans after the Danube, and it is also a very complex case, especially where its management is concerned. This is due to three main reasons:

- The historically problematic relationship of the three riparian states.
- The Status of cooperation
- The complicated decision-making framework and the positive impact of the WFD.

One of the most obvious causes of mistrust between the riparian states is bad politico-military relationships. Indeed, not-so-distant history provides copious examples of the level of hostility that existed between the three countries. To be more specific, within the following lines there will be an attempt to examine Greece's relations firstly with Bulgaria, the upstream riparian, and secondly with Turkey, the other downstream country.

6.3.1 The Politico-military past.

- The Greek-Bulgarian past.

Greece and Bulgaria historically share some common characteristics. Both countries were conquered by the Ottoman Empire and with the outbreak of the First Balkan War, they became allies in the common battle against the Ottomans. Problems between the two began, as historians claim, with the capture of Thessalonika by the Greeks a few hours before Bulgaria's troops reached the city on 9 November 1912.

Relations were already shaky during the Ottoman period as well. As Shurman has noted, the Ottoman ecclesiastical and educational arrangements in favour of the Greek people over other ethnicities caused hostility from the Slavonic peoples in the Balkan region, and especially the Bulgarians against Greeks.[444] Indeed, the advantage of the Greeks' ecclesiastical hegemony was obvious at least since 1870, when the Sultan finally issued a firman establishing the Bulgarian exarchate. [445]

While the same nationalist aspirations and territorial interests inspired both ethnic populations against Ottoman governance, at the same time it was more than obvious that they were suspicious of each other as well. Things appeared to change slightly when in March 1912 two separate agreements were signed; one between Serbia and Bulgaria which determined their respective military obligations in case of war and the separation between them, in the event of victory, of the conquered Ottoman provinces in Europe; and a defensive one between Greece and Bulgaria, which envisaged that in case the Ottomans attacked either state, the other should provide support with all its forces.[446] Finally, on 18 October 1912, Greece, Serbia and Bulgaria declared war against the Ottoman Empire, while Montenegro had already begun the attack ten days earlier.[447]

The progress of the hostilities was in favor of the Balkan allies; nevertheless the antagonism between them was evident. In particular, relations between Greece and Bulgaria changed dramatically after the capture of Thessalonika when the possibility of an inter-ally conflict became apparent. As Hall describes the conditions at that time, the Bulgarians, despite the fact that they had by a hair's breadth lost the race to Thessalonica, they still intended to insist on their claims to the city. Hall writes: 'About 25,000 Greek soldiers and 15,000 Bulgarian soldiers occupied the city. An uneasy co-dominium ensued. Initially, the Greeks denied the Bulgarians entry into the city. They finally agreed to a formula in which Crown Prince Boris, his brother, and most of the 7th Rila Division were admitted as guests of the Greek army.'[448]

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[444] Jacob G. Shurman, *The Balkan Wars,* The Floating Press, 2009, p. 41
[445] Ibid
[446] Richard Clogg, *A Short History of Modern Greece,* Cambridge: Cambridge University Press, in Greek, Kardamitsa Publishers, 1984, p. 153.
[447] Ibid.
[448] Richard C. Hall, *The Balkan Wars 1912-1913: Prelude to the First World War,* London/New York: Routledge, 2000, p. 62.

The treaty of London, in June 1913 found the Balkan allies as winners, eliminating Turkey from the 'further settlement of the Balkan question'.[449] Indeed, as Mazower wrote, the end of first Balkan war brought many new areas under the hegemony of Greece and Serbia, who were the actual winners, while Bulgaria failed to gain what she actually wanted and probably deserved, due to bad diplomatic handlings and despite her participation in the war which was larger in terms of troops and loses than the other allies.[450] Nevertheless, according to Koliopoulos and Veremis, 'the old conflict between Greece and Bulgaria over which of them would rule Macedonia was left largely unresolved.'[451]

The two former allies were eagerly pushing their respective spheres of occupation without regarding the rights or sentiments of the other ally. The rivalry between them in the following winter and spring played out in the territory between the Struma and the Mesta Rivers. The cities of Kavala, Seres and Drama were the main targets of the antagonism. On 5 March Greeks and Bulgarians clashed at Nigrita, and subsequently fought at Pravishta, Leftera, Panghaion, and Anghista. However, the comparative advantage of Greece was that Bulgaria had a second open front at Adrianople against Turkey. Indeed, Bulgaria's attempt to change the status of the previous agreements remained fruitless. As Koliopoulos and Veremis wrote, 'while attacking Serbia and Greece, Bulgaria exposed itself to simultaneous offensives from Romania, Montenegro and Turkey.'[452] Hence the Greeks occupied cities in the area from which Bulgarian troops had been recalled.[453] Particularly, in April, fighting between Bulgarian and Greek troops erupted again northeast of the city of Thessalonika with both sides facing significant loses. This resulted in the formation of a joint commission between the two sides in order to investigate these incidents. However, the effectiveness of the commission was ambiguous and as Hall argued 'did little to calm the situation. The reciprocal hostility persisted.'[454] The second Balkan war was, according to Clogg, very short and catastrophic

[449] Jacob G. Shurman (2009), pp. 73-74.
[450] Mark Mazower, *The Balkans,* London: Weidenfeld & Nicolson, 2000, in Greek: Pataki Publishing House, 2001, p. 189.
[451] John Koliopoulos & Thanos Veremis, *Greece: The Modern Sequel – From 1831 to the Present,* London: Hurst and Company, 2002, p. 283.
[452] Ibid.
[453] Jacob G. Shurman (2009), p. 74.
[454] Richard C. Hall (2000), p. 98.

for Bulgaria.[455] According to Walden, Greece and Serbia were the big winners from the territorial realignments of the Second Balkan War.[456] Bulgaria's defeat began mainly at the diplomatic level as early as the spring and summer of 1912 when she failed to reach to a territorial agreement as part of the alliance with Greece. According to Hall, '… a recognition of Greek claims to Salonika in the initial alliance agreement might have achieved such a settlement. A satisfied Greece would have been unlikely to ally with Serbia in support of Serbian claims for revision.'[457] Instead, Bulgaria insisted on the principle proportionality, and decided to follow the route of direct conflict against Serbia and Greece, without however ensuring the support of its traditional patron, Russia.

The outcome of the Second Balkan War is well known. The August 1913 Treaty of Bucharest awarded Thessalonica and the port of Kavalla to Greece, and the cities of Serres and Drama as well. Serbia was given northern and central Macedonia and Turkey reoccupied Eastern Thrace. Nevertheless, the new *status quo* created chronic instability in the region since Bulgaria, despite her undeniable defeat, continued hoping that future circumstances would allow a revision of the treaty.[458]

The outbreak of World War I brought the two former allies into different camps again. Bulgaria joined Germany, Austria and Italy, while Greece joined the *Entente* powers (France, Great Britain and Russia).[459] Indeed, Bulgaria entered the war with 800,000 men, due to promises of Serbian and Greek territories.[460] The progress of the war, however, was once more antithetical to Bulgarian aspirations. In fact, the collapse of Bulgaria at the end of September 1918 signaled the defeat of the Central powers.[461] As Simkins, Jukes and Hickey wrote, 'by 17 September the Bulgarian army that had fought hard and well for three years began to disintegrate as whole units mutinied and made for home.'[462]

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[455] Richard Clogg (1984), p. 155.
[456] Sotiris Walden, 'Greece's Balkan Policy. Critical evaluation of the Postwar Period and prospects', in: Panagiotis Tsakonas (ed.), *Contemporary Greek Foreign Policy,* Athens: Sideris, 2003, p. 394.
[457] Richard C. Hall (2000), p. 127.
[458] John Koliopoulos, Thanos Veremis (2002), pp. 283-284.
[459] Robert Frank, 'European Civil Wars', in: Helene Ahrweiler and Maurice Aymard (eds.), *Les Européens ,* Paris: Hermann, 2000, in Greek: Savalas publishing, 2003, p. 365.
[460] Mark Mazower, *The Balkans,* London: Weidenfeld & Nicolson, 2000, in Greek: Pataki Publishing House, 2001, p. 192.
[461] Ibid. p. 193.
[462] Peter Simkins, Geoffrey Jukes and Michael Hickey, *The First World War – The War to End all Wars,* London: Osprey, 2003, pp. 335-336.

The attempts for Balkan unity and peace through the negotiations of a 'Balkan Pact' brought relative stability between the Balkan states. Nevertheless, the negotiation process became complicated due to Bulgaria's unwillingness to accept the borders as they had been agreed through the Neigi Treaty of 1919. Moreover, Bulgaria (along with Albania) continued bringing into discussion minority issues, and finally declined to sign the Treaty of Athens in 1934 for the creation of the Balkan Pact.[463]

The next crucial episode that again triggered a clash between the two riparians took place as soon as World War II began. The Nazi occupation brought to the surface pre-existing tension between the different nations in the Balkans, at the same time giving the capacity to some to modify the *status quo.* Bulgaria joined the Nazi camp and as pay back for their catastrophic defeat during the Second Balkan War, Bulgarian troops appended parts of Greek Thrace by killing thousands of civilians. They also forbid the use of the Greek language, attempting, unsuccessfully, at the same time to bring Bulgarian colonists in the region.[464]

The end of World War II found Greece a victor against Bulgaria once more. However, even during the Greek Civil War, Bulgaria was somehow involved, providing political and military assistant to the 'democratic army' and its leader Marko Vafeiadi[465] (It is also worth mentioning that Yugoslavia under Tito's leadership and Bulgaria were pushing for the creation of an independent Balkan federation and a united Macedonia as a federal state).[466] However, Greece's relations with its northern neighbor improved somewhat since the entrance of Greece into the Atlantic Alliance (NATO) in 1951.[467] In particular, after a long period of continuing rivalry, especially in the political field, the relations between the two countries normalized in 1964 with the resolution of the polemic redresses.[468]

Since then, relations between the two states remained positive. With the collapse of the Junta in 1974 and the restoration of democracy in Greece, a new era of Greek-Bulgarian relations emerged. With Greek accession to the EEC, Greek governments paid

[463] Richard Clogg (1984), p. 188.
[464] Mark Mazower (2001), p. 211.
[465] Richard Clogg (1984), pp. 235-237.
[466] Sotiris Walden (2003), p. 397.
[467] Richard Clogg (1984), p. 248.
[468] Sotiris Walden (2003), 400.

particular attention to the normalization of relations with their northern neighbors. Probably the only turbulence during this period was the government in Sofia's recognition of FYROM by its constitutional name. Nevertheless, since 1996 Greek foreign policy towards its Balkan neighbors is gradually transforming. Greece is now supporting Bulgaria's accession to NATO and the EU, while Greek investments are increasing. The Hellenic Plan for the Economic Reconstruction of the Balkans that began in 2002 characterized the role Greece was seeking to play in the region. Especially for Bulgaria, the programme envisaged a total of 54.290.000 € from 2002 to 2007 (extended until 2011).[469] At the same time, Greece was one of the major sources of foreign direct investment in Bulgaria. While the percentage of FDI coming from Greece was not excessive until 2006, since 2007 things changed dramatically with a boost of 127% compared to 2006, and in 2008 the approximately €431,5 million had made Greece one of the major investor countries in Bulgaria.[470]

Cooperation has also emerged in the field of energy. The TransBalkan Pipeline (TBS) from Burgas to Alexandroupoli was the result of a major agreement between the two states and Russia. This was also a sign that the two states understood the common interests that they have as neighbors, and despite the postponement of the implementation of the project, the relationship between them remains good.

To sum up, the two neighbors have a past full of suspicion and conflict. In particular, there are some crucial historical points that characterized the respective periods. The first incident was during their collaboration against the Ottoman Empire in the First Balkan War. The occupation of Thessalonica by Greek troops a few hours before the Bulgarian army arrived proved what was almost obvious, that the allies were hoping to gain as much of Macedonia and Thrace as they could. The end of the First Balkan War found Greece and Serbia as clear victors, while Bulgaria despite the significant assistance offered to its allies, failed to gain what she probably deserved. This also was a historical milestone for the future of their relationship. Indeed, the outbreak out of the Second Balkan War was not so unexpected. Bulgaria attacked Greece and Serbia in order to gain

[469] Official data from the site of the Greek Ministry of Foreign Affairs. http://www.mfa.gr/www.mfa.gr/en-US/Economic+Diplomacy/HiPERB/Objectives/ (last accessed on 27/01/2014)
[470] Harry Papapanagos and Christina Laspa, *The achievements of the economies of Greece and the Balkans in the framework of European Economic Integration (Οι επιδόσεις των Οικονομιών της Ελλάδος και των Βαλκανίων στο πλαίσιο της Ευρωπαϊκής Οικονομικής Ολοκλήρωσης),* Athens: Kritiki, 2010, p. 213.

what she claimed as proportional gains. The outcome was catastrophic once more, but the ambitions remained and were expressed again during the First World War a few years later, and again in the Second World War with Bulgaria joining the Nazi camp and finally losing once and for all.

The fact that Greece and Bulgaria were often found in opposing camps during past wars has definitely affected the future of their relationship that has been diffused with a sense of distrust. Nevertheless, in recent years relations between the two states can characterized as good. Bulgaria has abandoned its ambitions for expansion to the Aegean Sea, and Greece backed her up in joining the western alliances. Greece and Bulgaria are members of the European family, which can be seen as a very positive step for further collaboration. However, will become clear in the following pages, the importance of water resources for both states remained as an issue of intense political conflict and a source of tension between them, despite the progress that has been made.

- **The Greek – Turkish past**

The other riparian state of the Evros River is Turkey. The story goes deep into the past, and much has been written to describe this often-tense relationship. However, looking at the story since the Greek revolution of 1821, there are many incidents that demonstrate how this relationship has been built. As experts claim, both Turkish and Greek historiography has been inundated with the 'victim complex.' They both consider their side as the one who has suffered the most at the hands of the 'bad' neighbor.

This hostility is characteristically depicted within the school history books. For instance the *cliché* phrase "400 years of slavery" (for Greece) and the "Threatening Turks" work as to create and reinforce ingrained fears and mistrust.[471] Equivalent problems also existed and still exist on the Turkish side. As experts argue, a Turkish high school book underlines with extreme dramatization the Greek military invasion of 1919,

[471] Renee Hirschon, 'History's Long Shadow: The Lausanne Treaty and Contemporary Greco-Turkish Relations', in: Othon Anastasakis, Kalypso A. Nicolaidis and Kerem Öktem (eds.), *In the Long Shadow of Europe: Greeks and Turks in the era of Postnationalism,* Leiden/Boston: Martinus Nijhoff, 2009, p. 75.

noting that Turkish people will never forget Greek cruelty.[472] Greeks are portrayed as aggressive, violent and with long-term expansionist territorial ambitions, and despite the fact that both countries have made changes to their history books, the opinions towards each other have remained. For Greece, Turkey is a bad neighbor who always brings new territorial claims, violations international conventions and agreements, while for Turkey Greece is a neighbor that wants to suffocate Turkey's homeland by trying to possess the whole of the Aegean Sea.

Yet, the common history of the two neighbors is connected to periods of significant political and military crisis. The end of the First World War and the ratification of the Lausanne Convention in 1923 led to a compulsory exchange of minorities. However, this agreement did not work as a panacea for the two states. In fact, the great variety of incidents that followed, especially with the end of World War II gave many arguments to those who perceived Turkey as a potential military threat. In the 1950s the relationship between the two neighbors were stressed due to the escalation of the Cyprus problem and the retaliation against the Greek orthodox community of Istanbul in 1955. As Veremis wrote, since then the Greek community of Istanbul began moving to Greece, with only 3,000 Greeks remaining in their homes by early 2000s.[473]

Since the 1970s this atmosphere of mistrust between the two neighbors intensified. The Cyprus crisis, in 1974, is believed to be the most crucial turning point for the relationship of the two states in the post-World War II era. The Turkish invasion and occupation of the northern part of Cyprus signaled for the Greeks Turkey's perennial revisionist attitude.[474] At the same time, as Valinakis argues, Turkey raises claims concerning the FIR over the Aegean Sea with the notice to airmen No. 714 (NOTAM 714) attempting to obtain air traffic control over the eastern-most Greek islands.[475]

As Tsakonas writes, 'according to the Greek narrative, Turkish 'revisionist actions' include violations of Greek airspace, refusal to submit the delimitation dispute of

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[472] Ibid.
[473] Thanos Veremis, *History of Greek-Turkish Relations 1453-1998,* Athens: Sideris, 2nd ed., (in Greek), 1999, p. 114.
[474] Thanos Dokos, Panagiotis Tsakonas, 'Greek-Turkish Relations in the Post-Cold War Era', in: Christos Kollias and Gulay Günlük-Senesen, *Greece and Turkey in the 21st Century: Conflict or Cooperation,* New York: Nova Science Publishers, 2003, p. 14.
[475] Yannis Valinakis, *Introduction to the Greek Foreign Policy: 1949-1988,* Thessaloniki: Paratiritis, 1989, p. 205.

the Aegean continental shelf to the International Court of Justice, threats of war should Greece extend the territorial waters limit from six to twelve miles (as allowed under the 1982 Law of the Sea Convention), and challenges to the Aegean *status quo* as codified by a number of international treaties,' such as the Lausanne Convention, the Paris Peace Treaties, etc.[476]

Moreover, the incident of April 1987, when a Turkish vessel began conducting a seismic survey in a disputed area in the Aegean Sea, was another step backwards. Greece interpreted this action as another sign of Turkey's revisionist policies targeting at changing the *status quo* in the Aegean. Of course at a political level there were attempts to stabilize the relationship between the two. At the beginning of 1988 the so-called Davos process of reconciliation and rapprochement between the Greek Prime Minister Andrea Papandreou, and his counterpart Turgut Özal, was a very well-known attempt.[477] The same positive climate also continued during the following years, but in 1996 one of the most critical incidents took place. The Imia incident brought the two countries to the edge of an extended military conflict, and it was only after the intervention of the US that escalation was avoided.[478]

Since then things have remained stable but in a framework of fear and mistrust. Incidents such as those of 1998 with the placement of S-300 anti-ballistic missiles in Cyprus or the case of the Kurdish leader Ocalan, reinforce this climate.

Another important issue for the Greek side is the diachronic issue of the Muslim minority of Greek Thrace (approximately 1% of Greece's total population) which consists of 49.9% Muslims, 33.6% Pomaks and 16.5% Roma. Many Greek security analysts consider this issue an additional factor of concern. The reason for such perceptions lies mainly in the active propaganda of the Turkish consulate that exists in the region, in parallel with irredentist sentiments expressed by leading members of the Turkish-speaking group of the minority. As Tsakonas writes, 'Greek decision-makers and analysts

[476] Panagiotis Tsakonas, *The Incomplete Breakthrough in Greek – Turkish Relations,* Houndmills: Palgrave Mcmillan, 2010, pp. 33-34.
[477] Theodore Couloumbis and Kostas Ifantis, 'Changing the Security Dilemma in the Aegean-Greek Strategic Choices and Structural limitations', in: Panagiotis Tsakonas (ed.), *Contemporary Greek Foreign Policy,* Athens: Sideris, 2003, p.100.
[478] Ibid. p. 101.

share the belief that, under certain circumstances, Turkish territorial aspirations vis-a-vis Greek Thrace may eventually become the most important challenge to Greek security.'[479]

However, the way Greece deals with its Eastern neighbor has changed since 1999 with the summit in Helsinki. There, Greece decided to support Turkey's accession to the EU, after it would meet the Copenhagen criteria. This was and still is Greece's new security doctrine regarding relations with Turkey. Nevertheless, the *casus belli* has not yet appeared, though continuous problems regarding the division of maritime zones in the Eastern Mediterranean and the Exclusive Economic Zone, disputes over rights to Aegean airspace and territorial waters are on the daily agenda.

6.3.2 The level of cooperation and the lack of a trilateral agreement

The importance of the river for all three riparian states is unambiguous. Nevertheless, carefully examining the legal framework under which the management of the river is taking place, it is quite obvious that, compared to equivalent case studies internationally, the willingness of particularly the upstream riparian to proceed in a more effective and binding legal arrangement is questionable. Indeed, up to now, only bilateral agreements on water-related issues exist between the riparian states. Within the following lines there will be a thorough reference to the progress of these bilateral agreements, ending with the current status of the basin.

Greek-Turkish Agreements

The main areas of agreement between the two riparians had to do with issues of flood protection, erosion control and water diversion with the construction of necessary facilities. The first agreement between Greece and Turkey was signed in 1934, and titled "Agreement on the Installation of Hydraulic systems on both Sides of the Meric River". As the title reveals, it was an agreement mainly covering the type of infrastructure that

[479] Panagiotis Tsakonas (2010), pp. 31 – 36.

both parties were allowed to build in order to protect them from possible flooding incidents and at the same time control erosion of the basin. This particular agreement also included provisions for the exchange of topographic data, notification to the other party prior to construction, and for dispute settlement between the two parties.[480]

In 1955 another agreement took place with its main focus, once more, the construction of flood control measures in the basin. However, we have only a vague understanding of the agreement since the official document was never published. As Bilen wrote, the agreement set the framework for the construction of flood control measures along with a master plan. Accordingly, each government would undertake the construction of the work needed in its own territory by using its own economic resources. At the same time, attempting to determine the joint measures necessary against flooding of the river, Turkey and Greece awarded a contract to the Harza Engineering Company to prepare a master plan for the Maritsa basin.[481]

In 1963, the two riparian states signed a new agreement in order to resolve disputes arising from the master plan and to carry out hydraulic works on both sides of the Maritsa. The "Protocol on the Rehabilitation of the Meric River Basin Forming the Significant Part of Turkish-Greek Border in Thrace" introduced articles on the adjustment of the border between the two parties, as exchange of land was necessary to build infrastructure on the river. Additionally, it was agreed that any disputes on this matter would be directly assigned to a General Engineer, appointed by the French Ministry of Agriculture.[482]

Since then cooperation has remained at a low level as other issues have affected the relationship of the two countries. However, the diachronic problems concerning the management of the river led the two downstream riparians to sign a "Memorandum of Understanding Concerning Cooperation on Environmental Protection" in 2001. Its context set a framework of scientific, technical and legal information exchange at the

[480] Aysegul Kibaroglu, Axel Klaphake, Annika Kramer, Waltina Scheumann, Alexander Carius, 'Cooperation on Turkey's transboundary waters', *Adelphi Research,* F+E Project No. 903 19 226, October 2005, pp. 31-32.
[481] Ozden Bilen, *Turkey and Water Issues in the Middle East: An Examination of the Indus, Colorado, Danube and Jordan-Israel Water Treaties and the Water Agenda of 21st Century*, Ankara: Southeastern Anatolia Project (GAP) Regional Development Administration, 2000, cited in: Aysegul Kibaroglu, Axel Klaphake, Annika Kramer, Waltina Scheumann, Alexander Carius, 'Cooperation on Turkey's transboundary waters', *Adelphi Research,* F+E Project No. 903 19 226, October 2005, pp. 31-32.
[482] Greek Legislation 4334/63

highest governmental level, at the same time encouraging academic institutions from both countries to collaborate and exchange ideas (Article 2). The formation of a Joint Committee, comprising of five representatives from each of the two countries responsible for the cooperation in different field of activities, was also agreed upon (Article 8). However, it is important to stress that within this field of cooperation river management issues were not specifically included, but some of the areas and the terms mentioned in the agreement, such as *Environmental Impact Assessment, Land-based sources of pollution etc.,* could be perceived as potential ground for cooperation on the management of the Maritsa River.

According to many experts, the Community Initiatives through the INTERREG III A/Greece-Turkey Programme, aiming at supporting cross-border cooperation projects, was a positive step forward. The main goal of the 2003-2006 period of the programme was the promotion of peace and growth in the Eastern Balkan Peninsula and the Aegean Sea. As far as the environmental sector is concerned, the programme paid significant attention to the integrated management of the cross-border waters in the foundation of the Water Framework Directive 2000/60/EC.[483]

However, Greece and Turkey are the downstream riparian states; thus, even if they make significant steps towards enhancing cooperation, Bulgaria, the upstream riparian, will still have the primary role concerning the effective management of the river. Accordingly, it is more important to examine the framework of bilateral agreements between the two downstream riparians and Bulgaria.

Turkish-Bulgarian Agreements

The history of bilateral agreements between Turkey and Bulgaria concerning common waters began in 1968. Then, under the principles of good neighborliness and international law, the two countries signed an agreement on the "Cooperation of the Use of the Waters in the rivers flowing in the lands of the two Countries." The main concern was the creation of the proper regulations for the common beneficial use of the river. With this agreement, a strong commitment between the two countries was built on a

[483] (Priority Axis 3: Quality of Life / Environment / Culture) For more information on the INTERREG III A / Greece- Turkey Programme see http://www.interreg.gr/en/

strong foundation of common research and cooperation. They both committed themselves not to inflict serious damages on each other by constructing and operating facilities on the rivers, to exchange information on flooding and icing as rapidly as possible, and to exchange hydrological and meteorological data. As a result, a Joint Commission was formed with equal number of experts from both the riparian states, empowered with the authority of settling every possible dispute that may arise during the implementation of the agreement.[484]

Another reference to issues concerning water uses and water management can be found in the 1975 "Agreement on Long-Term Economic, Technical, Industrial and Scientific Cooperation" between the Government of the Republic of Turkey and the Government of the People's Republic of Bulgaria. Article 5 states that cooperation between the concerned Turkish and Bulgarian enterprises and organizations shall be simplified in all economic fields including "energy production and irrigation, including the joint use of the waters whose shores are on both countries, for energy production and irrigation purposes." (Annex 2)[485]

The common problems caused by extensive droughts forced the two countries to sign a new agreement in 1993. This was the "Agreement on Assistance and Cooperation in the Field of Water for Reducing the Negative Effects of the Drought" which states that Bulgaria, on a one-off basis and limited to 1993, should make additional water from the river Tundja available to Turkey. Respectively, Turkey should allocate US$0.12 per m^3 of water provided by Bulgaria.[486] Therefore, according to a Turkish Parliament Research Commission in 2002, Turkey purchased 15,866,000m^3 of irrigation water from Bulgaria at a cost of 1.903.904 US$.[487]

The next step of cooperation took place in 1998. Then, the two states signed an agreement concerning cooperation on energy and infrastructure projects. The agreement

[484] Aysegul Kibaroglu et al (2005), p. 33.
[485] See Annex 2

[486]Economic Commission for Europe**,** *Meeting of the Parties to the Convention on the protection and Use of Transboundary Watercourses and International Lakes,* Working Group on Integrated Water Resources Management, UNECE, 29 April 2011.

[487] Aysegul Kibaroglu et al (2005), p. 33.

stated that Turkey has accepted the obligation to buy electricity from Bulgaria at fixed prices, in return for Bulgaria's decision to give some projects on dam and highway construction (the Gorna Arda hydropower project and construction of a stretch of the Maritsa highway) to a particular Turkish company. Accordingly, the Gorna Arda hydropower project was launched in 1999 and included restoration of existing dams as well as the construction and function of three new dams near the Turkish border on the Arda River.[488] Nevertheless, economic difficulties at the Turkish Ceylan Holding Company, the one chosen to participate in the two projects mentioned, in 2000 led to the abandonment of the project, since no alternative contractor was commissioned. As a result, Turkey argued that this was non-fulfillment of the 1998 agreement; thus it stopped buying electricity from Bulgaria in 2002. [489]

In 2002, the "Agreement on the Approval of the 15th Term Protocol" was signed by the Joint Turkish-Bulgarian Committee for Economic and Technical Cooperation. Within it, both countries clearly expressed support for the idea of strengthening environmental cooperation to further protect surface and groundwater resources. Moreover, Turkey reiterated its request to establish a joint technical working group responsible for investigating the conditions for the construction of the Suakacagi dam on the Tundja River.[490] In addition, both sides supported the idea of continuing the hydrological data exchange for flood prevention, and also agreed on data exchange regarding water levels and releases from dams on the Maritsa, Arda and Tundja Rivers. Within this framework of close cooperation, in 2002 a protocol was signed between the General Directorate of State Hydraulic Works (DSI) of Turkey and the National Institute of Meteorology and Hydrology (NIMH) of Bulgaria, related to the implementation of a hydrologic telemetric station on the Maritza River at Svilengrad.[491] Specifically, this station was used for better monitoring of hydrometeorological data in flood periods.

[488] Ibid, p. 33.
[489] Birgül Demirtas-Coskun, 'Bulgaria', in: Mustafa Kibaroglu (ed.), *Turkey's Neighborhood,* Ankara: Foreign Policy Institute, April 2008, p. 44.
[490] Aysegul Kibaroglu et al (2005), p. 33.
[491] S.Ozkul, Yildirim Dalkilic, Nilgun Harmancioglu, 'The Use of Decision Support Systems in River Basin Management in Turkey', *International Congress on River Basin Management,* p. 343.

Greek-Bulgarian Agreements

The first steps towards untroubled cooperation among the riparians can be traced back to 1964. Then, Greece and Bulgaria ratified the Helsinki UNECE Water Convention, which provides a legal framework for mutual cooperation in trans-boundary water management for protection and use of trans-boundary watercourses (1992; in Greece in force since 1996) and the Convention on Environmental Impact Assessment in a Transboundary Context (known as the Espoo Convention, 1991).[492] After the implementation of the Helsinki Convention, the two states created a joint monitoring system that included the Evros-Maritza River. In 1971, another agreement was signed, again between Greece and Bulgaria, concerning the formation of a joint committee for cooperation in the field of electric energy and the use of cross-border river waters (Sofia, 1971).

By now an atmosphere of cooperation has emerged between the two states via the ratification of a number of protocols, setting up a framework of cooperation and technical and scientific assistance. Nevertheless, only the agreement of 1964 set specific measures to be taken, mostly concerning flood protection. In particular, the agreement underlines the obligation of the parties not to cause damages to each other through infrastructure construction, while at the same time they should exchange hydrometeoroligical data and information on floods.[493] It refers to the series of reservoirs in Bulgaria and operates between local authorities as a precaution when the Bulgarian reservoir gates release excess water upstream, while informing and warning the Greek local authorities at the same time.[494] The duration of this agreement was set for 60 years and also included the

[492] Ekaterini Lasaridi, Anastasios Valvis, 'Environmental Threats and Security in the Balkans', *Southeast European and Black Sea studies,* vol. 11 no. 4, pp.471-487.
[493] S. N.Tzovaridis, Nikolaos J. Moutafis and G. S. Cavadias, 'Management Issues of Transboundary Rivers between Bulgaria and Greece', in: Jacques Ganoulis; Lucien Duckstein; Peter Literathy and Istvan Bogardi (eds.), *Transboundary Water Resources Management. Institutional and Engineering Approaches,* Berlin: Springer, 1996.

[494] Sotiris Petropoulos, Anastasios Valvis, 'International Relations and Environmental Security: Conflict or Cooperation? Contrasting the Cases of the Trans-boundary Rivers of Evros and Mekong', in: Jacques Ganoulis, Alice Aureli and Jean Fried (ed), *Transboundary Water Resources Management,* Weinheim: Wiley-VCH Verlag, 2011, pp.253-259.

obligation for Bulgaria to release 186 million cubic meters of irrigation water annually to Greece through the Ivaelograng dam.[495]

In 1991 a trilateral initiative took place, which led to the Protocol of the Meeting of the Joint Greek (GR) - Bulgarian (BG) Committee of Experts for the preparation of a common proposal to the EU for the joint monitoring and control of water quality and quantity of the trans-boundary Maritsa/Evros, Mesta/Nestos and Struma/Strymonas Rivers. This led to the 2000-2006 EU-BG-GR agreement under the umbrella of the Interreg programme, which supported the installation of hydro-meteorological monitoring stations to assist with anticipation and prevention of floods. Pollution measuring stations were set up and equipped on the Bulgarian section of the rivers Nestos/Mesta, Strymonas/Struma and Evros/Maritsa and wastewater treatment plants were constructed, using funds from PHARE Cross-Border Co-operation to diminish pollution in the Maritsa basin from the sewage of the cities of Haskovo, Dimitrovgrad and Stara Zagora. The Greek and Bulgarian Ministries of the Environment were responsible for managing the project. However, the success of this initiative is questionable, as the six stations located on the Greek side of the river never became fully operational, while serious floods were experienced in 2003, 2005, 2006 and 2010, with no particular warning or preventive action. These floods caused severe damage to the regional economy in the Greek part of the river basin.[496]

To sum up, while Greek official records show a number of past bilateral agreements with Bulgaria, there is still no agreement involving all three riparian states. Even the existing framework is questionable.

[495] Data collected from the International Network of Water-Environment Centres in the Balkans (INWEB). www.inweb.gr, last accessed on 15/05/2010.
[496] Mylopoulos Y., Kolokytha E., Vagiona D., Kampragou E., Eleftheriadou E., 'Hydrodiplomacy in Practice: Transboundary Water Management in Northern Greece', *Global NEST Journal* 10, no 3: 291.

Table 6.1 Greece-Bulgaria Agreements

- GR-BG agreement on co-operation for the use of watercourses flowing through the two countries (Legislative Decree 4393/1964)
- Second Protocol of the GR & BG agreement on the regulation of economic questions and development of economic co-operation (Legislative Decree 4393/1964)
- Agreement between GR & BG concerning the formation of a joint committee for cooperation in the field of electric energy and the use of cross-border river waters (Sofia, 1971)
- Agreement between GR & BG on scientific and technical cooperation (Athens, 1973/1976)
- Protocol for the Joint GR-BG Technical Working Group and Environment Group (approved 1990)
- Protocol for the co-operation of GR-BG Experts for flood control of the Strymonas River (approved in 1980); The 1964 Agreement on flood protection refers to the section downstream of a series of reservoirs in Bulgaria. It operates between local authorities (when the BG reservoir gates release excess water upstream, they send a warning to the GR local authorities).
- Protocol of the Meeting of the Joint GR-BG Committee of Experts for the preparation of a common proposal to the EU for the joint monitoring and control of water quality and quantity of the trans-boundary Maritsa/Evros, Mesta/Nestos and Struma/Strymonas Rivers (1991).
- Both countries ratified the Helsinki Convention for protection and use of transboundary watercourses (1992; in GR in force since 1996) and the Espoo Convention. After the implementation of the Helsinki Convention, GR and BG are cooperating through joint monitoring in the three common river basins, i.e Struma, Mesta (including the tributary Dospat) and Maritsa (including the tributary Arda).
- In the following years, bilateral agreements on the use of other trans-boundary rivers waters were signed. Also, cooperation in the scientific and technical field for the best management of water resources is well established. Interreg Progamme 2000-2006.

6.3.3 A complicated decision-making framework for all the three riparian states and the positive impact of the WFD

One of the issues to be discussed is the complicated decision-making framework of water management that exists in all three riparian states. Indeed, the numerous public authorities and institutions engaged in the management of water resources work only as a

hindrance for integrated water management and good cooperation with the authorities of the other riparian states.

Starting with Greece, it is the only Balkan country that has followed a different path as far as the construction of its own public administration model is concerned, compared to its neighbors. In fact, since the creation of the modern Greek state in 1830, Greece began creating its institutions based on the French model.[497] According to Spanou, the newly created state was organized on the lines of the Napoleonic model.[498] Yet, this model has never been properly implemented due to the different socio-political and cultural environment. This has translated into the creation of institutions that have not met the standards that they have in France, in terms of efficiency and prestige. In other words, the Greek public administration became a bad replica of the French one.[499]

The Greek model is characterized by the constitution as de-centralized, so local self-governance and de-centralization of management are its basic pillars. Yet, it is highly contested if these principles are implemented in reality. In fact, as was made clear from personal interviews conducted with local farmers and representatives of local authorities (such as the general secretary of the Evros prefecture in 2008), there is a lack of communication channels between the central government and local society, despite the fact that there have been attempts and reforms of de-centralization in previous years with, however, dubious success.

For instance, a very ambitious effort was made with the introduction of the "Capodistrias" plan in 1997. Through this programme, the government attempted to massively reduce the number of local units in order to create stronger municipalities capable of dealing with new tasks, promoting local development and offering modern services to their citizens. The project was implemented with a number of departures from

[497] Calliope Spanou, 'State Reform in Greece: Responding to Old and New Challenges', *International Journal of Public Sector Management*, Special Issue on 'Public Management Reform in Countries in the Napoleonic Administrative Tradition: France, Greece, Italy, Portugal, Spain', 21:2, pp. 150–173.

[498]Napoleonic model mainly means: (a) a system of administrative law, involving the strong distinctiveness between public and private sector; (b) a centralized administrative apparatus and a career civil service; and (c) a de-concentrated departmental administration under the authority of the prefect as the representative of the centre.

[499] For more details see: Edoardo Ongaro, *Public Management Reform and Modernization – Trajectories of Administrative Change in Italy, France, Greece, Portugal and Spain*. Cheltenham: Edward Elgar Publishing Limited, 2009.

its initial targets. Yet, as Manojlovic writes, its outcome is highly contested. In fact, it can be claimed that the new local units acquired more responsibilities than their predecessors, but compared to the general situation in other EU countries, the jurisdiction of local units remained rather limited, with most of the tasks important for the everyday life of the citizens remaining in the hands of the central government.[500]

Attempts at further decentralization took place in 2011 with the well-known "Kallikrates" programme. Once more the target was to reduce local units and replace them with bigger and stronger municipalities that would be able to exercise new competences. Moreover, this programme attempted to provide a solution to the problem of competing jurisdictions among the municipalities and the prefectures. Therefore, prefectures, as a second tier of local self-government, have ceased to exist and their tasks have been transferred to the regions. The latter will be authorized to exercise even the competences of the biggest municipalities. This very ambitious reform, however, did not produce the expected level of decentralization due to two basic reasons. The first is related to the financial autonomy of the municipalities - their finances remained under the control of the central government. The second reason has to do with the introduction of another level of government that was placed above the regions: the directorates. The seven directorates general were not local self-government units were authorized to exercise the role regions used to play. The Secretary General, appointed by the central state, clearly showed that the state was not ready to cede its power. This outcome can be explained within the FPA analysis framework. In fact, FPA suggests that in practice, rational foreign policy making can be greatly influenced by the political entities through which decision makers have to operate, These entities have as their first priority their own survival and the retention of their power vis-à-vis other organizations. Therefore, the unwillingness of the central state authorities to transfer jurisdiction to the local level, creating a 'bureaucratic labyrinth' with a fragmented framework of jurisdiction, hinders the potential for interstate cooperation.

[500] Romea Manojlovic, 'Public Sector Reforms in Greece: Uncertain Outcome of 2010 Reforms', Hrvatska I Komparativa Javna Uprava, vol. 11 no. 2, 2011, pp. 337–377

Transferring this bureaucratic labyrinth to the area of freshwater management, it can easily be said that the structure of responsibilities is quite complicated, and it is very difficult to understand the provenance of the decisions taken. Specifically, Greek institutions involved are the Ministry of Environment, Energy and Climate Change, the Ministry of Rural Development and Food, the General Secretariat of Civil Protection and the Public Power Corporation. One could also add the Ministry of Foreign Affairs and the Ministry of National Defense.

At the local level, the Region of Eastern Macedonia – Thrace, in Komotini, functions as the authority for collaboration in the basin. The department of Water Resources Management under the Secretariat of Planning and Development of the Region (law 2503/97) has territorial competence in the water district of Thrace (Presidential Decree 60/98). Before the new division and the removal of the Evros prefecture, it was empowered to manage the irrigation system of the Evros River. Additionally, a management body for the river's delta was formed, following Directive 92/43/EEC, and responsible for water quality control.[501] The Public Corporations of Water Supply and Sanitation of Komotini and Alexandroupoli are both responsible for water cleaning and distribution to all the cities and villages of the region. The municipal authorities are responsible for the water supply and sanitation network of cities of less than 30.000 residents.

At the national level, the Ministry of the Environment is responsible for integrated water management. However, for trans-boundary rivers, such as the Evros, the Ministries of Foreign Affairs and National Defense participate in their management. Moreover, the National Water Committee (consisting of six ministers and meeting once per year) is a policy body formed by the law 3199/03, which has the responsibility of policy-making, management and protection of the country's water resources. It is an inter-ministerial institution that creates the policies for the protection and management of waters, observing and controlling at the same time the implementation of the decisions made.[502] It

[501] The Management Body was established by the National Laws 2742/1999 and 3044/2002. It operates since 2003, with the Evros Delta Visitor Centre (Municipality of Traianoupolis) as headquarters. Its main objective is the management of Evros Delta National Park. http://www.evros-delta.gr/Home/tabid/58/language/en-US/Default.aspx

[502] In the commission the ministers that participate are: 1. Minister of Environment, Energy and Climate Change, 2. Minister of Infrastructure, Transport and Networks, 3. Minister of Finance, 4. Minister of Development, Competition and Maritime, 5. Minister of Interior, 6. Minister of Health and Social

also has the power to approve, after suggestion from the Ministry of Environment and the opinion of the National Water Council,[503] the national programmes for the protection and management of the country's water potential.[504]

Additionally, within the Ministry of Environment, there is also a Special Secretariat for Water, responsible for the progress and implementation of all programmes related to the protection and management of Greece's water resources and the synchronization of all competent authorities dealing with the water environment. Moreover, the Secretariat is empowered to monitor the implementation of the Water Framework and the Marine Strategy Directives and any other related Directives as well. As is underlined on the official site of the Ministry of Environment, "the Secretariat, in collaboration with the Regional Water Authorities, formulates and, upon approval by the National Council for Water, implements the River Basin Management Plans and the national monitoring program. The Secretariat is composed of four Directorates and is headed by a Special Secretary, appointed by the Ministry of Environment, Energy and Climate Change and the Government."[505]

The UNECE working group, during a meeting in April 2011, tried to succinctly describe the decision making framework in Greece: "the Special Secretariat for Water of the Ministry of Environment, Energy and Climate Change is responsible for defining the

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Solidarity, 7. Minister of Rural Development and Food. In the commission can also participate more ministers after invitation from the president, while the Minister of Foreign Affairs participates in those cases where transboundary water issues are being discussed.

[503] The national water council gives its opinion to the National Waters Commission for national programmes of water protection and management. It consists of 25 members (representatives of political parties and other institutions) with the minister of environment as president. It is convened at least once a year by its president.

[504] http://www.ypeka.gr/Default.aspx?tabid=247&language=en-US

[505] http://www.ypeka.gr/Default.aspx?tabid=246&locale=en-US&language=el-GR The Secretariat is responsible for:

- the coordination of all agencies and state institutions, related to water issues and the regional Water Directorates
- the implementation of the Water Framework Directive
- the implementation of the Marine Strategy Directive
- the implementation of the national monitoring program
- the implementation of the Floods Directive
- the implementation of the Urban Wastewater Directive and reuse programs
- the implementation of the Nitrates Directive
- the implementation of the Bathing Waters Directive
- Transboundary and international water issues

national water policy and coordinating the activities of the Regional Water Directorates. Each of the 13 regional directorates is responsible for the implementation of the EU WFD and the protection and management of the river basins that are assigned to it. The Regional Water Councils, one in each region, are consultative bodies (having a multi-stakeholder make-up), while the National Water Council is the equivalent body at the country level. The National Water Committee (consisting of six ministers and meeting once per year) is a policy body."[506]

The role of the General Secretary of Civil Protection, which was under the institutional supervision of the Ministry of Interior and is now under the Ministry of Citizen Protection is also of great importance. The role of the Secretariat was upgraded in May 2002 with the law 3013/2002. The General Secretary was given more responsibility concerning local authorities and also planning for extreme situations such as floods.

Apart from this very convoluted decision making framework, another crucial issue is the absence of local community involvement in the process. Indeed, at least since 2000, when the European Water Framework Directive was released, the participation of local communities was totally absent - all decisions were made at the national level with no involvement of local representatives.

This situation is quite similar in both the other riparian states. In particular, in Bulgaria, the main institutions responsible for the management of water resources at the national level are the Council of Ministers and the Ministry of Environment and Water. The National Assembly is the competent authority for adopting a national strategy on organization and development of the water sector, while the Council of Ministers adopts national programmes dealing with the protection and sustainable use of waters. The Ministry implements state policy regarding water management. It is the institution in charge of the implementation of the EU WFD, coordinating activities at the national level. It also supports the Council of Ministers, expanding national programmes and providing recommendations for its decisions on issues within the range of the Water Law (which transposes the EU WFD). At a more decentralized level, four Basin Directorates have been established as regional bodies of the Ministry, empowered with the

[506] United Nations Economic Commission for Europe, Meeting of the parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 29 April 2011, p. 21. ECE/MP.WAT/WG.2/2011/7–ECE/MP.WAT/WG.1/2011/7.

implementation of the EU WFD in each of the four Basin Districts. The Basin Districts also contain consultative bodies, known as Basin Councils, with a multi-stakeholder make-up.[507]

In Turkey, international relations on trans-boundary water resources are the competence of the Prime Minister's Office and the Ministry of Foreign Affairs Department on Regional and Trans-boundary Waters, while the State Planning Organization under the Prime Minister is the strategic organization providing instruction and direction for economic and social development through the Five-Year Development Plans.

The General Directorate of State Hydraulic Works, which is under the institutional supervision of the Ministry of Environment and Forestry, also plays an important role in water resource development. With its central headquarters in the capital, the Directorate is organized around the 25 major river basins in the country, with Regional Directorates in charge of preparing master plans for the respective basins and for implementing development plans for water resources.[508]

In addition, within the Ministry of Energy and Natural Resources there is the General Directorate of Electrical Power Resources Survey and Development Administration, which conducts hydrological surveys, research and studies for assessing hydropower potential in the river basins.

The Ministry of Public Works and Resettlement, and in particular the General Directorate of the Bank of Provinces (Iller Bankasi), is responsible for assisting municipalities in the financing and construction of water supply and sewerage infrastructure, while the Ministry of Health is responsible for determining quality standards for drinking water and other water use, observing these standards and preparing legislation in these areas.

[507] United Nations Economic Commission for Europe, Meeting of the parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 29 April 2011, p. 21. ECE/MP.WAT/WG.2/2011/7–ECE/MP.WAT/WG.1/2011/7.
[508] United Nations Economic Commission for Europe, Meeting of the parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 5 April 2011, p. 17-18. ECE/MP.WAT/WG.1/2011/5–ECE/MP.WAT/WG.2/2011/5.

The Ministry of Agriculture and Rural Affairs is responsible for issues of irrigation, planning, development as a part of agricultural policy and rural development, and finally, at the provincial and local level, municipalities and Province Special Administrations under the Ministry of Interior are responsible for providing water supply and wastewater collecting and treatment facilities.[509]

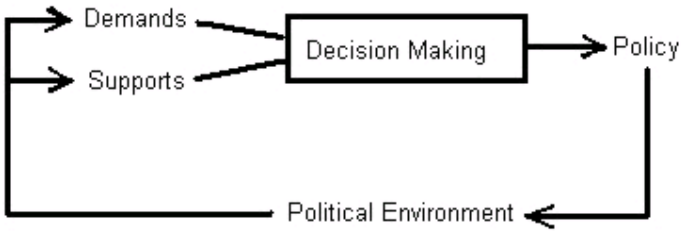
Nevertheless, this situation was to change with the WFD. Indeed, in Paragraph 46 there is a clear indication that the participation of the general public in the establishment and updating of river basin management plans is necessary.[510] Such a prompt could be considered a two-sided coin. On the one hand, it is important to consider people's sensitivity to issues of great importance such as the management of a river that affects the economic and rural life of a region. On the other hand, however, such an attempt could complicate the decision making process since it brings more players into the construction of an integrated river basin management plan. In the political process D. Easton has described the political system as an environment, where people in the form of different interest groups make demands (inputs) and at the same time provide support to the political parties that are playing the role of categorization of these demands. Then the political system and in particular the executive produces decisions (outputs) which affect the people.[511]

[509] Ibid.

[510] Paragraph 46: *To ensure the participation of the general public including users of water in the establishment and updating of river basin management plans, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to the involvement of the general public before final decisions on the necessary measures are adopted.*

[511] Roger G. Schwartzenberg. *Political Sociology*. Thessaloniki: Paratiritis (Observer), 1985 (translated in Greek). p. 171.

Figure 6.6. The political system



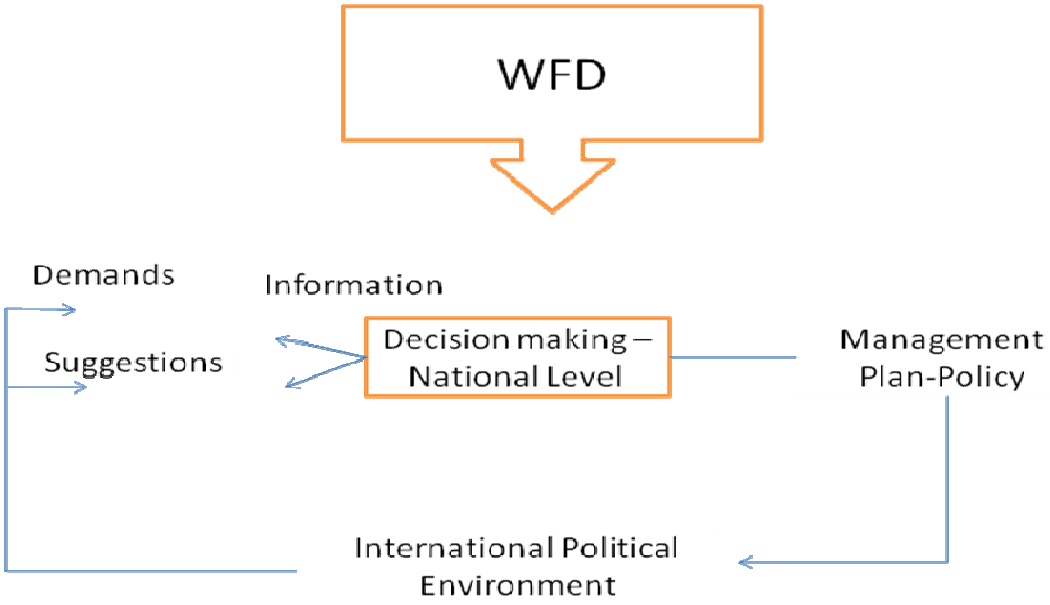
Source: D. Easton (1965)[512]

In the case of a river basin, the system of management presented by directive has a lot in common with Easton's paradigm. Indeed, as the directive indicates, local communities shall participate in the establishment and updating of river basin management plans; thus, local communities should express their demands to the next level of the system, which is the national level (central government). The latter decides the plan for the management of the basin. However, the difference with Easton's model of the political system lies on the grounds that in the case of river basin management, local communities should be well informed about the status and the progress of the plan. In addition, due to the transnational character of water management within international basins, the whole process is taking place within an international environment; thus there are more factors to be taken into consideration.

Moreover, the directive also emphasizes the administrative changes needed for the best management of a trans-boundary river.[513] In addition, in Paragraph 5 of the same article it is made clear that in cases of river basins extending beyond the territory of the Community (such as the case of the Evros River), the Member States concerned "shall endeavour to establish appropriate coordination with the relevant non – Member States, with the aim of achieving the objectives of this Directive throughout the River Basin district."[514]

[512] David Easton, *A Systems Analysis of Political Life,* New York: John Wiley and Sons, 1965, p. 38.
[513] Article 3 with paragraphs 2,3 & 4.
[514] Article 3, paragraph 5.

Figure 6.7. The WFD decision making process



Nevertheless, in the case of the Evros River, the WFD is not fully implemented. This derives from the absence of local communities and the absence of a complete management plan for the river. As far as local community involvement is concerned, personal interviews with the former general secretary of the Evros Prefecture in 2008, and with local farmers in the region, revealed that despite the great importance the River has for the regional economy, and despite also the call for an integrated managerial master plan, the central government remains inactive. For instance in February 2005, Mr Zampounidis, Prefect of the Evros Prefecture at that time, sent an official Letter to Mr. Karamanlis, the then-Greek Prime Minister, asking him to take sufficient measures for flood protection (Annex 3).[515] The catastrophic flooding incidents that occurred later on that year forced the Head of the Prefecture to ask once more for the assistance of the central government, by sending another official letter to the Prime Minister (March 2005) making a proposal for the restoration of the damages caused by the floods. The Prefecture had produced a complete restoration plan with exact budget needs, which however,

[515] Official Record - Document from the Former Prefecture of Evros.

according to the General Secretary of the Prefecture, Mr. Petritzikis, was never taken into consideration.[516]

As far as the complete management plan of the River is concerned, in 2011, Professor Vlachos, in an interview with a Greek newspaper, made clear that in Greece there is no water policy, in contrast to most of the other European countries, adapted to the climate change and green environmental economy, and especially to international policy on international waters.[517]

Yet, in the next pages, using the well-known technique of SWOT analysis, this chapter will attempt to categorize and systematize the main points of the preceding discussion. Therefore, the next chapter will reveal the dynamics regarding the future prospects of the river, as well as potential obstacles for implementing a sustainable integrated management plan.

6.4SWOT Analysis of Evros Management

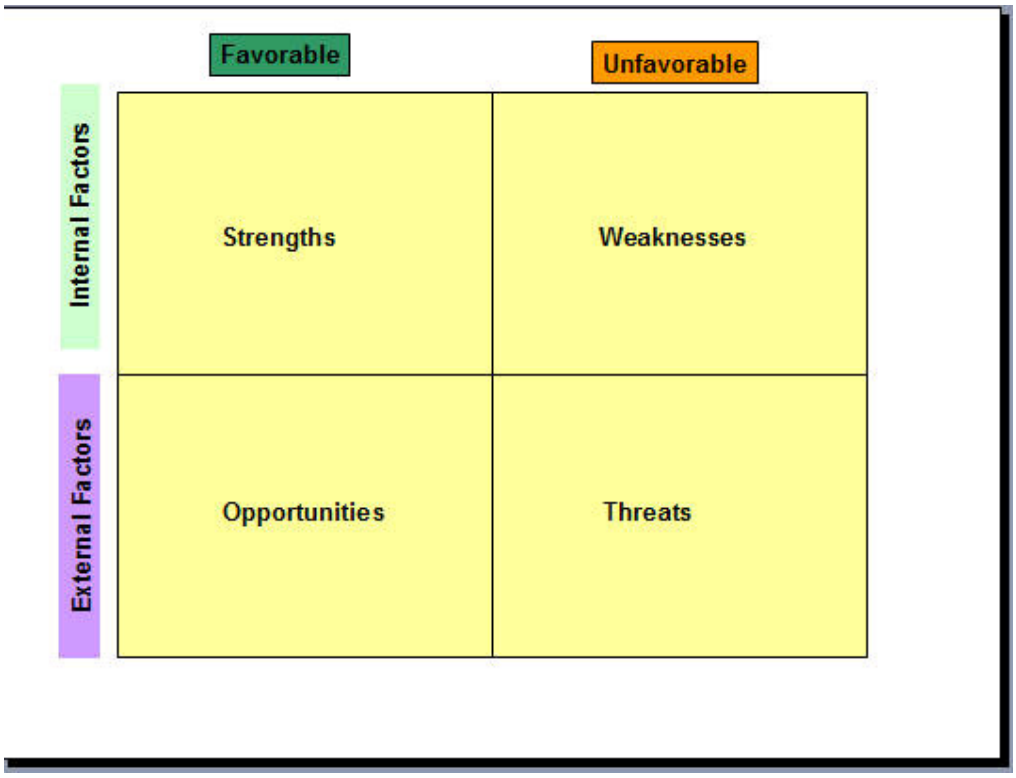
In this part of the chapter there will be an attempt to examine the possibilities of future cooperation between the riparian states regarding the implementation of an integrated management plan of the River. This will be done using a tool well-known in the Marketing and Management field, the SWOT analysis.

SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) is a process that generates information helpful in matching an organization or group's goals, programs, and capacities to the social environment in which it operates. In particular, a SWOT analysis can be understood as the assessment of an organization's internal strengths and weaknesses, and its environments' opportunities, and threats. It is a general tool designed to be used in the preliminary stages of decision-making and as a precursor

[516] Personal Interview with the General Secretary, 06/2008.
[517] Kathimerini, 01/08/2011, http://www.kathimerini.gr/4Dcgi/4dcgi/_w_articles_oiko1_2_01/08/2011_1294992

to strategic planning in various applications. In the decision-making process, it is quite useful to decisively check each project or option to discover its strong and weak points, and to choose a criterion measuring these issues.[518]

Figure 6.8. SWOT Analysis



The four factors examined in the analysis are depicted in the figure above. With "Strengths", the analysis tries to determine the organization's advantages.[519] What are the project's strong points, what is really positive and valuable in the project?[520] With "Weaknesses", the analysis attempts to discover in what areas improvements could be

[518] Nolberto Munier, *A Strategy for Using Multicriteria Analysis in Decision-Making: A Guide for Simple and Complex Environmental Projects,* Dordrecht/ Heidelberg/ London/ New York: Springer, 2011, p. 251.

[519] Alan W. Steiss, *Strategic Management for Public and Nonprofit Organization,* New York/Basel: Marcel Dekker, 2003, p. 74.

[520] Nolberto Munier (2011), p. 252.

made. What is currently being done unsuccessfully and wastefully? What should be avoided?[521] With "Opportunities", it attempts to identify the best chances for the project's improvement, and the factors external to the project that can actually help. This refers to prospects the project may have due to causes not directly related to it. Last but not least, "Threats" attempt to identify the obstacles the project faces and could trigger the whole progress.[522]

In the case of the Evros, SWOT analysis could be a very useful way to identify positive prospects and the obstacles for the management of the river. Indeed, this analysis could assist in categorizing the positive and negative aspects of today's *status quo,* and to recognize channels of future cooperation as well.

The first thing to do is to evaluate the "Strengths" of the Evros River Basin. As already mentioned, the Evros Delta is a particular area of environmental interest with a strong level of protection. The biodiversity of the Delta makes it a pole for environmentalists and alternative tourism. The cultural diversity of the region also is another positive aspect. Slavic, Orthodox and Muslim populations live across the basin, building strong channels of cooperation mostly in trade. Additionally, the fact that the region is one of the last EU borders to the Southeast, neighboring another prospective EU member, Turkey, constitutes it as a region of great multi-cultural interest.

Another positive aspect, especially concerning the Greek side, is the well-developed urban infrastructure, meaning the water supply system, the sanitation system and waste management. This is a prerequisite for the protection of surface and ground waters, and possible flooding incidents caused by extended rainfalls as well. Moreover, the region's low population density makes it one of those receiving significant EU funding for development and reconstruction. As a consequence, the national infrastructure, such as the road network is developing quite rapidly, making the region easily reached, and thus improving the possibilities of closer cooperation at a national and international level.

The diversity of agricultural goods produced on the Greek and Turkish side of the river is also is a positive factor that contributes to the potential of the region. The

[521] Alan W. Steiss (2003), p. 74
[522] Ibid.

importance of the river for the Greek and Turkish farmers is a factor that could boost cooperation.

Also a strong point worth mentioning is the attempt of local authorities from both the three riparian states to build a network of prefectures.

Figure 6.9. Network of Prefectures

The Cross Border Cooperation Network of Greece, Bulgaria and Turkey Prefectures was created after the initiative of the Prefect of Xanthi, Mr. George Pavlidis, to organize a meeting on 8 November 2003 in Xanthi, inviting representatives and members of the Prefects of Evros, Rodopi, Xanthi, Drama, Kavala, Serres from Greece, Haskovo, Kardzhali, Smolyan, Blagoevgrad from Bulgaria and Edirne from Turkey.[523] At this meeting it was unanimously decided to create a network of cross-border collaboration of Prefectures. The collaboration deals with everyday routine issues of common interest, one of this being the issue of dangerous meteorological phenomena and the pollution of the environment. In particular, in a meeting that took place in Orestiada on 17 January

[523] http://www.netgbt.com/cgs.cfm?areaid=1&id=735

2005, the parties agreed to improve collaboration concerning issues of natural destruction, pollution and industrial accidents.[524]

Figure 6.10 The building of the Cross-border cooperation network in Orestiada

Moving to the weaknesses factors - for the Greek side the biggest obstacle for promoting a strong agenda of demands towards the other riparian states and in particular to Bulgaria, the upstream riparian, is its complicated decision-making process. The number of authorities involved in the management of water resources at a national and local level works only as an obstacle for the formation of an integrated management plan. However, the situation is not very different to what was described in previous pages concerning Greece. For example, in Bulgaria, jurisdiction on issues concerning the Maritza River involve the Ministry of Environment and Water, the Ministry of Regional Development and Public Works, the Ministry of Health, the Ministry of Agriculture and Forestry, the Ministry of Finance, the National Institute of Meteorology and Hydrology and the representatives of Municipalities of the region. As far as the Turkish side is concerned, there jurisdiction is in the hands of the Ministry of Environment, the Ministry of Energy and Natural Resources and the local communities. The General Directorate of

[524] E. Hamalidis, *History of the Cross-border collaboration network,* Greek representative to the Network.

State Hydraulic Works (DSI) is responsible for all water resources (surface and ground waters) and has the responsibility of controlling, planning and implementing all works. Thus, overlapping competences and fragmentation of responsibilities among different institutions and management agencies often occurs, creating extensive problems for the creation of an integrated plan. The situation becomes more complicated when efforts are made for more decentralization and management at the local level.[525]

The dependence of the local population on the primary sector of production, agriculture and livestock farming, can also be seen as a weakness. This means that when flooding incidents take place, the damage causes great losses of income for the local population, negatively affecting further development of the region.

Moreover, the different prioritization of Evros management by the three riparian states is one of the most significant weaknesses. In particular, Bulgaria's need to use the River as a source of electric power on the one hand, and the geographical distance that the region has from the European and national centre, along with the low level of transport infrastructures that lead to the 'isolation' of the river revealing the low prioritization for the Greek central authorities on the other side reveals the different positions the River has in the political agendas of the two states.

Nevertheless, opportunities for a common integrated plan for the river do exist. One of the most prominent is the entrance of Bulgaria into the EU. Now, two of the three riparian states are members of the European family, with Turkey, the third, in the process of negotiating its accession as well. This situation creates a common ground for cooperation, at least for Greece and Bulgaria, under the Water Framework Directive. The harmonization of the national legislations of these two riparian states is a prerequisite for a common plan, and under this circumstances can be achieved more easily.

Another opportunity is related to the international community's great interest in the creation of the Burgas - Alexandroupoli energy pipeline. This project has brought the region into the limelight internationally; thus national authorities of the two riparian states

[525] United Nations Economic Commission for Europe (ECE), Meeting of the Parties to the Convention on the Protection and Use of Transboundary
Watercourses and International Lakes, 29 April 2011. P. 8.

could use this project to address the problems of the river's management and request economic and technical support from third parties and institutions.

Another tool that could be used as an opportunity has to do with the willingness of the EU to continue with the enlargement process eastwards. The Interreg Programme III A Greece – Turkey Programme 2000 – 2006 is an EU-funded initiative supporting cross-border cooperation between Greece and Turkey. It aims to support economic development and counteract the barriers that exist in the border region.[526] In particular, under the Priority Axis 3 (Quality of Life, Environment and Culture) the project set as an objective 'the sustainable management of ecosystems and water resources through joint cross-border initiatives and actions, in conjunction with the use of renewable sources of energy.' In addition, the programme paid significant attention to issues of water resource management. As is clearly stated, 'Priority will be given to the integrated management of the cross-border waters in accordance with Directive 2000/60/EC.'[527] Moreover, the programme has pointed out, 'actions to protect and manage the water resources (integrated management and protection of rivers, development of systems to effectively manage water resources, promotion of systems for saving water, development of infrastructures to monitor water resources, actions aiming at the sustainability of fishing, actions concerning the management of coastal areas, interventions to reduce the disposal of wastes, development of infrastructures to provide information and education about the environment, and actions whose aim will be to sensitise people to the need of water resource management).'[528]

There also are threats that could limit the creation of a joint plan for river management. The most obvious has to do with Bulgaria's accession to the EU. As counterintuitive as it may seem, Bulgaria's accession might have counterproductive effects for the implementation of a complete plan. As already mentioned, Bulgaria uses the river for the production of hydro-electric power, so due to its accession, it will seek more power in order to cover its new needs for further development. Thus, the channels

[526] Interreg III, Strategy and Objectives. http://www.interreg.gr/default.aspx?lang=en-GB&loc=1&page=310
[527] Turkey is in alignment process with EU legislation.
[528] Interreg III A/Greece – Turkey: DETAILED DESCRIPTION OF ELEMENTS AT PROGRAMME MEASURE LEVEL, p. 31-32. http://www.interreg.gr/default.aspx?lang=en-GB&loc=1&page=400

of cooperation could be intensified, despite Bulgaria's obligation to harmonize its national legislation with the WFD 2000/60.

6.5 Conclusions

This chapter dealt with the only trans-boundary river, where Greece is a riparian state, that is shared by more than two states: The Evros river. This particular river enjoys some very interesting and also unique characteristics that make it special. First and foremost, it is the second longest river in the Balkans after the Danube, with a length of 430 km. Second, almost 203 km of its length constitutes a Greek-Turkish borderline. This means that the Evros is practically an EU border, with whatever that means in term of security, migration and so on. Thirdly, it is not a border between two friendly neighbors. On the contrary, it belongs to a militarized region due to the ongoing antagonism between Greece and Turkey. Bulgaria, the upstream riparian, should also be added to the equation, and, despite being an EU member state, it is still behaving in a peculiar manner not only towards Turkey but also towards Greece.

An important part of this chapter was devoted to the level of cooperation among the riparian states. Several attempts at creating a framework of cooperation in the past, especially at the local level, have been recorded. For example, in November 2003 a meeting was organized in Xanthi where representatives of the Prefectures of Evros, Rodopi, Xanthi, Drama, Kavala, Serres from Greece, Haskovo, Kardzhali, Smolyan, Blagoevgrad from Bulgaria and Edirne from Turkey participated (Annex 4).[529] The participants unanimously decided to create a network of cross-border collaboration of Prefectures. The aim of this cooperation would have been daily communication for common action to be undertaken tackling routine issues of common interest such as those coming from dangerous meteorological phenomena or issues related to environmental pollution. A step forward was agreed upon on January 2005 during a meeting that took

[529] http://www.netgbt.com/cgs.cfm?areaid=1&id=735

place in Orestiada where the parties agreed to improve collaboration on issues of natural destruction, pollution and industrial accidents.[530]

Yet, the reality has not demonstrated any important progress. Cooperation remains at low levels while communication is quite problematic. The reasons for such a negative situation have been examined in detail. These can be summarized into two main points: 1. the extremely complicated decision-making framework that exists at a national level in all the riparians. The number of authorities involved in the management of water resources at national and local level works only as an obstacle for the formation of an integrated management plan. Overlapping competences and fragmentation of responsibilities among different institutions and management agencies are a constant phenomenon resulting in setbacks concerning the creation of an integrated plan. Moreover, as the research has revealed, further attempts towards decentralizing authorities and transferring more jurisdiction and power to the local level further complicates the situation.[531] 2. The various uses of the Evros for the three riparian states. For instance, Bulgaria uses the River as a source of electric power. This, which by the way creates extensive flooding twice every year in the downstream states, forces the country to withhold vast quantities of water in their reservoirs so as to secure steady energy production. Therefore, in times of excessive rainfall Bulgaria, in an attempt to deter possible flooding in its territory, opens the sluice gates sending extremely high quantities of water to the other countries. This need is contrast to the two downstream riparians. Greece and Turkey mostly use the River's waters for agricultural production, therefore flooding incidents cause severe economic losses for the farmers of the region, not to mention the properties that are being destroyed every year in both the two downstream riparians.

To sum up, the aforementioned discussion reveals why this particular river is so important as well as complicated. The progress made so far is not satisfactory and does not meet the needs of the local societies in all the riparian states. However, it is very difficult to foresee how the obstacles mentioned above can be overcome in the future, changing the dynamic of cooperation and leading, thus, to the implementation of an integrated management plan for the entire river.

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[530] E. Hamalidis, *History of the Cross-border collaboration network,* Greek representative to the Network.
[531] United Nations Economic Commission for Europe (ECE), Meeting of the Parties to the Convention on the Protection and Use of Transboundary
Watercourses and International Lakes, 29 April 2011. P. 8.

Chapter 7

The Greek-Bulgarian Rivers, Nestos/Mesta and Strymonas/Struma

In this chapter the focus will be on two rivers that are shared between Greece and Bulgaria the Nestos River and the Strymonas River. Initially the historical and geomorphologic profile of the rivers will be discussed. Then, the analysis will continue with presentation of the existing problems and pressures on the rivers. The level of cooperation will be examined mostly for the Nestos River, since it is the river that has enjoyed the greatest progress so far due to an agreement in the mid 1990s. The findings of the previous chapter, regarding the reasons, if any, for not having the proper collaboration framework will be used in the last part where SWOT analysis will present the different questions on the current status of the rivers.

7.1 The profile of the Rivers

The first part of this chapter will present a description of the two rivers, making specific reference to their historical footprints and their geomorphological characteristics. It will begin with the Nestos/Mesta and will continue with the Strymonas/Struma River.

Nestos: The Nestos River is one of the five largest rivers in Greece, and one of the five trans-boundary rivers as well. References to the river can be traced back to antiquity. In Greek Mythology and in particular in Hesiod's work "Theogony", the Nestos is referred to by the name Nessos, child of Thetis and Ocean, God of Thrace and father of Callirrhoe who was a naiad.[532] In Herodotus' work, the area between the Nestos and the Acheloos was presented as extremely dangerous, since it was believed to be full of lions.[533] As time went on, the name of the river changed to Mestus during the period of

[532] http://itia.ntua.gr/nikos/arx_int/CDfrag/rivers/nestos_main.htm

[533] Book VII, 126: *Now there are in these parts both many lions and also wild oxen, those that have the very large horns which are often brought into Hellas: and the limit within which these lions are found is on the one side the river Nestos, which flows through Abdera, and on the other the Achelos, which flows*

the Roman Empire. Later on, the Slavic female presence, Mesta, gave her name to the Bulgarian side of the river.[534]

As far as the geomorphology of the river is concerned, the Nestos river valley is located between the Pirin Mountains in the West, the Rila Mountains in the North and the Rhodopi Mountains in the East, offering great natural wealth and strongly contributing to European biodiversity. The river flows from Rila Mountain (2716m) in southern Bulgaria and according to experts such as G. Mihailov and R. Arsov, 'the confluence of the Bjala Mesta River and the Cherna Mesta River near the town of Jakoruda is accepted as the origin of the Nestos River.'[535] The River Mesta has 25 tributaries, with the Dospat River the biggest. Moreover, the fact that the Mesta is surrounded by the highest Bulgarian mountains affects the high average altitude for the whole river valley, almost 1318 meters above sea level.

After a distance of almost 130km in Bulgarian territory, mostly through a valley of granite, the river enters Greece, reaching the Rhodopi mountain chain. Then, after following a south-east direction, crossing an exceptionally beautiful region of *crystallized schist* known as the "Nestos Gorge", it finally, after 120km in Greek territory, flows into the Thracian Sea (Northern Aegean Sea) east of the city of Kavala.[536] The total watershed area of the river is 5749km^2 of which 2312 km^2 belongs to Greece (approximately 60% of the basin area belongs to Bulgaria, while the rest is Greek) contributing to the irrigation and water supply needs of the Prefectures of Drama, Kavala and Xanthi.[537] There are 212

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through Acarnania; for neither do the East of the Nestos, in any part of Europe before you come to this, would you see a lion, nor again in the remaining part of the continent to the West of the Acheloos, but they are produced in the middle space between these rivers. (εἰσὶ δὲ κατὰ ταῦτα τὰ χωρία καὶ λέοντες πολλοὶ καὶ βόες ἄγριοι, τῶν τὰ κέρεα ὑπερμεγάθεα ἐστὶ τὰ ἐς Ἕλληνας φοιτέοντα. οὖρος δὲ τοῖσι λέουσι ἐστὶ ὅ τε δι' Ἀβδήρων ῥέων ποταμὸς Νέστος καὶ ὁ δι' Ἀκαρνανίης ῥέων Ἀχελῷος· οὔτε γὰρ τὸ πρὸς τὴν ἠῶ τοῦ Νέστου οὐδαμόθι πάσης τῆς ἔμπροσθε Εὐρώπης ἴδοι τις ἂν λέοντα, οὔτε πρὸς ἑσπέρης τοῦ Ἀχελῴου ἐν τῇ ἐπιλοίπῳ ἠπείρῳ, ἀλλ' ἐν τῇ μεταξὺ τούτων τῶν ποταμῶν γίνονται). A.D. Godley, *Herodotus,* London: William Heinemann Ltd, 1928, volume III, Books V-VII, p. 426-427.

[534] http://itia.ntua.gr/nikos/arx_int/CDfrag/rivers/nestos_main.htm

[535] G. Mihailov and R. Arsov, 'Current Status of the Anthropogenic Impact on the Bulgarian Part of the Mesta (Nestos) Transboundary River', in: Jacques Ganoulis, Lucien Duckstein, Peter Literathy, Istvan Bogardi (eds.), *Transboundary Water Resources Management,* Berlin/Heidelberg: Springer, 1996, NATO ASI Series, p. 410.

[536] Jacques Ganoulis, Charalampos Skoulikaris, Jean Marie Monget, 'Involving Stakeholders in Transboundary Water Resources Management: The Nestos/Mesta "Help" Basin', p. 2. Available at www.inweb.gr

[537] D. Argiropoulos, J. Ganoulis, E. Papachristou, 'Water Quality Assessment of the Greek Part of Nestos (Mesta) River', in: Jacques Ganoulis, Lucien Duckstein, Peter Literathy, Istvan Bogardi (eds.), *Transboundary Water Resources Management,* Berlin/Heidelberg: Springer, 1996, NATO ASI Series, p. 427.

settlements in the basin, 93 in Bulgaria and 119 in Greek territory. In total about 186.000 people live in the basin, mainly in the primary sector.[538]

Moreover, and as far as river use is concerned, in the Greek part three dams along the Nestos (Mesta) River valley have been constructed by the Public Power Corporation, for energy production and irrigation purposes: Thisavros, Platanovrissi and Temenos. The largest of the three is the pump storage plant in Platanovrissi, which is also the highest in Europe.[539] The reservoir of the upstream dam of Thissavros has a surface area of 18km^2 and stores 565x10^6 m^3 of water and the reservoir of Platanovryssi has a surface area of 3,25 km^2 and stores 11x10^6 m^3 of water. The capacity of the Thissavros dam is 384MW and the total electricity generation in 2002 was 568x10^6 kWh and in 2005 was 440 x 10^6 kWh, while the installed capacity of the Platanovryssi dam is 116MW and the total electricity generation in 2005 was 240 x 10^6 kWh.[540] The electric power generation capacity for the two dams is 692 Gwh/annum.[541] The Temenos dam was expected to begin operation during 2013 but up to today it has not been constructed.[542] The prospective performance of the dam for 2010 was 19MW or 60 GWh/year.[543]

[538] Yannis A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou, 'The Transboundary catchment of River Nestos and the bilateral agreement between Greece and Bulgaria', undated, p. 2.
[539] Ministry of Economy and Finance, 'European Territorial Cooperation Programme Greece-Bulgaria 2007-2013', CCI 2007CB163PO059, 20/12/2007, p. 21.
[540] Charalampos Skoulikaris, Jean Marie Monget, Jacques Ganoulis, 'Climate Change on Dams Projects in Transboundary River Bains. The Case of the Mesta/Nestos River Basin, Greece', in: Jacques Ganoulis, Alice Aureli and Jean Fried (eds), *Transboundary Water Resources Management: A Multidisciplinary Apporach,* Weinheim: Wiley-VCH, 2011, p. 185.
[541] K. P. Anagnostopoulos, C. Petalas, V. Pisinaras, 'Water Resources Planning Using the AHP and Promethee Multicriteria Methods: The case of Nestos River-Greece', *The 7th Balkan Conference on Operational Research "Bacor 05",* Constanta, May 2005, p. 4.
[542] Σ. Π. Τζιτζή, 'Περιβαλλοντικές επιπτώσεις και οφέλη από την κατασκευή των μεγάλων φραγμάτων της ΔΕΗ ΑΕ', p. 1. available at: http://portal.tee.gr/portal/page/portal/teelar/EKDILWSEIS/damConference/eisigiseis/2.5.pdf ,last accessed on 5/10/2011.
[543] Ministry of Environment, Energy and Climate Change, '5η Εθνική έκθεση για το επίπεδο διείσδυσης της ανανεώσιμης ενέργειας το έτος 2010', Σεπτέμβριος 2009, σελ. 26, available at: http://www.ypeka.gr/LinkClick.aspx?fileticket=ysYxrE3Ia94%3D&tabid=285, accessed at 5/10/2011.

Figure 7.1. Platanovryssi Dam

On the Bulgarian side, in 1989 construction works for a dam had begun but in 1990 were cancelled by a decision of the National Assembly. Nevertheless, three small hydroelectric power plants (HEPP) were constructed: HEPP "Yakoruda", HEPP "Razlog" and HEPP "Toplika". These dams produce in total 7.4 KWh.[544] Moreover, in previous years, a project for the construction of small hydroelectric plants has begun. In particular, according to a report from the TÜV SÜD Industrie Service in Germany, published on 4 June 2010, in the valley of the Mesta River two hydro-power plants were constructed.[545] For the implementation of the two plants Byala and Cherna Mesta hydroelectric power development project in Pazardzik, Bulgaria, two companies were established: The Byala Mesta ODD and the Cherna Mesta ODD, both in 2004. According to the websites of the companies, 'the project was implemented under an energy efficiency and renewable energy sources framework agreement, co-financed by the European Bank for Investment and Development and the International Financial Corporation. The plant is located on Byala Mesta River near the town of Yakoruda, Blagoevgrad District. The plant has installed capacity of 650 kW and one vertical turbine "Pelton", manufactured by the Czech company MAVEL, processing 0.8 m^3/s water flow with net head of 115 m.'[546] The Byala Mesta is the upstream section of Mesta river, and the Small Hydropower Promotion

[544] http://www.watersee.net/mestanestos-river.html
[545] TÜV SÜD Industrie Service, 'Determination Report: Determination of JI Track 1 Bulgarian Small Hydro Power Plant Portfolio', Munich, 4 June 2010, p. 6.
[546] http://www.uniongroup.bg/cgi-bin/e-cms/vis/vis.pl?s=001&p=0094&n=000001&g, last accessed on 6/10/2011.

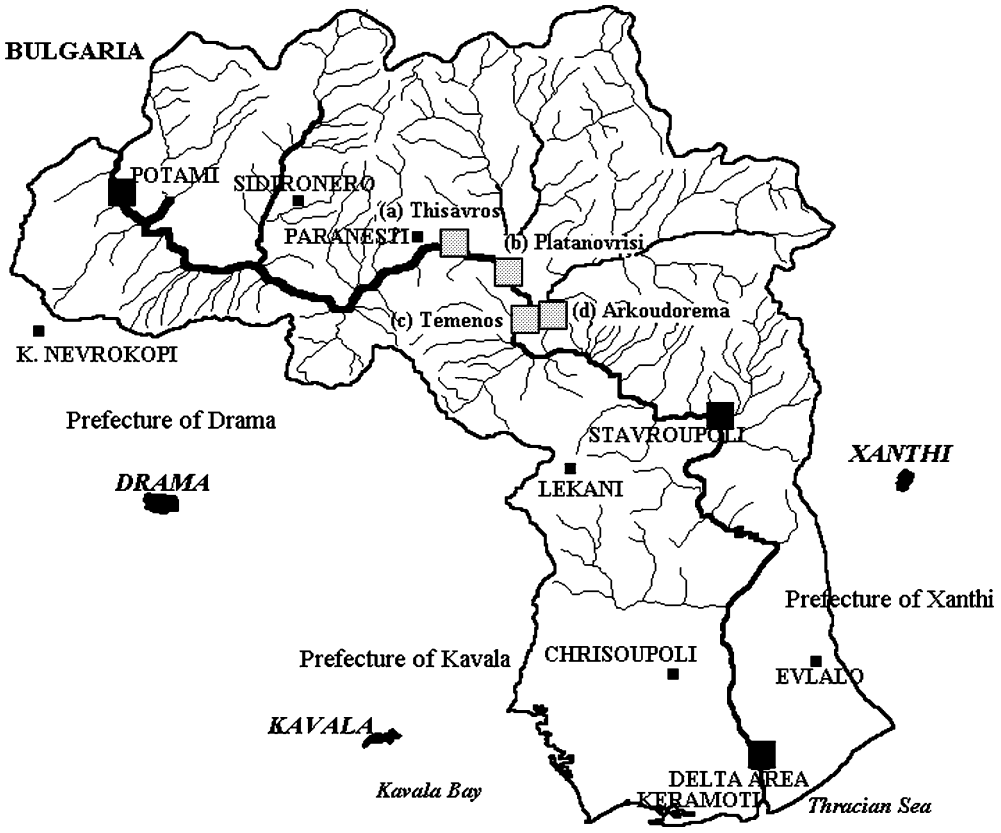
Project (SHPP) is situated on the mountainous part of the river. On the other hand, Cherna Mesta is the main tributary of the Mesta River, with the equivalent SHPP located on the mountainous part of the river as well.[547] The Mesta River has the highest water-power potential in comparison with the other river in the country and very high specific water-power potential which is utilized in Greek territory.[548]

Figure 7.2. The Bulgarian part of the catchment area. Mesta River and its tributaries

[547] TÜV SÜD Industrie Service, 'Determination Report: Determination of JI Track 1 Bulgarian Small Hydro Power Plant Portfolio', Munich, 4 June 2010, p.5.

[548] Bulgarian-Greek Cooperation For the Intergrated Water Management of The Mesta/Nestos Transboundary River Basin, available at: http://www.freeonlineresearchpapers.com/bulgarian-greek-cooperation-intergrated-water, last accessed on 07/10/2011.

Figure 7.3. The Greek part of the catchment area. The Nestos River and its tributaries



Apart from the use of the river as a source of hydroelectric power, there are also other and very important economic aspects to how the two states exploit its water. As Mylopoulos et al. argue, the Nestos is the source of economic life in the region. First of all, as a source of irrigation, the river supplies water for four irrigation systems, two in Bulgaria and two in Greece.[549] For the Greek side, the majority of irrigated land is situated in the Delta area, at the southern part of the basin. The total area that the two systems cover is approximately 131 km^2, with corn and cotton being the main crops. On the contrary, agricultural activity in the central and northern part of the catchment area is limited, with irrigated land reaching only 11km^2. The quantity of water used during the

[549] Yanni A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou (undated), p.2.

irrigation period is 352 x106m^3 and the total irrigated land in Bulgarian territory covers 174km^2.[550]

The river's Delta, is an area of extreme beauty covering 440km^2 and protected by the RAMSAR treaty on wetlands. The Delta's importance has been taken into consideration even since the construction of the dams, with the planning of a minimum flow requirement for the protection and sustainability of the wetlands. According to Mylopoulos et al, 'the Environmental Impact Assessment study concluded to a minimum flow of 6m3/s.'[551] Several lagoons also are located at the western end of the river, within the Delta area, mostly used as fisheries.

Strymonas: The Strymonas is the second river that is shared by Greece and Bulgaria. In Bulgaria the river is also called the Struma and during the Ottoman period was known as Kara-Sou. The basin of the river lies in FYROM as well as in Greece and Bulgaria, while the river collects waters from Serbia as well.[552] The total area that the basin covers is 16780km.[2] Of those, 7282 km^2 belongs to Greece, 8545km^2 to Bulgaria and 1648km^2 to FYROM.[553] The length of the river is approximately 415km, of which 290km are in Bulgaria and 110km in Greece (estimations vary).

Table 7.1. Strymonas River Basin

Country	Area in the country (km^2)	Country's share (%)
Bulgaria	8 545	46.6
Greece	7 282	39.7
Serbia	865	4.7
The former Yugoslav Republic of Macedonia	1 648	9.0
Total	**18 340**	

Source: UNECE 2011

[550] Ibid.
[551] Ibid, p. 3.
[552] Theologos Mimides, Spyros Rizos, Konstantinos Soulis, Panagiotis Karakatsoulis & D. Miritov, 'System of Predictions and Warning of Floods in the Water Basin of Strymonas/Struma River', *BALWOIS,* 25-29 May 2014.
[553] UNECE Convention on the Protection and Use of Transboundary Watercourses and Lakes, 'Second Assessment', UN, 2011, p. 282.

The Strymonas has been a famous river since ancient times. Its name comes from an ancient mythical Thracian king who drowned in the river.[554] The springs of the river are located on the southern slopes of Vitosha (Vitaza) Mountain, southwest of Sofia, at a height of 2180m. The river flows south through rough ravines and later shapes a fertile valley between the Rougien and Rila Mountains. Continuing its way to Greece, the Strymonas opens up a passage between the Males and Pirin Mountains and few kilometers from Greece is joined by the Stroumitsa, which flows from Plakovitsa Mountain, southeast of Skopje. The catchment area is mountainous with an average elevation of approximately 900m. A number of mountains are the source of the river's main tributaries. The main characteristic of the topography in the Bulgarian part is steep slopes, while in the Greek part smooth slopes prevail. The river's major tributaries in Bulgaria are: Treklyanska River, Dragovishtitsa River, Rilska River and Bistritsa River. According to data provided by UNECE's second assessment there are approximately 60 artificial lakes and dam reservoirs in the Bulgarian part of the basin covering different needs such as water supply, power generation and irrigation.[555] The major ones are the Studena reservoir and the Pchelina reservoir.

In Greek territory the river flows exclusively within the borders of the Serres prefecture (in the old administrative division), belonging to East Macedonia's hydrographic area. It enters Greek territory at the village of Kula, west of Promahonas. Then, it goes through the Roupel passage, between the Kerkini and Orvilos Mountains. Later, impacted by the rough modification of the ground's incline, the Strymonas splits into two branches. The west branch goes to Lake Kerkini and then flows southeast where it again joins the eastern branch near the village of Lithotopi.

In Greek territory, the Strymonas joins the Aggitis River and after going through the Kerdyllia and Paggaio Mountains it finally empties into the Strymonikos gulf, forming a small delta. The main Greek tributaries of the river are: Boutkovas, Exavis, Krousovitis and Xiropotamos.

A very important site on the Greek part of the river is Lake Kerkini. Kerkini is a large, artificial lake that was created with the construction of a levee in 1933. It is located

[554] Pierre Grimal, *Classical mythology,* London: Blackwell, 1990, p. 410.
[555] UNECE (2011), p. 282.

in the area of a former swamp, approximately 47km from the Greek-Bulgarian border, between two mountains (Kerkini and Mavrovouni). The construction of the reservoir had many purposes such as the regulation of the river discharges, irrigation and flood protection. According to Tzovaridis et al, the reservoir's initial maximum useful volume was 200x106m^3 and its surface was 51km^2.[556] In the initial plan, the reservoir would be operational for 80 years. Yet the faster deposition rate and the greater sedimentation of the lake necessitated a reconstruction of the reservoir. Finally, a new levee was constructed in 1982. Progressively the lake became a very important wetland and since 1975 is characterized by the Ramsar International convention as a water biotope of international importance. Apart from Lake Kerkini there are also two other irrigation dams, one at Lefkogeia and one at Katafyto.

The Strymon's ecological importance has placed the river on the National list of regions of European Ecological Network NATURA 2000 according to Community Directive 92/43/EOK with code GR1260001. Indeed, the river hosts many protected or threatened species of fauna and flora in both parts.

As far as the river's utilization is concerned, according to UNECE (2011) its waters are used by many different sectors. In Bulgaria, for example, more than half of the total water is used to supply industry, while 7% is used for agriculture and 30% for domestic purposes. In contrast, in the river's sub-basin that extends to FYROM's territory, water is mainly used for irrigated agriculture. In the Greek part the most common crops in the plain of Serres, south of Kerkini Lake are cotton, maize, rice and durum wheat.

Table 7.2. Utilization of the River

Total water withdrawal and withdrawals by sector in the Struma/Strymonas River Basin

Country	Total withdrawal $\times 10^6$ m^3/year	Agricultural %	Domestic %	Industry %	Energy %	Other %
Bulgaria[a]	54.7	7	30	52	N/A	11
Greece	N/A	N/A	N/A	N/A	N/A	N/A

[a] 755 × 10^6 m^3/year used for hydropower production is not included.

Source: UNECE 2011

[556] S.N. Tzovaridis, Nikolaos J. Moutafis , G.S. Cavadias,' Management problems of Transboundary rivers between Bulgaria and Greece', in: Jacques Ganoulis, Lucien Duckstein, Peter Literathy, Istvan Bogardi (eds), *Transboundary Water Resources Management – Institutional and Engineering Approaches,* Verlag/Berlin/ Heidelberg/New York: Springer, 1996, pp. 403-404.

Figure 7.4. The Strymonas River

7.2The existing problems of Nestos and Strymonas Management

In the previous part a concise but at the same time in-depth presentation of the main characteristics of the two rivers was given. Now, this part will be devoted to discussing the main problems that the two rivers face, mostly due to human activities. It will begin with the Nestos River and continue with the Strymonas River.

Nestos: Despite the general statements that Nestos waters are of high quality, there also are problems of pollution coming from different sources, such as industrial, agricultural, cattle-breeding and domestic activity. Until 1989, the industrial zone of the city of Razlog had a strong negative influence on the quality of Mesta river waters and some of its feeders. The main pollution source of the catchments waters is the wastewater from the populated areas, which directly or indirectly flow into the rivers that collect the waters. In fact, purifying stations have not been recorded in any of the cities. Another main polluter is the waste material from the wood industry (especially in the region of Yakoruda, Belitsa, Razlog and Bansko). The organized dunghills for solid waste materials and the agricultural dunghills also are a serious pollution source for the ground and underground waters.[557]

According to Papachristou et al, pollution along the Nestos River is categorized as: urban, agricultural and industrial.[558]

As far as urban pollution is concerned, Mimides underlines the lack of sewage treatment plants in small and medium populated cities, which results in the discharge of untreated sewage directly from the sewer networks into the river.[559] Indeed, the area comprises 82 villages and small towns, with Chrisoupoli being the biggest with almost 7,000 inhabitants. It also is the only town with a central sewerage system followed by a treatment plant, with the village of Stavroupoli and the other villages having sewer networks.[560] This deficit of treatment plants created insufficient control of untreated wastewater, which finally ends up in the river.[561] Moreover, as scientists argue, there are cases where urban and livestock solid waste have been found dumped into uncontrolled and unlined areas of sensitive unconfined aquifers, resulting in groundwater pollution.[562] In the Bulgarian part of the river, the situation is quite similar with the lack of sewage system the rule and not the exception. In particular, in many cities tributaries of the river or the Mesta itself receive the urban waste. For instance, cities like Jakoruda,

[557] http://www.watersee.net/mestanestos-river.html
[558] Eleftheria Papachrisotu, Jacques Ganoulis, Anastasia Bellou, Efthymios Darakas, D. Ioannidou, 'Assessment of Water Quality in the Transboundary River Nestos', in: *Protection and Restoration of the Environment,* Vol. I, International Conference, Halkidiki, July 1998, p. 129
[559] Theologos Mimides, 'Pollution of Groundwater due to Agricultural Activities in NESTOS/MESTA Transboundary River Basin between Greece and Bulgaria', undated, p. 7.
[560] Eleftheria Papachrisotu, Jacques Ganoulis, Anastasia Bellou, Efthymios Darakas, D. Ioannidou (1998), p. 129.
[561] Ibid.
[562] Theologos Mimides (undated), p. 7.

Hadjidimovo, Bansko, Dobrinishte and Gotze Deltchev are dispatching their raw sewage right into the Nestos River, while other cities, such as Razlog, Belitza, Dospat and Baroutin are dispatching into Nestos tributaries.[563]

Other sources of pollution are linked to a great extent with other economic activities such as aquiculture and tourism, whereas as Mimides argues, 'deforestation and agricultural overproduction, especially in the southern part of the basin must be reduced as they are the main causes of groundwater quality deterioration.'[564] The agricultural pollution is concentrated mostly in the lower part of the river, since as already mentioned, agricultural activities are limited to the northern, mountainous, part of the Nestos. Indeed, there are only 15,600 stremmas of cultivated land. On the contrary, in the lower part of the basin, from the village of Toxotes until the Delta there are many flat fertile pieces of land with a developed irrigation network. In sum, in the region there are almost 300,000 stremmas of cultivated area (in the former prefectures of Kavala and Xanthi).[565] As a consequence of these activities of the primary sector, fertilizers and pesticides are transmitted to the Nestos via drainage ditches, as experts point out. The main recipient of pollution is the Delta of the river.

The third source of pollution, industrial activities, is relatively limited compared to the two others, thus the burden is not so significant. However, according to Papachristou and Darakas, there are industrial sources of pollution in both countries. In particular, on the Bulgarian side and in the city of Yakoruda there are woodworking industries. In the city of Belitza there is a plastics processing industry, while in Eleshnitza, there is a uranium mine and a gold enrichment plant. In the cities of Razlog, Gostum and Gotze Deltchev there are chemical industries, while in Bansko there are food industries and in Hadjidimovo milk production industries. Finally, in Dospat there are also textile industry units.[566]

The dams that have been constructed on the Greek side of the basin have also caused concerns for their environmental impact. According to Andreadaki et al, 'the

[563] Eleftheria Papachristou, Efthymios Darakas, 'Water Quality of Transboundary river Nestos (Η Ποιότητα Νερών του Διασυνοριακού Ποταμού Νέστου)', Ημερίδα ΤΕΕ/ΤΑΜ – ΑΠΘ, Δράμα 8 Φεβρουαρίου 2003, p. 4.
[564] Theologos Mimides (undated), p. 7.
[565] Ibid.
[566] Eleftheria Papachristou, Efthymios Darakas (2003), p. 5.

construction of the dams implies a reduction of sediment yield at the outlet of the Nestos River basin and the alteration of the sediment balance of the basin in general, which results in coast erosion.'[567]

Other problems are linked with the percentage of the water that Bulgaria allows to move downstream into the Greek part of the river. According to Ganoulis et al, despite the bilateral framework of agreements, Bulgaria's policy of water retention for increased agricultural and industrial needs in the past has caused great unrest for the Greek authorities. Indeed, since 1975 the Mesta/Nestos yearly flow has declined from 1500 million m^3 to 600 million m^3.[568]

Strymonas: In the preceding presentation of the river, attention was given to the construction of Kerkini Lake, an artificial freshwater lake, located on a former swamp. Kerkini was created to cover irrigation needs as well as to decrease the threat of flooding. According to the UNECE's 2011 report, Bulgaria claims extended risk of flooding due to the basin's geomorphological and hydrological characteristics.[569] On the Greek side, flooding incidents are relatively frequent and there is a fear of escalation in the future due to a significant increase in the mean annual discharge of the river (more than 40% increase by 2020).

As mentioned earlier, the creation of Kerkini Lake was necessary because many large-scale disasters had occured in the past when the river overflowed at that point. According to Mimides et al, 'the irrigation canals take away the overflow water of the river and at the same time inseminate the valley.'[570] Yet, the fact that Kerkini has became progressively a very important and protected wetland worked as an obstacle for constructing further anti-flooding structures.[571]

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[567] Manolia Andredaki, Vlassios Hrissanthou, Nikolaos Kotsovinos, 'Calculation of Sediment Reduction at the Outlet of the Mesta/Nestos River Basin caused by the Dams', in: Jacques Ganoulis, Alice Aureli, Jean Fried, *Transboundary Water Resources Management: A Multidisciplinary Approach,*Weinheim:Wiley VCH, 2011, p. 205.
[568] Jacques Ganoulis, Haralampos Skoulikaris, Jean-Marie Monget, 'Involving Stakeholders in Transboundary Water Resources Management: The Mesta/Nestos "HELP" Basin', undated, p. 4.
[569] Unece, 2011, p.282.
[570] Theologos Mimides et al (2014), p.3.
[571] Ibid.

Apart from the flooding incidents, both the UNECE's first assessment in 2007 and the second assessment in 2011 have reported the river's waters to be of good quality. Yet pressures have been identified as well. Bulgaria has reported that sand and gravel extraction from the Greek side of the river causes sliding down the riverbed, affecting more than 40km in its territory.[572] The UNECE report also identified important pressure factors in the Bulgarian part as well. Hydro-technical constructions (dams for hydropower generation, irrigation or even drinking water supply purposes) exert pressure on the environment. Also, the diversion of watercourses towards artificial reservoirs creates concerns. Traditional significant pressure sources remain: the many small illegal dumpsites, the livestock breeding units and fish-farming.

In the Greek part, the Delta area has been considerably modified by reclamation works in order to be agriculturally exploited. In addition, the agricultural activity in the area and the use of fertilizers has altered the quality of the water, creating eutrophication.[573]

7.3 **Towards bilateral cooperation**

The previous sections have presented the environmental status, the principal trans-boundary issues as well as the geomorphological picture of these two rivers. The following pages will present the progress achieved so far between the two riparian states in setting up bilateral cooperation to respond to the aforementioned issues. Before, however, proceeding with the analysis, it is important to underline a fundamental distinction that exists between the two cases. While both rivers are shared between Greece and Bulgaria, only the Nestos River is subject to an explicit agreement. Therefore, this section along with the one following, will be devoted to this agreement, also presenting previous attempts and agreements between the two riparians which apply to both rivers.

[572] UNECE, 2011, p. 285.
[573]Nikolaos Silleos, Georgios Zalidis, Agop Hachikyan, Charalampos Topaloglou, Thomas Alexandridis, Vasileios Takavakoglou, Milena Lazarova and Christos Karydas, 'Assessment of agricultural pressures in the transboundary Strymon river basin and assessment of environmental impacts in Lake Kerkini after implementing the SEA Directive', INTERREG-IIB, 2006, p. 10.

To begin with, as Psilovikos et al argued, the Nestos River's drainage basin, natural environment and deltaic platform have been seriously altered due to human intervention in the last fifty years. As a result, the river system requires a solid and integrated management plan for water use with an emphasis on the preservation of the environment.[574] This should have been the principal target of the negotiation process between the two states, which led to the agreement of 1995. Yet, a strong critique of the agreement has emerged, questioning its outcomes.

Compared to the Evros river case, presented in the previous chapter, negotiations between the two riparian states concerning the Nestos' management resulted in the 1995 agreement. However, negotiations have a quite rich history, dating from 1964, with the Nestos and Strymonas Rivers part of the central negotiations of the total of trans-boundary rivers shared between the two states (Nestos, Evros, Strymonas). This resulted in the Athens agreement dealing with the mutual utilization and management of the water. The meeting took place in Athens on 9 July 1964, and the two parties agreed on cooperation over the use of rivers' waters which flow through them. According to this bilateral agreement, the riparian countries are bound *inter alia* not to cause significant damage to each other by constructing or operating projects and installations on these rivers. They were also bound to exchange hydrological and technical data.[575] In general, the 1964 agreement was centred on the utilization of the river treating water as a "commercial product" with three objectives to ensure: a. The use of waters in a way benefiting both riparians; b. the prevention of floods and c. a level of cooperation between the competent authorities of the two parties.[576] This first attempt to institutionalize cooperation between the two riparians embodied the two fundamental principles of customary law, the principle of "restricted sovereignty" and the principle of "equitable use."

In 1971, following the signing of an agreement between the two countries, a Greek-Bulgarian Committee was established to deal with electrical energy issues and the

[574] Aris Psilovikos, Sophia Margoni, Antonios Psilovikos, 'Monitoring Water Quality Parameters of the Transboundary River Nestos', *American Journal of Applied Sciences,* 2 (4), 2005, p. 759.
[575] UNECE (2007), p.173.
[576] Maria Mousmouti, 'Hellenic-Bulgarian Bilateral Agreements for the Protection and Use of Transboundary Watercources', *Nomos Physis,* (undated) p. 4.

use of the waters of the trans-boundary rivers.[577] It was also assigned to monitor the proper application of the 1964 agreement.[578] The 1971 agreement did not add anything very important regarding cooperation between the two riparians, besides the explicit reference to cooperation in the field of electric energy.

Later on, meetings between representatives of the two riparian states took place in 1975, 1982 and 1988, where the allocation of the rivers flow was one of the dominant issues. The next episode played out in May 1981, when the two parties scheduled a new agreement regarding the supply of 300 x 106 m^3 of water per annum from Bulgaria to Greece through the Nestos River,[579] an amount which, according to experts, significantly exceeded the minimum necessary quantities for the conservation of ecological balance within the river bed, which has been estimated at 130 x 106m^3 of water per annum.[580]

In March 1988, Bulgarian and Greek experts met in Sofia to discuss all relevant issues regarding water resources of the Nestos/Mesta River. The outcome of this meeting was the agreement of the two parties to establish the Greek – Bulgarian Committee (Annex 5).[581] One year later, in April, the Greek Republic presented the long-term Program of Economic, Industrial, Scientific and Technological Collaboration. This initiative took place in Haskovo, and it involved a wide range of issues concerning the water resources of the river.[582] In these meetings, the discussion was set mostly in terms of quantity in cubic meters.

However, it was only in 1991 when the two states' deputy ministers, under the pressures of the changing politico-economic environment and EU directives, signed an Aide-Memoire concerning a project for monitoring water quantity and quality in the

[577] Law 366/1976, Greek–Bulgarian agreement for the establishment of a Greek–Bulgarian committee on cooperation in the sectors of energy and use of water of rivers flowing through Greece and Bulgaria (Nestos) (O.G. 160/A/25-6-1976).
[578] UNECE, 2007, p.173
[579] Decision for the Approval of the Agreed Minutes of the Greek– Bulgarian Commission for Nestos, Official Gazette 160/A' 26-07- 1988.
[580] Andreas Kallioras, Fotios Pliakas, Ioannis Diamantis, 'The Legislative Framework and Policy for the Water Resources Management of Transboundary Rivers in Europe: The Case of Nestos/Mesta River, Between Greece and Bulgaria', *Environmental Science and Policy,* 9, 2006, p. 294.
[581] Approval of the Protocol for the Joint Greek–Bulgarian Technical Working Group and Environment Group (13–14.3.1990) JMD F0544/4/AS 227/M.3919 (O.G. 143/A/30-10-1990).
[582] Approval of the Protocol of the Meeting of the Joint Greek – Bulgarian Committee of Experts for the preparation of a common proposal to the EU for the monitoring and control of water quality and quantity of the transboundary rivers Evros, Nestos and Strymonas (17-5-1991) JMD F 0544/3/AS 413/M.4031 (O.G. 161/A/30-10- 1991).

Nestos.[583] Thus, on 7 October in Sofia, an agreement of friendship, good neighborly relations, cooperation and security was signed between the two countries. Even though the agreement was not exclusively related to trans-boundary rivers, reference was made to them in several points. For example, in Article 7 both countries affirm their obligation to reinforce and further their cooperation in the field of hydroeconomy; in Article 9 both parties commit themselves to take action for the implementation of activities related to hydroeconomy; bilateral ministerial commissions and working groups are asked to contribute to furthering cooperation, while in Article 14 special emphasis is given to the prevention of pollution of the Black Sea, the Mediterranean and the rivers crossing the two countries.[584] In November 1991 in Sofia, the two riparian states signed the protocol of the joint Greek – Bulgarian Experts Committee for quantitative and qualitative monitoring of the rivers.[585] Thus, the protocol included the establishment, on the Bulgarian side of the river, four fixed monitoring stations on the: Strymon (Dragodan site), Nestos (Kremen site), Evros (Simeonovgrad site) and Taouza (Elhovo site). It also included the establishment of four mobile stations, one on each of the rivers and two chemical laboratories in Blagoevgrad and Dimitrovgrad as well.[586]

In April 1994 in Greece another meeting was held within the framework of the PHARE programme, one of the three pre-accession instruments financed by the EU in order to help applicant countries of Central and Eastern Europe in their preparations for joining the Union.[587] The purpose of these funds, which were part of the INTEREG programme, was to assist countries sharing a common border with the Union to move towards structural changes. In particular, the proposals for projects to be implemented under the PHARE/INTEREG programme were focused on three water resources schemes[588]:

- water quality and quantity monitoring and control system for the Evros, Nestos and Strymon Rivers;

[583] Yanni A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou (undated), p.3.
[584] Sofia, October 7th, 1991. The Agreement was ratified by law 2023 of 16/18.3.1992
[585] Andreas Kallioras, Fotios Pliakas, Ioannis Diamantis (2006), p. 294.
[586] Ibid.
[587] Ibid.
[588] Approval of the Agreed Minutes of the Meeting of the Joint Greek–Bulgarian Committee for Programming and Monitoring PHARE, INTEREG (22-4-1994) JMD F.0544/5/AS 351/M.4341 (O.G. 184/A/1-11-1994).

- the Arda River project;
- the Erithropotamos (Luda) River project.[589]

The proposal stated that the respective system in Greek territory was already implemented and the stations were operational. According to Kallioras et al, 'the main objective of the development of such a monitoring system was the telemetric connection of the two systems of each country and therefore the development of a continuously updated environmental database for the integrated water resources management of the above transboundary rivers.'[590]

Nevertheless, the final act of the ongoing bargaining game between the two parties played out in 1995 (Annex 6) when, after hard negotiations in which Greece claimed 1/3 (33%) of the annual water flow while Bulgaria proposed 20%, they at last reached an agreement for the Nestos River, agreeing on 29%. The agreement signed on 22 December 1995, setting out Greece's rights to the water of the Nestos at 29% of the total volume that is generated in Bulgarian territory, will be in force for 35 years. In particular, the agreement consists of eight articles. Article 1 sets the percentage of 29% of the annual river flow running into Greek territory. This percentage was based on the annual average run – off between 1935-1970 (1,500.000.000m3). With Article 3, both parties agreed to develop communication networks and exchange information, on a regular basis, concerning the water status and any development plans that could affect the natural flow of the river. Article 5 also is of great importance, since it enforces the formation of a cross-border Commission of Hydro-economy, responsible for the surveillance and control of the implementation of the agreement. The role of the commission will also be that of an intermediary, forwarding any crucial matters to a government level in cases that could lead to potential disputes.[591] Finally, Article 4 refers to the effect that European directives and international conventions would have on the agreement. In particular, according to Mylopoulos et al, 'international conventions, standards and European guidance are also applicable for the improvement of water

[589] Andreas Kallioras, Fotios Pliakas, Ioannis Diamantis (2006), p.295.
[590] Ibid.
[591] Yannis A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou (undated), p. 3.

quality and the conservation of the ecosystem. The estimation of the water quality will be done using standards and methodologies suggested by EU and accepted by the two parties.'[592] The agreement also predicated the reconsideration of the percentage by the Hydroeconomy Committee after three years and in the future every 7 years, unless otherwise decided by the Committee.

As far as cooperation at an administrative level is concerned, the agreement suggested that the administrative body should be composed of the Joint Administrative Council and the Joint Working Groups. The first one was related to the joint planning of activities of the two countries at an international level, while the second dealt with the implementation of additional activities in the wider area. Within this framework, Ivanova has indicated that the establishment of the non-governmental organization Euroregion "Nestos/Mesta"[593] between the two riparian states was a successful initiative and a very positive step for cross border cooperation.[594] The administrative structures in each country are as follows:

- Management Council for Monitoring and Evaluation (MCME);
- Joint Assembly (JA);
- Administrative Council or Joint Administrative Council (AC);
- Executive Secretary;
- Working Groups or Joint Working Groups.[595]

Bulgaria's European orientation was also a positive parameter for the enhancement of bilateral cooperation with Greece. During the pre-accession period and in particular in December 1994, an agreement established between the European Communities and their Member States, on the one hand, and the Republic of Bulgaria, on

[592] Ibid.
[593] http://users.otenet.gr/~pistilma/index.htm
[594] Veselka Ivanova, 'Mechanisms of Planning and Monitoring Structures for Co-ordination at Regional and National Level in Bulgaria. In: THE INTEREG MODEL—Practical Experience in Cross-Border Co-Operation', *Friedrich Ebert Stiftung*, Zagreb Office, Zagreb, November 2001, pp. 7–18.
[595] Andreas Kallioras, Fotios Pliakas, Ioannis Diamantis (2006), p.296.

the other. Part of the agreement was Protocol 8, which focused entirely on transboundary watercourses, according to which the contracting parties evoke the governing principles:

- *the convention on the protection and use of transboundary watercourses and international lakes;*
- *the convention on environmental impact assessment in a transboundary context;*
- *the convention on transboundary effects of industrial accidents;*
- *the Ramsar convention.*[596]

It is also agreed that the common riparian Member States must develop 'a system to monitor the quality and the quantity of water in their cross-boundary rivers with a view to':

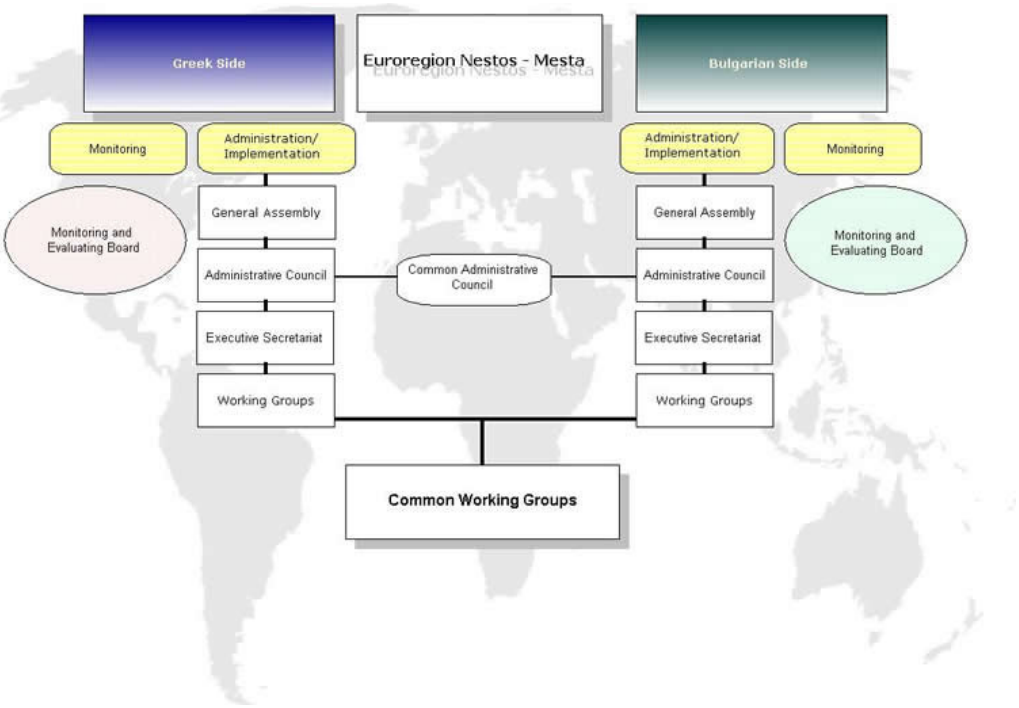
- *reducing the pollution level of the water of transboundary rivers to an adequate extent ensuring the ecologically sound use in the economy and endeavour to prevent all other forms of pollution of such water, and in particular pollution resulting from possible accidents;*
- *establishing an early warning system to cope with floods or dangerous levels of water pollution in such rivers;*
- *promoting with joint efforts the combat against soil erosion due to transboundary watercourses;*

[596] Official Journal of the European Communities, No. L. 358/3, 31.1294, available at: http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&treatyId=741 (last accessed on 04/09/2014)

- *promoting rational use of water resources from transboundary rivers in conformity with the provisions of the convention on the protection and use of transboundary watercourses and international lakes;*

- *promoting the effective protection of flora and fauna at the estuary of the transboundary rivers on their respective territories.*[597]

Figure 7.5. Euroregion Nestos/Mesta



The Greek Government has also ratified the following international conventions regarding the management of transboundary rivers:

[597] Ibid.

- 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes.[598]

- 1992 Convention on the Transboundary Effects of Industrial Accidents.[599]

- 1991 Convention on Environmental Impact Assessment in a Transboundary Context.[600]

In 2002, a big step forward took place. A new agreement between Greece and Bulgaria was signed, abandoning the previous exclusive logic of utilization of the waters. The new agreement introduced cooperation on environmental protection and was concluded in November 2002 between the competent ministers (Agreement between the Ministry for the Environment, Physical Planning and Public Works of the Hellenic Republic and the Ministry of Environment and Water of the Republic of Bulgaria on cooperation in the field of environmental protection). This agreement has managed to extend the scope of the previous ones, working as a concrete step from water cooperation towards cooperation in the field of sustainable development and environmental protection. One of the most innovative characteristics introduced by the 2002 agreement was the engagement of a broader network of actors including civil society, NGOs, universities, research institutions etc. Also this agreement, in Paragraph 4 Article 2, establishes a concrete link between bilateral cooperation and the WFD.[601]

On 27 July 2010 in Sofia the two riparian states, through their representatives (Minister for Environment, Energy and Climate Change of the Hellenic Republic and the Minister for Environment and Water of the Republic of Bulgaria) signed a joint declaration reaffirming their intention and willingness to cooperate on the use of shared water resources. For this reason they decided to establish a Joint Expert Working Group

[598] Law 2425/1996, Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Official Gazette 148/A/4-7-1996.
[599] Law 2546/1997, Ratification of the Convention on the Transboundary Effects of Industrial Accidents, Official Gazette 256/A/ 16-12-1997.
[600] Law 2540/1998, Ratification of the Convention on Environmental Impact Assessment in Transboundary Framework, Official Gazette 249/A/1998.
[601] *…The contracting shall promote the water promotion and use in the spirit of the European Union Framework Directive and cooperate in the sustainable management of transboundary watercources, in accordance to the international conventions to which they are contracting parties.*

focusing on cooperation on water and environment. On 16 May 2011 in Drama, Greece, the composition of the Group was agreed upon and the first meeting took place, while a few months later, on 12 October the second meeting took place where three sub-working groups were created.[602]

7.3.1 Critique of the 1995 Agreement

The previous section has focused on the developments toward building bilateral cooperation frameworks for the management of the transboundary rivers. Yet, given the fact that the most concrete and interesting example of bilateral cooperation was the 1995 agreement on the Nestos River, this chapter will focus on it in order to present the critique that has emerged of this initiative.

All the aforementioned steps can be easily characterized as quite positive, since they demonstrate practical evolution towards the implementation of an integrated management plan. Yet, experts argue that the strong attention and effort of the Greek side to secure a standard amount of water in her territory led to the failure of the two states to show an integrated joint effort and put into action a well organized plan.[603] Moreover, skeptics argue that the agreement has never been implemented practically due to the lack of financial resources and the obvious weakness of the local authorities to play a crucial role and to undertake the necessary actions.[604] In fact, the roles and responsibilities of the competent authorities are completely absent from the agreement, which that generates more obscurity at the administrative level.[605]

The main legal context of the agreement itself is also subject to critique. For instance, Mylopoulos et al argue that despite the positive steps the agreement has brought, it is embodied with generalities, which actually hinder its implementation. In particular, while in Article 1 the 29% proportion is defined, it has been left unclear whether this number refers to monthly or yearly flows. This finding allows the Bulgarian side to take

[602] http://www.ypeka.gr/Default.aspx?tabid=406&language=el-GR
[603] Yannis Mylopoulos, Elpida Kolokytha, 'Integrated Water Management in Shared Water Resources: The EU Water Framework Directive implementation in Greece', *Physics and Chemistry of the Earth,* 33, 2008, p. 350.
[604] Yannis A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou (undated) , p.4
[605] Elpida Kolokytha, 'The European Union Water Framework Directive, a Driving Force for a Shared Water Resources Management', in: Jacques Ganoulis, Alice Aureli and Jean Fried (eds.), *Transboundary Water Resources Management: A Multidisciplinary Approach,* Weinheim: Wiley VCH, 2011, p. 58.

the most positive decisions for its own side without any particular cost. The same article and proportion agreed does not actually cover the water essential for the preservation of the ecosystems. In practice, the Delta's ecosystems undoubtedly need larger amounts of water to avoid stressful situations. The current agreement and in particular the existing percentage raises great concerns, especially for those periods where extreme droughts might occur in the future, due to climate change, and the environmental damage that could be caused and be irreversible. Indeed, there is no precaution for cases of extreme phenomena, such as floods and droughts.

The field of categorization of hazardous substances and the limits that should be set is another area of failure. In addition, while the agreement decrees that the two parties use the same process of measurement, it fails to specify the exact type of measurement and its frequency. It also fails to set or even propose the exact points of sampling.

Another crucial doubt is related to the implementation of the agreement itself. Indeed, according to experts, none of the articles has been practically brought into action yet. Particularly, the way that the two parties agreed on this specific water allocation scenario by avoiding a thorough study on the exact needs and requirements of the local populations can easily be criticised. Moreover, according to Mylopoulos et al, 'the scheduled updating of the water volumes was never realized and as a result the agreed water allocation has not been put into force.'[606] Cooperation between the two parties in data exchange is also problematic. Professor K. Ouzounis of the Technical University of Thrace underlines that the Greek side has expressed strong complaints over the absence of official and regular information from the Bulgarian side about any waste discharges into the river and any retaining of the water.[607] This resulted in continuous degradation of the very important ecosystems of the catchment area. In particular, the River's delta is subject to many external impacts despite being protected by the Ramsar Treaty on Wetlands. Also of great importance is the fact that no special attention is given to water quality issues or alternative allocation scenarios in cases of extreme phenomena.

[606] Yannis A. Mylopoulos, Eleni Eleftheriadou, Eleni Kampragou (undated), p.4
[607] K. Ouzouni, personal interview June 2008.

7.3.2 Discrepancies with the WFD and the UN Convention

As already mentioned, the WFD adopts a holistic approach by introducing the need for a joint management plan in the case of a transboundary catchment, even in those cases where rivers cross EU borders and are also shared by non-member states. The 1995 agreement does not follow this approach, since it refers only to the waters of the Nestos and all the articles focus merely on water quality and quantity. The conception of integrated management at the level of a river basin is totally neglected and all the references are solely to the watercourse itself. A river basin management plan should have been provided by 2006, but even until now no preparation for the near future has been observed.

Within this framework, the absence of any kind of reference to coastal waters is also obvious. While according to the WFD coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts (Article 2 (15)) there is no such setting within the 1995 agreement, despite the fact that, as environmentalists argue, there is a pressing need for the protection of the coastal waters of the Nestos basin as the degradation of the Kavala Gulf is looming and the sea life of the area is being threatened.

Moreover, Article 5 of the WFD declares that each state shall guarantee that an assessment of the impact of human action on the status of surface waters and on groundwater, as well as an economic analysis of water use, is undertaken. Yet, something equivalent is absent from the 1995 agreement.

Another mismatch between the 1995 agreement and the WFD lies on the issue of public participation, which was introduced by the latter as a basic requirement. In the Nestos/Mesta case, not only during the negotiations but also within the text itself, the participation of local authorities or other parties is absent. According to Mylopoulos et al, 'the agreed allocation scheme seems a result of political bargaining rather than aiming at meeting the requirements of the local population. For this reason, the agreement has not received the necessary public support so far.'[608] Indeed, public participation and

[608] Yannis Mylopoulos, Elpida Kolokytha (2008), p. 350.

involvement in the formulation of a joint River Basin Management Plan is completely absent.

Moreover, Article 13 of the Directive requests the joint production of a river basin management plan for international basins by the riparian countries. This plan should incorporate a general description of the characteristics, pressures, environmental objectives and other requirements described thoroughly in the Directive. The formation of such plans demands a thorough and reliable database. However, the 1995 agreement, apart from making a typical reference to European and international jurisprudence on the exchange of data and the common management plan, fails to set the essential background conditions for future implementation.

As far as compliance with the UN convention (Helsinki Convention) is concerned things are quite similar, since as it has been analyzed in a previous chapter the WFD adopts many elements from the UN Convention. Consequently, some of the previous findings also apply here. For example, while Article 3 of the Convention suggests that water flows should be measured and recorded, in the Nestos case there is a great lack of data from the Bulgarian side, making the implementation of the agreed water allocation almost impossible.

Moreover, Article 4 requests that parties establish joint programmes for monitoring the conditions of the waters, something that is lacking in the case of the Nestos, since each country proceeds with its own development plans without informing the other. Of course this reality is more inconvenient for Greece since it is the downstream riparian and is directly affected by Bulgarian activities. In addition, Articles 6 and 13 of the Convention underline the importance of exchanging information between the riparian states. Yet, according to Greek protests there is no information on pollutants discharged into the river from Bulgaria, and hence it cannot respond in due course.

Article 9 of the Convention emphasizes bilateral cooperation and suggests that any agreement should focus on the establishment of joint bodies aiming at the collection of data with the installation of joint-monitoring stations in order to create more effective alert procedures. This would have been the role of the Hydro-economy Committee that the 1995 agreement established. Yet it has not been put into action.

7.4SWOT analysis of the Nestos and Strymonas cases.

As in the previous chapter, SWOT analysis will be used as a tool of categorizing and examining the current status of the rivers' management and the possibilities for the future as well. Initially SWOT analysis will be applied to the case of the Nestos River and afterwards we will move on to the case of the Strymonas.

In the Nestos case, the status of the river as an area of great environmental interest with a strong status of protection can be considered a strength, while the biodiversity of the Delta makes it a magnet for environmentalists and alternative tourism, similarly to the Evros case mentioned in the previous chapter. The fact that both the riparian states are members of the European Union safeguards the appropriate river flow needed for the viability of the ecosystems. Nevertheless, the existing agreement of 1995 can only be perceived as a strength on the grounds that it is a good step for a more solid future agreement, based on equality standards and targeting the fulfillment of the needs of both parties. The importance of the river as a source of irrigation in both parts of the river, and the significant agricultural production are also worth mentioning.

One weakness is the lack of sewage treatment plants in small and medium population cities. This results in continuing urban pollution, while other sources of pollution such as agricultural or even industrial to some extent, are also causing significant damage to the local ecosystems. Weaknesses also exist within the framework of the 1995 bilateral agreement. As mentioned above, a strong critique has emerged of the implementation of the agreement and the points of the agreement itself. Indeed, articles of the agreement remained under question since there is a lack of precision in its terms, and this vagueness raises concerns about the future.

The opportunities for the two parties are many. First of all, the fact that since 2007 Bulgaria is also a member of the EU can only work in a positive way for the implementation of an integrated managerial plan of the river, in accordance with the 1995 agreement which references harmonization with EU directives and decisions. In addition, the trade bonds that have been constructed between the regions of the two parts of the basin, the Bulgarian in the North and the Greek in the South, can foster cooperation that can move to other non-trade issues such as environmental ones, such as river management

and the prevention of pollution. In a personal interview with Mr. Papadimitriou, representative of the local chamber of commerce in Drama, Greece, who has been involved in the INTERREG programme, he supported the idea that the bonds with the communities in the two parts of the river can work as a catalyst to pressure to local and national authorities of both countries to speed up cooperation.[609]

Moving on to the Strymonas case, the river also enjoys a generally good environmental status. According to the previous analysis, it seems that despite the pressures on the river by the riparian states, the water quality remains good especially for agricultural purposes. The delta of the river as well as the river itself are protected by international norms and are included on the national list of regions of European Ecological Network NATURA 2000 according to Community Directive 92/43/EOK with code GR1260001. In addition, the fact that since 1964 bilateral cooperation has been at the forefront of the political dialogue also presents a dynamic that to some point has been institutionalized.

Yet, the fact that progress toward bilateral cooperation has been slow and hesitant from both sides, while the pressures on the river continue, are major weaknesses. In fact, the poorly coordinated initiatives that took place until 2002 have failed to respond to local needs since they were characterized by fragmented provisions and measures.

An opportunity is that since 2002 and particularly since 2010 attempts for cooperation have been intensified. Cooperation has gradually changed in nature from water-law oriented to focusing on sustainable development law. The WFD, also, provides an appropriate framework for strengthening and intensifying bilateral cooperation.

However, issues related to the management of the river (and all transboundary rivers) should be relatively de-politicized, something which is not likely to happen quite soon.

[609] A. Papadimitriou, personal interview, June 2008.

7.5 Conclusions

Comparing the Nestos River with the Evros, which was analyzed in the previous chapter, it can be said that it is not such a complicated case mainly for three reasons. First, the number of riparian states is one less than the Evros. Secondly, the two states are members of the same "coalition", the EU. And finally, due to the existence of a bilateral agreement between the two riparian states, which is practically still in action since 1995.

Nevertheless, the problems that do exist derive mostly from the 1995 agreement itself. In fact, although the agreement contains principles that were introduced by international organizations, like the EU or the UN, such as willingness for co-operation, exchange of data and creation of a cross-border commission, it still remains inactive.[610] The critique that has been presented revealed the incorrect basis upon which this agreement was constructed. The fact that especially the Greek part decided to pay significant attention only to the amount of water flowing into her territory has left many other issues untouched or unclear.

Even the legislative framework that was enacted in Greece in 2003[611] for harmonization with the WFD does not concern the policy which should be followed regarding cooperation between Greece, Bulgaria, Turkey, FYROM and Albania on their transboundary rivers. So, as it seems, the perception of the agreement remains unchanged. It is quite notable that the term "transboundary waters" is only mentioned once within the legislative text, in order to state that the National Water Commission cooperates with the Greek Ministry of Foreign Affairs on issues of international waters.[612]

Moreover, as mentioned earlier, the main criticism regarding this legislative framework is that it is characterized by generality and vagueness, while specific issues regarding its enforcement are not clearly stated. The agreement and its practical non-implementation represents the failure of the two states to set up a common management plan and essential background conditions for future accomplishment of such a plan. In general, the two countries did not proceed with the creation of a thorough management

[610] Yannis Mylopoulos, Elpida Kolokytha, Dimitra Vagiona, Eleni Kampragou, Eleni Eleftheriadou, 'Hydrodiplomacy in Practice:Transboundary Water Management in Northern Greece', *Global Nest Journal,* Vol 10, No. 3, 2008, p. 289.
[611] Law 3199/2003, Protection and Management of Waters, Official Gazette 280/A' 9-12-2003.
[612] Andreas Kallioras, Fotios Pliakas, Ioannis Diamantis (2006), p.297.

plan for the whole catchment, but mainly addressing the water allocation issue. Therefore, instead of an integrated plan covering the whole area of the river basin, each country created its own strategy for its water resources. As a result, the catchment is divided into two parts, with two different and independent management plans. For example, as far as the Greek part of the river is concerned, such a plan was set up by the Public Power Corporation (DEH) of Greece and approved by the Ministry of Environment (KYA 18492/19-09-1996). It was based on the 1995 agreement as well as on the requirements of the Ramsar Treaty.[613]

Yet, the major question is what should be done in order to modify this situation. According to Kolokytha three basic notions should be incorporated into the agreement:

- *Envisioning of both countries to share the dream and the goals. The negotiations should be supported by reliable methodological tools for conflict resolution.*
- *Empowerment to provide joint decision making and to share power based on the 'right' of each country to water for the benefit of all.*
- *Enactment in order to proceed to implementation and civil engagement, which are the basic components of successful shared water management.*[614]

Regarding the Strymonas, in contrast to the 1995 agreement for the Nestos River, there is no specific framework for its management. The 1964 agreement and the 1971 agreement were restricted in their scope and only focused on the utilization of the river as a "commercial good." It was only in the 2002 agreement where a departure from the previous logic was seen in the introduction of cooperation in environmental protection. The 2002 agreement also enhanced the pre-existing working methods, including the exchange of information between a wide range of actors and bodies such as competent authorities, universities, NGOs and so on.

[613] Aris Psilovikos, Sophia Margoni, Antonios Psilovikos (2005), p. 759.
[614] Elpida Kolokytha (2011), p. 59.

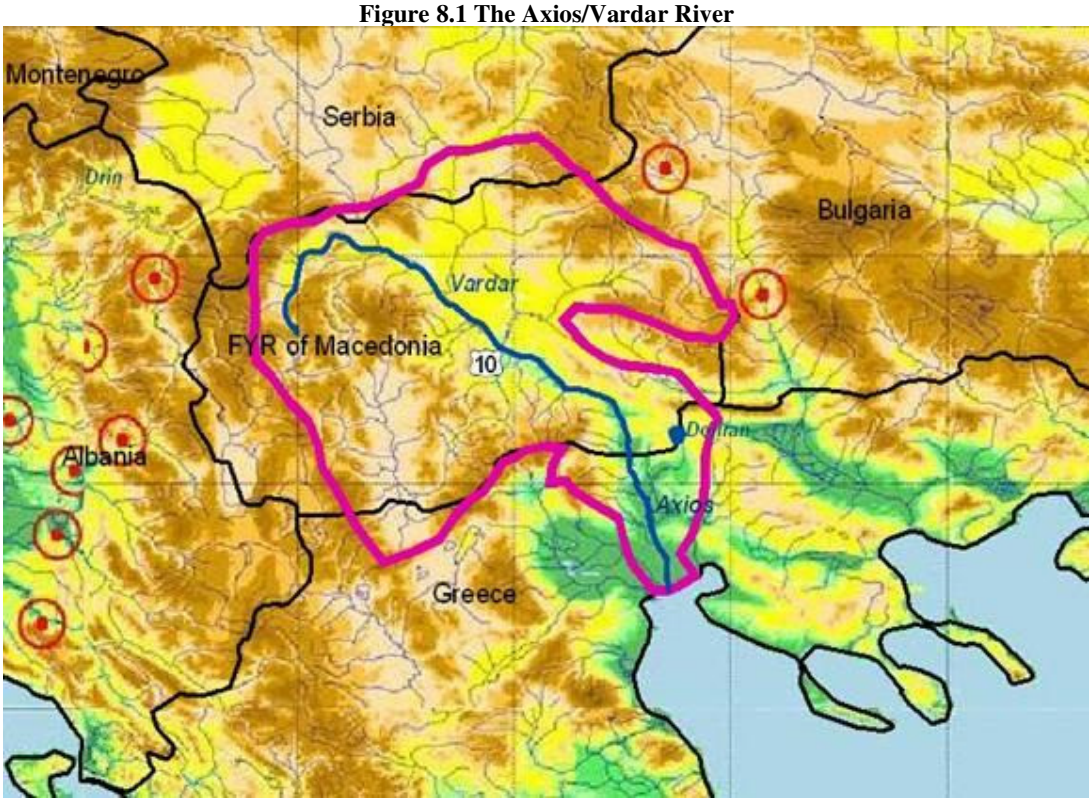
However, it should be once more underlined that all bilateral agreements apply to all transboundary rivers, besides the one that specifically focuses on the Nestos' waters. The 1995 agreement on the Nestos remains the most concrete example of bilateral cooperation in the field of transboundary rivers between Greece and Bulgaria.

Chapter 8

The Axios-Vardar River

This chapter will deal in-depth with the case of the Axios/Vardar River, shared between the Former Yugoslav Republic of Macedonia and Greece. The first part of the chapter will explain the significance of the river as a focal point of interest in the region through historical references. Then, a concise identification of the problems will be provided, followed by an analysis of possible negative factors limiting the implementation of an integrated management plan.

Figure 8.1 The Axios/Vardar River



8.1 The Profile of the River

8.1.1 The Historical footprints

The history of the river goes back to antiquity, with several names used in Greek history. For example, in the Homeric epics, the author pronounces the river as "Βαθυδίνην" and "Ευρυρρέοντα" and describes it as "κάλλιστον ύδωρ έχοντα". According to Homer, there also was a population leaving in the region between the Axios and Strymonas Rivers called Bisaltae.[615] Euripides in his famous work "Bacchantes", calls the Axios "ωκυρόαν", which means one who flows or runs fast.[616]

There are two versions explaining how the river took its current name. The first suggests that the name comes from the Macedonian word "Axos=άξος" which means forest or material. The other claims that the river flows through the land of ancient kingdom of Paeonia, and took its name from the legendary Axio, the first of the Paeonian kings. According to Herodotus at the mouth of the river, more than one million Persian troops camped during the second campaign against the Greeks in 480 BC. Thucydides, Strabo and Aeschylus have also made references to the river.[617]

The river is also known as "Βαρδάρης", with roots from the Slavic "Vardar" or also perhaps from the Persian Var Dar which means "big river". The name Vardar has remained up to the present, thus the river is referred to as Vardar/Axios in order to delimitate the Slavic and the Greek side respectively.

Geographically, the Axios and its neighbor the Strymonas are the only openings in Greece towards the north, and consequently the Balkan peoples' migration flows took place through them. The Axios River also served as a key point for the division of Macedonia into four sections during the Roman era. In particular, the river separated the first and second sections in the East, from the third and fourth in the West.

During World War I, significant and decisive battles took place between the Allies and Bulgarian troops the banks of the Axios River. The first clashes occurred from

[615] http://en.wikipedia.org/wiki/Bisaltae
[616] ….τόν τ᾽ ὠκυρόαν διαβὰς Ἀξιὸν εἰλισσομένας Μαινάδας ἄξει….

[617] Encyclopedia Larousse Britannica, Vol 10, p. 102.

October to December 1915 and later on during the second half of September 1918. Yet, the principal conflict of modern military history known as the "Battle of Axios" happened in May 1917, and was crucial for the front of Thessaloniki.[618]

8.1.2 The Region and the importance of the River

Geographically, the Axios/Vardar River has its sources at the border of Albania and FYROM. The river rises from the Sar Mountains in the northwestern part of FYROM. According to experts, the main springs of the river are located in the village Vrutok and are of karst origin. The direction of the river is initially north-east, passing among the mountains Suva, Gora and Bisora. Later on it flows through the Upper Axios valley, then turns southeast and passes through the Derven steppe. The river enters Greece in the prefecture of Kilkis and runs through a part of the Thessaloniki plain. As it flows between Polykastro and Axioupoli, it continues further south to the region of Evropou and passing through the municipality of Koufalion empties into Thermaikos Bay forming an extensive delta, approximately 20 km south of the city of Thessaloniki.

The river's basin is almost 24,000 km^2 covering roughly 80% of FYROM's territory. In FYROM the major tributaries of the River are Treska, Lepenec, Pcinja, Bregalnica and Crna Reka, while in Greek territory there are three main streams that join the lower course of the Axios River; the rivers Kontza-Ntere, Gorgopi and Vardarovasi.

As far as tributaries to the river are concerned, in FYROM there are 19 major springs, the most important of which is Rasche which supplies over 600,000 inhabitants of the city of Skopje and its surrounding region with an average capacity of 3.5 m^3/s. On the Greek side, the western part of the basin has more springs compared to the eastern part due to the mountains and the karstic geology substrate.

The river is also very important for the local economies. Without doubt, land and water use are interrelated and this is clear in the case of the Axios. Indeed, in the river's catchment, 60% of the land is used for agricultural purposes while forest and urban zones together cover no more than 40%. Consequently, water is mainly used to cover industrial and agricultural needs and domestic needs to a much lesser extent. River surface water is

[618] Ibid

used for agriculture and industry, and industry uses the water to dispose of waste materials.

According to Milovanovic, an increasing demand for water in industrial, agricultural and domestic areas in the Axios/Vardar drainage basin has been recorded. He writes, 'over the last years, country irrigation has been the major consumer of water.'[619] As a result, an extended network of irrigation canals (there are twenty five small irrigation systems), dams and drain systems covers the drainage basin. Characteristic examples are the drain systems in Skopje and Ovce Pole. In addition, the river's water is used for electric power production. There are two electric power-generating dams in FYROM, the Matka and Kozjak.

On the Greek part of the river, there is a parallel infrastructure of irrigation and drain systems such as the canals Atziak-Agiak-Amatovo and Anthophutou discharging into the Axios River. Additionally, the Axios/Vardar River basin has great environmental importance since it hosts numerous rare and protected species and a biodiversity of habitats. In particular, the extended delta that the River forms is protected by the Ramsar Convention on Wetlands and is registered as a *Natura 2000* site.[620]

8.1.3 Identified Problems

As previously mentioned, the Axios/Vardar water is used for various purposes. From irrigation to municipal and industrial uses, the river receives significant pressure. Almost 3.14 million people live in the basin (1.8 million in FYROM and 1.6 million in Greece). Yet, pollution accumulates on the route of the river's flow. While in the FYROM area, the upstream river waters are relatively clean, moving downstream the situation deteriorates. The big urban centres across the river create many kinds of waste, such as industrial, rural and urban. The following map (Figure 7.1) demonstrates this reality.

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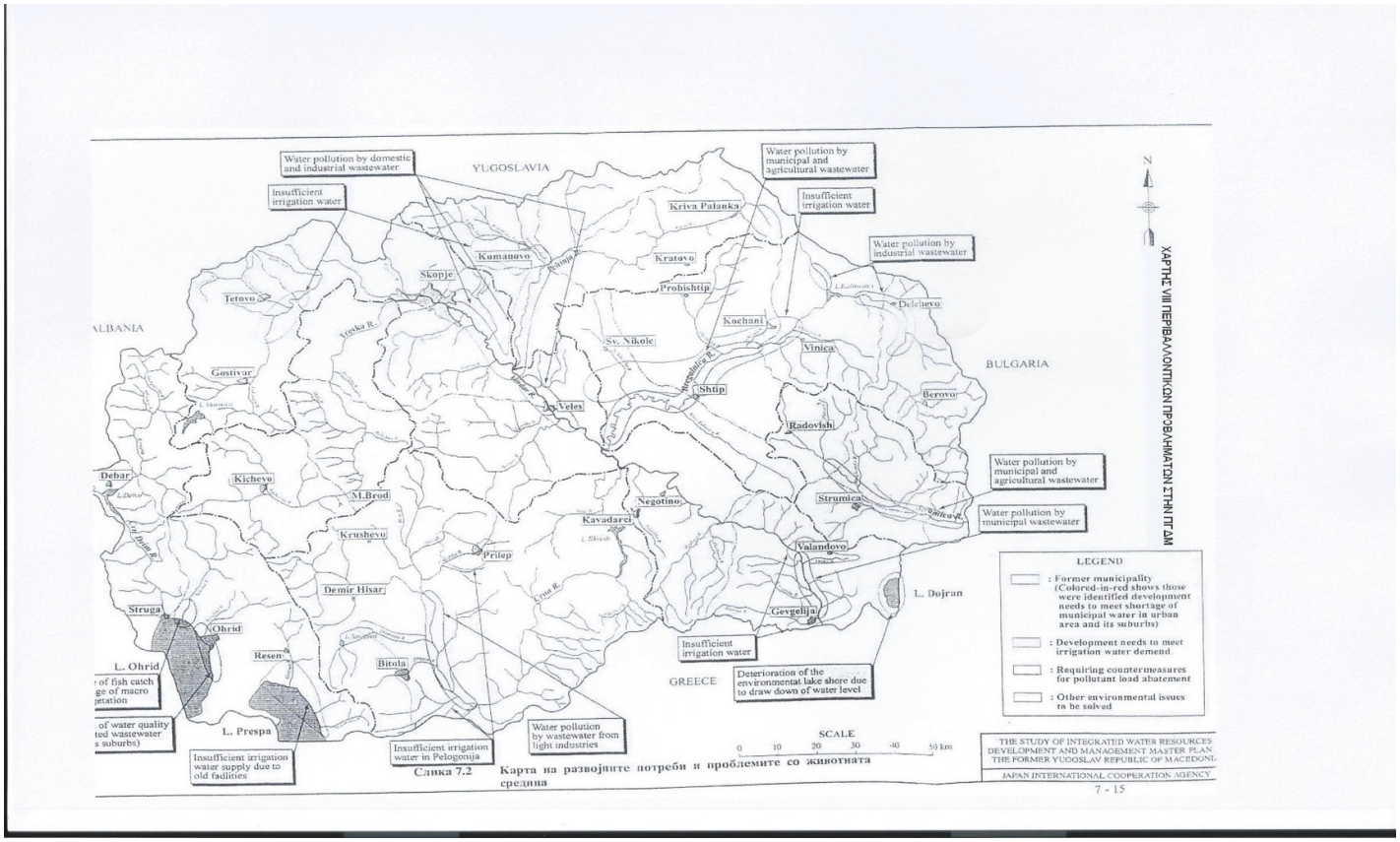
[619] Mimoza Milovanovic, 'Water quality assessment and determination of pollution sources along the Axios/Vardar River, Southeastern Europe', *Desalination,* 213, 2007, pp. 160-162.

[620] Mimoza Milovanovic (2007), pp. 160-162. For more information about the uses of the river, the pressures and the transboundary impact visit: http://www.twrm-med.net/southeastern-europe/transboundary-river-basin-management/shared-surface-water-bodies/new-river-basins/vardar-axios-river-basin

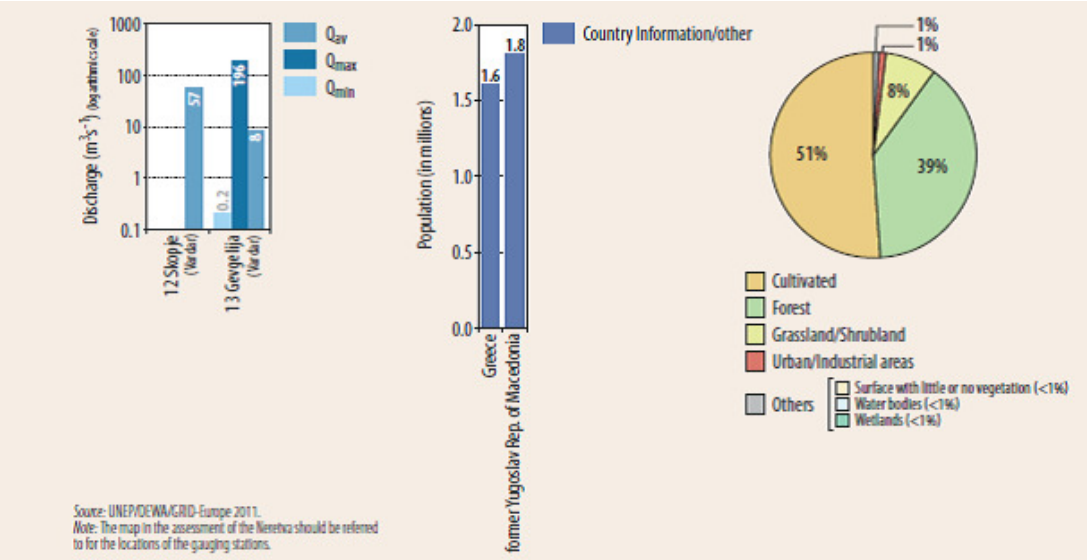
Figure 8.2. Map of environmental problems



According to the first UNECE assessment on trans-boundary rivers, lakes and groundwater, agriculture seems to be the most significant negative factor impacting the quality of the river's waters. Specifically, there is an overuse of water in many parts of the basin mainly for agricultural purposes.[621] In FYROM and particularly in the valleys of Pelagonija, Polog and Kumanovo as well as in the Bregalnica catchment area crop production and animal husbandry are causing severe damage.

[621] UNECE, *First Assessment on Transboundary Rivers, Lakes and Groundwaters*, New York/Geneva: 2007, p. 169.

Figure 8.3. Discharges, Population and Land cover in the Vardar/Axios River Basin



Industrial infrastructure within FYROM's territory also affects the aquatic ecosystem. In particular, mining and quarrying activities are located in the catchment area of the eastern tributaries (rivers Bregalnica and Pcinja). In addition, the metal industry in Tetovo, as well as the heavy metal industry at Veles, along with the chemical industry, petroleum refineries and the pharmaceutical industry in the city of Skopje, are significant sources of pressure. The following map (Figure 7.3) is revealing regarding the industrial activities within FYROM. Moreover, according to other experts, the waste sewage that the river receives while flowing through the urban centres of the region is causing severe damage to the quality of surface and ground water as well.[622]

[622] Metodija Dimovski, Gordana Kozuxarova, *Review for environmental achievements*, UNECE, Ministry of Environment and Urban Planning, Skopje, 2002.

Figure 8.4. Key Industrial Environmental Polluters in FYROM

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Until 1993, the fabric industry and the chromium treatment industry (Jugohrom) in Tetovo were important sources of pollution. The situation has changed in a positive manner due to the end of chromium production since then. The milk factory in the same area also is a polluting factor. The wastewaters coming from industries and households are entering the rivers Pena or Axios with almost no treatment. In addition, the thermoelectric station of Negotino adds thermic pollution to the river's waters.

Moving to the Greek side of the river, the Delta area faces pollution problems mainly from urban and industrial waste as well as from the remains of agricultural fertilizers coming from both countries. In addition, the unverifiable deposition of litter in the Delta area and in particular in the areas under the jurisdiction of the Municipalities of Chalastra and the Community of Malgara is unambiguously a source of pollution.

In the last decade the flow of the river has been reduced due on the one hand to increasing periods of droughts, and on the other to the increasing all purpose need for water in both countries. As a result, during the summer months the waters are channeled to the irrigation network, causing significant decrease or even interruption of the water flow into the Delta. This reality also results in increasing salinity of the Delta, causing further problems for the flora and fauna of the area.[624]

[623] UNECE, *Environmental Performance Review: The Former Yugoslav Republic of Macedonia,* NY/Geneva: 2002, p. 127.
[624] George Zalidis, 'Management of the river water for irrigation to mitigate soil salinization on a coastal wetland', *Journal of Environmental Management,* 54, 1998, pp. 161-167.

8.2The Legal Context and the agreements between the riparian states.

This part of the chapter will also examine the legal status of the River's use agreed upon between the riparian states. Due to the changes in state borders that took place in the early 1990s, the two different periods will be discussed chronologically - the first period prior the dissolution of the former Yugoslavia and the second right after the establishment of the successor states.

8.2.1 The first period: Greece, Yugoslavia and the Axios River.

As already mentioned, the Vardar-Axios River was initially shared between Yugoslavia and Greece. The river has been on the political agenda of both states since the 1950s, mainly related to discussions on cooperation over water management and particularly scarce waters such as those of the Axios/Vardar River. In 1953 under the umbrella of an agreement on economic cooperation and commercial exchange, the governments of the two states exchanged official correspondence regarding the existing problems related to the Axios/Vardar River and the Prespa and Doiran Lakes. These letters prepared the ground for the Agreement on 18 June 1959 for the two states to share the complete water resources. The concept of the Agreement, as described in the preamble, was the promotion of cooperation in the field of hydroeconomy by executing works and studies for mutual benefit. The ratification of the Agreement by the two parties led to the formation of a joint permanent committee, which began functioning in 1963. In the meantime the normalization of the political climate between the two states had a positive effect on the overall objectives of the committee. According to Rozakis, the commission's activity was noticeable, dynamic and productive for the entire period of the 1960s, 70s, and 80s. It had developed a practice that actually brought the general and theoretical text of the 1959 Agreement to life.[625] Moreover, the committee proposed the

[625] Christos L. Rozakis, *The international legal framework of the Greek Rivers and Lakes*, Athens: Sakoulas, 1980 (in Greek)

need for financial support for the implementation of the Agreement not only from the national budgets of the two states but also from the UNDP.

Yet, it was not until the 70s that an agreement was reached between the two states. Signed on 12 June 1970 in Belgrade, it was an agreement concerning the study of the overall improvement of the Axios/Vardar basin. The UNDP linked the two parties in preparing a master plan for the integrated management of the basin, '…of the said basin by the execution of this project, agree to submit a request jointly to UNDP with a view to the preparation of this study (Art. 1).' The agreement suggested the establishment of a Joint Commission composed of five representatives of each government aiming to develop the Axios/Vardar Basin.[626] The scope of the commission was to supervise the work needed for the preparation of the study in question and to submit to the two governments the necessary proposals for the smooth implementation of this effort (Art. 3).[627]

The general concept of the plan was that the initial study would indicate the feasibility, both economically and technically, of the project for both parties, and then the governments of the two states should reach an agreement concerning the final execution of the work necessary for the overall improvement of the basin and the joint financing of such work, including at the same time provisions for the apportionment of costs and the method of financing. Moreover, there were two major purposes for the implementation of this particular project: a. 'to satisfy the needs of Greece relating to the Axios/Vardar irrigation system and b. to satisfy as a matter of priority the present and future needs of Yugoslavia by its free utilization of all the water, other than the quantity of water needed by Greece' (Art. 7).[628] Nevertheless, the future of the Agreement was not a road paved with roses. In fact, according to Walden, disagreement on burden sharing and Greek political reluctance halted the project. This was, however, not the only ambitious project of the 1970s. Another, also developed by the UNDP in the 1970s, envisaged creating a

[626] Legal problems relating to the non-navigational uses of international watercourses. Supplementary report submitted by the Secretary-General pursuant to General Assembly resolution 2669 (XXV). (Vol.I and II): Topic: Law of the non-navigational uses of international watercourses, Extract from the Yearbook of the International Law Commission: 1974 Vol I (2), Document: A/CN.4/274, p. 318-319.

[627] Ibid.
[628] Ibid.

navigable waterway by linking the Thessaloniki bay to the Danube through the Axios/Vardar River and the Southern Morava. Yet, the outcome was the same.[629]

In fact this ambitious plan is rooted in the mid 19th century, when it was conceived of as a part of a potentially greater plan to connect the Danube with the Aegean Sea through the Morava and Vardar rivers. French companies were the first to show interest in this project back in 1860 but the whole attempt collapsed four years later. In 1904 efforts were again made to revive the idea of connecting the rivers. The outcome was a study conducted by a U.S. firm in New Jersey in 1907 investigating the viability of the project for a navigable route through the Morava and Vardar which was called the "line of European economic gravity in relation to the Suez Canal".[630] Two years later, Dr. Stamenkovic, professor at the University of Belgrade, submitted a report to the Serbian and Turkish governments estimating the cost of building the navigable route Danube-Morava-Vardar-Thessalonika, but the Balkan wars that followed buried the study.[631]

8.2.2 The Second Period: Greece, FYROM and the Axios/Vardar River

In 1991 FYROM emerged as an autonomous state, and this reality has actually limited the progress described above. In fact, while in 1987 Greece and the former united Yugoslav Republic signed an agreement concerning the water flow that the Greek side should receive (at least 32 m^3/s), the newly formed state abstained from ratifying pre-existing agreements. This resulted in a significant decrease in the river flow.[632] The bad political relations between the two states have negatively affected their intentions to follow the strict pre-existing agreements, especially on the side of FYROM.

Initial political suspiciousness was followed by slow progress in political negotiations, which also included environmental issues such as the Prespa Lakes. Yet, the

[629] Axel-Sotiris Walden, 'Greece and the New Macedonian State, undated, p. 119, available at: http://cevipol.ulb.ac.be/sites/default/files/Contenu/Cevipol/waldden-complet.pdf
[630] Toni Mileski, Emanuela C. Del Re, 'Geopolitical and geostrategic implication of possible navigable channel Danube-Morava-Vardar-Thessalonica', *Security dialogues*, 2013, p. 53.

[631] Toni Mileski, Emanuela C. Del Re (2013), p. 52-53.
[632] Newspaper "Μακεδονία". http://www.makthes.gr/news/reportage/23245/

Axios/Vardar River remained excluded from the bilateral dialogue. The lack of interest from the international community and international donors, along with FYROM's tragic economic situation, also worked as an obstacle for the development of an integrated management plan through a successful bargaining process.

Since then, things have not dramatically changed in a positive way. There were attempts made a few years ago, the most prominent of which was the famous MIRVAX (Monitoring and Improving the Rivers in the Vardar/Axios Watershed) project implemented by the Environment and Security Initiative (ENVSEC). Funded by NATO's Science for Peace Programme (SPS), the MIRVAX project of applied research and development targets, as Tuneski and Balafoutas wrote, 'to create a real – scale procedure on how trans-boundary rivers may be transformed from an arena of tension, antagonism and conflicts to a farm of harmony, cooperation and serenity.'[633] The programme was launched in November 2005 and has a budget of 320,000 Euros. It was implemented by two universities, "Saints Cyril and Methodius" of Skopje and Aristotle University of Thessaloniki.

The overall objective of this initiative was to promote information sharing, technology transfer, and peace between FYROM and Greece with respect to the VAX. One of the first things the MIRVAX achieved was the establishment of the Recourses Engineering and Administration for Local Development (REALD) Academy in Thessaloniki. REALD is a technology center that provides municipalities in Greece and FYROM with technology assistance and timely data on the status of water quality in the VAX.[634]

According to a NATO overview of ongoing Science for Peace Projects in 2010 significant progress has been recorded in the MIRVAX project. Highlights so far include:

[633] George Balafoutas, Atanasko Tuneski, 'Monitoring and Improving the Rivers in the Vardar/Axios Watershed' Cyril and Methodius University Skopje, FYROM, 2002.
[634] http://www.waterwideweb.org/the-politics-of-water-between-greece-and-macedonia.html

Table 8.1.The MIRVAX Project: Progress so far

- Regular meetings between the NPD and PPD as frequently as necessary for efficient work on the project. The meetings at the Demir Kapija Monitoring Station are very frequent in order to put it into operation, and to ensure the corresponding maintenance. Close cooperation with the NATO consultant Dr. Jaroslav Slobodnik.
- Close and continuous cooperation between NPD and PPD and Dr. Mparmpas and his experts team in the upgrading and completion of the Demir Kapija Station.
- Several meetings of the NPD and PPD with the Mayors of the adopted towns and representatives of the Ministries of Environment and Agriculture (MoEPP & MAFWE) in FYROM and with other river experts.
- Detection of operational problems at the existing two monitoring stations in Demir Kopije (Negotino) and Taor (Skopje). Redesign of the whole monitoring procedure concerning the entire Vardard/Axios River and preparation of the technical specifications for the equipment definition of the rehabilitations works necessary to make these stations operational. Demir Kapija has been putting out monitoring data since 17 March 2008**.**
- Design of the Vardar/Axios Monitoring Network, definition of the water quality indicators at each station.
- Design of the mobile measuring station and the equipment list. The two mobile units were operational by 10 June 2008.
- Supply of the equipment, commissioning and installation of the SCADA and remote data processing system.
- Elaboration and establishment of a web-based database, relevant to the MIVAX targets.
- Preparation and realization, in cooperation with CARDS 2003, of the chemical monitoring campaign for determination of the chemical makeup of the Vardar/Axios river basin.[5]

[635] NATO Emerging Security Challenges Division, *Overview of Ongoing Science for Peace Projects,* October 2010, p. 64.

By June 2011, the project had established a contemporary system of monitoring of Vardar river water, enabling the continual measurement of almost 20 parameters related to the status of the water. During a speech at the Skopje – based Faculty of Mechanical Engineering one of the project managers, Professor Atansko Tunevski demonstrated how the entire system works. Specifically, near Demir Kapija a measuring station was established, then data is sent to a center based at the Faculty of Mechanical Engineering of the Saints Cyril and Methodius University. During the same event, the Greek Ambassador (Liaison) to FYROM, Ms Alexandra Papadopoulou agreed that the two states should use the outcomes of this project and take advantage of them in order to protect the river. She also suggested that the MIRVAX project could be combined with other Vardar-related projects, giving as an example the construction of a cleansing station near Gevgelija, implemented with the financial support of the governments of Greece and Switzerland.[636]

Moreover, according to the United Nations Economic Commission for Europe, the two states are considering creating a new bilateral agreement to replace the existing 1959 one. The new one will include all recent developments in international law and EU legislation.[637]

To conclude, the inadequate management of the river was the outcome of slow engagement and unwillingness from the two riparian states to create a fruitful discussion on environmental issues, due not only to lack of any bilateral agreement but also to the absence of, or more correctly, FYROM's exclusion from the Community initiative INTERREG I (1991-1993) and INTERREG II (1994-1999).[638] In addition, until 1996, Greece blocked the extension of the PHARE programme to FYROM.[639] Yet, things gradually changed - striking examples were the INTERREG III/A CARDS (2000-2006)[640] and the INTERREG IV (2007-2013), with FYROM expecting to receive almost 500 million euros through the Instrument for Pre-Accession Assistance (IPA) between 2007 and 2012.[641] Nevertheless, an agreement has yet to be reached. This is due to two

[636] http://www.mia.com.mk/default.aspx?vId=84791998&lId=2
[637] United Nations Economic Commission for Europe, 29 October 2009, p. 8.
[638] Axel-Sotiris Walden (undated), p. 120.
[639] http://www.euractiv.com/enlargement/eu-macedonia-relations-linksdossier-329923 (last accessed on 14/08/2014
[640] http://3kps.interreg.gr/default.aspx?lang=en-GB&page=286
[641] http://www.interreg.gr/el/νέα/διαχειριστική-αρχή.html

major factors: the bad political relations of the two riparian states deriving from the famous name dispute, and secondly the complex administrative structures and the diffusion of responsibilities across different agencies and ministries dealing with river management. This chapter will further illustrate these two issues.

8.3Bilateral relations between Greece and FYROM as an obstacle for cooperation

Twenty years ago the two states that share the Axios River changed, as FYROM has been an independent state since September 1991. Three months after Slovenia and Croatia declared their secession from the former united Yugoslavia, on 8 September 1991, the Yugoslav Republic of Macedonia held a referendum on its independence. Official results recorded a voter turnout of 72.16% with 96.44% of voters expressing their support for a sovereign and independent state of Macedonia, with the right to participate in a future union of Yugoslav states.[642] In November the new state adopted a new constitution. So far, things have been stable between the newly formed riparian state and the pre-existing one. The future of their bilateral relations, however, is generally characterized as "unsteady."

Initially, as Tziampiris argues, for the Greek side some of the articles of the new constitution were unacceptably irredentist. This led to strong pressure from the Greek side that resulted in the amendment of parts of the Constitution. Yet, the most crucial source of conflict, the name, remained untouched.[643]

In August 1992, FYROM adopted the 16-point Star of Vergina as its new national flag and in September of the same year the new school textbooks that were circulated contained irredentist references to a "Greater Macedonia" (extending into the boundaries of the Greek state). Moreover, and within a quite fragile climate between the two states, the newly born state of FYROM expressed its claim to the name "Macedonia", which

[642] Ioannis Valinakis, Sotiris Dalis, *The Skopje Question*, Athens: Sideris, 1994, p. 38.

[643] Aristotle Tziampiris, 'The name dispute in the Former Yugoslav Republic of Macedonia after the signing of the interim accord', in: Evangelos Kofos, Vlasis Vlasidis, *Athens – Skopje an uneasy symbiosis,* Athens: Eliamep, 2005, p. 227.

caused great unrest for its southern neighbor, Greece and brought diplomatic tension. Greece's historical self-definition directly led to a severe reaction, with a blockade starting in 16 February 1994. The embargo lasted one year and banned shipments to FYROM from all Greek customs points with the exception of food and medication.[644]

The end of the embargo came with the famous interim agreement of 13 September 1995. The issue of the name was not included in the agreement, and was tabled for future negotiations. Nevertheless, the agreement managed to settle other bilateral issues on the basis of mutual compromises leading to the lifting of the Greek embargo and the gradual normalization of relations. More specifically, the agreement envisaged that FYROM should abandon the use of the sun or star of Vergina on its flag (Article 7, Paragraph 2) while at the same time FYROM agreed to make further clarifications of a number of points in its constitution. FYROM has, as Tziampiris argues, won international recognition from Greece (Article 1), the end of the economically stifling embargo (Article 8) and also 'a promise that Athens would not attempt to hinder the efforts of the new republic to obtain membership of international organizations and institutions' (Article 11).[645]

The years from 1995 to 2001 were characterized by a steadily improving climate between the two states. Right after the signing of the interim accord, the stance of FYROM shifted and the president of the country, Kiro Gligorov, sought normalization of bilateral relations. In January 1996, Liaison Offices were established in order to forward correspondence and promote various technical matters. But, during the summer of 1997, a delegation from FYROM presented an official motion to Cyrus Vance asking that the country should be recognized under its constitutional name (Republic of Macedonia). This move brought talks once again to a deadlock.[646] Nevertheless, the years that followed were characterized by a positive climate between the two states. For instance, an Agreement on Military Co-operation was signed on 14 December 1999 which was later expanded via agreements and memoranda, while officers from FYROM's Armed Forces attended the Multinational Peace Support Operations Training Centre in Kilkis, in the

[644] Keith Highet and George Kahale III, 'International Decisions', *The American Journal of International Law,* vol. 89 (2), 1995, p. 377.
[645] Aristotle Tziampiris (2005), p. 229.
[646] Haralampos Kondonis, 'Bilateral Relations between Greece and the Former Yugoslav Republic of Macedonia', in: E. Kofos, V. Vlasidis, *Athens – Skopje an uneasy symbiosis,* Athens: Eliamep, 2005, p. 59.

Greek province of Central Macedonia.[647] The military programme continued in 2002 and 2003 after a small break during the 2001 inter-ethnic crisis in FYROM.

The "Kosovo crisis" was also an important moment for the two states. Greece understood that the territorial integrity and cohesion of FYROM served its interests as it acts as a "buffer state", protecting Greece from destabilizing tendencies and potential conflicts.[648] Moreover, during the ethnic crisis between Albanian Macedonians and Slav Macedonians in 2001, Athens stood by Skopje by providing it with financial and humanitarian assistance, condemning at the same time any radical actions that openly endangered the country's viability.[649] As experts argue, Greece, by putting aside its traditional Serbo-friendly and anti-Albanian stance, supported FYROM's territorial integrity, playing at the same time a crucial role in the Ohrid agreement and participating later in NATO's peacemaking mission.[650] In particular, Greece contributed a 400-man unit to NATO "Essential Harvest" (for the consolidation of stability in FYROM and in the region in general) and "Amber Fox" (for the protection of international observers) operations in FYROM. Additionally, according to Kodonis, 'Greece's military presence and contribution continued with the participation of 43 men in the European Union's first peace mission outside its own borders, as well as the "Concordia" mission to FYROM that replaced the NATO "Allied Harmony" mission.'[651]

At the governmental level, Greek Foreign Minister of the time, George Papandreou, visited Skopje three times during the 2001 crisis. In fact, he met his counterpart five times in 2001.[652] Leaders of the Greek political opposition such as Karamanlis, then-president of the New Democracy party also followed a similar path.[653] The positive Greek stance did not waver, despite a shift in FYROM's government towards an offensive rhetoric playing the name issue as a negotiating card, with Foreign Minister Ilinka Mitreva

[647] Haralampos Kondonis (2005), pp. 61-62.
[648] A.Tziampiris, *Greece, European Political Cooperation and the Macedonian Question*, London: Ashgate, 2000, p. 479.
[649] Haralampos Kondonis (2005), p. 59.
[650] Serbos (2010), pp. 89-124.
[651] Haralampos Kondonis (2005), p.63.
[652] Ibid, p. 60.
[653] Ibid.

claiming that the resolution of this crucial issue would safeguard FYROM's territorial integrity.[654]

At the same time, the positive climate was also reinforced by the cooperation of the two states in various sectors. For instance, in the judicial sector, improvements have been made in criminal matters and the extradition of prisoners. Regarding police cooperation, a protocol was signed by both states in 1998 and one year later a decision was taken concerning the cooperation of border police. As Kondonis argues, 'significant progress has been made in co-operation against organized crime, particularly in matters relating to illegal immigration, illegal cross-border networks, and in the trafficking of drugs and human beings.'[655]

In the economic field, the Hellenic Plan for the Economic Reconstruction of the Balkans also targeted FYROM. Its integration was signed in 2002 and provided a total of 74.84 million Euros for development aid for the following 5 years.[656] Yet, the delays that came up concerning the implementation of the Greek plan due to the ethnic crisis in the region sent the wrong political messages to FYROM. It is worth mentioning that the economic ties between the two states remained in stable mainly because of the flow of foreign direct investments from Greece to FYROM. Indeed, Greek businesses are among the biggest in FYROM as the following table reveals (Table 7.1). Specifically, Okta (ELPE) a company of Greek interests is the biggest in FYROM, while of the twenty largest companies in the country there are many Greek companies such as the USJE AD and PIVARA Skopje AD. Therefore, the Greek participation in total FDI in FYROM is particularly high. In 2002 it was the top source of FDI with a percentage of 47, 06%, while in 2007 Greek FDI reached the $61.16 million enriching the total FDI of $530.66 million.[657] It is also worth mentioning that according to estimations the total amount could have reached one billion dollars of investment through off-shore companies.[658] According to studies and numbers from annual reports, Greece and Cyprus are resting at the top of the list of countries' profit reinvestment in FYROM. From 2004 to 2006, Greece was the second investor and in 2007 the forth, while in 2008 it fell seven places.

[654] Ibid.
[655] Ibid, p. 64.
[656] *The 79% of the total was for the implementation of public works while the 20% concerned investments from Greek companies planning to expand their activities in FYROM.*
[657] Harry Papapanagos, Christina Laspa (2010), p. 342.
[658] Ibid.

As far as Greece's trade relations with FYROM, they also are at a positive level. Greece is one of FYROM's most important trade partners, as the fourth bigger supplier and the third best customer simultaneously. On the other hand, in 2009 for Greece FYROM took thirty-fifth place in the list of importance as supplier country and tenth place as customer.

Table 8.2. The Largest Companies in FYROM (2008)

Rank 2008	Rank 2007	Company	Industry	Total revenue in MKD
1	1	OKTA AD –SKOPJE, Skopje	Oil and oil derivates	40.496.436.206,00
2	3	MAKPETROL AD, Skopje	Oil and oil derivates	24.188.115.501,00
3	6	EVN MACEDONIA AD, Skopje	Distribution and supply of electricity	18.468.750.265,00
4	4	MAKEDONSKI TELEKOM AD-SKOPJE, Skopje	Electronic communications	15.118.452.168,00
5	2	FENI INDUSTRIES AD, Kavadarci	Ferrous and non-ferrous matallurgy	13.864.607.130,00
6	9	MACEDONIAN POWER PLANTS JSC, Skopje	State own company for electricity generation	12.197.897.517,00
7	8	T-MOBILE MACEDONIA AD, Skopje	Telecommunications	11.076.691.084,00
8	5	MEPSO AD, Skopje	Electricity	10.109.698.798,00
9	10	ARCELORMITTAL SKOPJE (HRM) AD, Skopje	Ferrous and non-ferrous matallurgy	9.343.709.435,00
10	7	ARCELORMITTAL SKOPJE (CRM) AD, Skopje	Ferrous and non-ferrous matallurgy	8.453.728.975,00
11	11	MAKSTIL AD, Skopje	Ferrous and non-ferrous matallurgy	6.849.089.028,00
12	16	KAMENIMOST KOMUNIKACII AD Skopje-in liquidation	Consulting services	6.008.034.762,00
13	50	EFT MAKEDONIJA DOOEL, Skopje	Distribution and trade with electric energy	5.812.133.689,00

14	12	FERSPED AD, Skopje	Forwarding agency	5.672.756.930,00
15	13	EURO TABAK DOO, Skopje	Distribution	5.634.214.240,00
16	20	IGM-TREJD DOO, Kavadarci	Ferrous and non-ferrous metallurgy	5.211.165.100,00
17	14	USJE AD, Skopje	Building materials	5.207.386.630,00
18	17	LUKOIL MACEDONIJA LTD, Skopje	Company for trading with oil fuels and services	5.056.471.462,00
19	21	TINEX-MT DOOEL, Skopje	Retail in stores with various goods	4.568.642.075,00
20	15	PIVARA SKOPJE AD, Skopje	Production of beer and non-alcoholic beverages	4.491.352.773,00
21	52	RUDNIK SASA DOOEL, Makedonska Kamenica	Mines	4.489.199.456,00
22	18	ALKALOID AD, Skopje	Pharmaceutical, chemical and cosmetic industry	4.437.460.964,00
23	19	COSMOFON AD, Skopje	Telecommunications	4.125.548.946,00
24	41	BRILLIANT DOOEL, Stip	Production of refined oils	4.103.408.794,00
25	24	GRANIT AD, Skopje	Construction	3.957.665.517,00
26	27	PORSCHE MAKEDONIJA DOOEL, Skopje	Automobiles and motorcycles	3.745.817.279,00
27	29	IMPERIAL TOBACCO TKS AD, Skopje	Production of tobacco products	3.020.822.320,00
28	25	VEROPULOS DOOEL, Skopje	Various goods	2.958.238.280,00
29	42	SILMAK DOOEL, Tetovo	Ferrous and non-ferrous metallurgy	2.935.801.408,00
30	33	NLB LIZING DOOEL, Skopje	Leasing	2.719.720.779,00
31	26	11 OKTOMVRI AD, Kumanovo	Metal processing activity	2.613.215.919,00
32	32	GEMAK-TRADE DOOEL, Skopje	Distribution	2.606.873.336,00
33		FAKOM AD, Skopje	Design, production and erection of	2.370.493.001,00

			steel constructions and equipment	
34	48	SWISSLION DOO, Skopje	Food industry	2.350.272.285,00
35	44	EURO AKTIVA DOO, Skopje	Import – export of building materials	2.276.099.496,00
36	43	JP MAKEDONSKI SUMI P.O., Skopje	Forestry, hunting and game care	2.226.719.615,00
37	36	SKOPSKI PAZAR AD, Skopje	Trade	2.156.578.723,00
38	47	KAM DOOEL, Skopje	Trade with various goods	2.079.037.355,00
39	34	TOPLIFIKACIJA AD, Skopje	Production and distribution of thermal energy	1.963.854.257,00
40	39	ZITO VARDAR AD, Veles	Production of pork meat, delicatessen products, eggs, one-day chickens and bakery products	1.954.330.323,00
41	28	MAKEDONSKI AVIOTRANSPORT AD, Skopje	Air transportation	1.949.255.100,00
42	75	HYPO ALPE-ADRIA-LEASING DOOEL, Skopje	Company for financial leasing and financial services	1.904.365.352,00
43	65	PEKABESKO AD, Skopje	Production and trade of delicatessen products	1.835.378.168,00
44	37	KNAUF-RADIKA AD, Debar	Building materials	1.825.781.824,00
45	63	BUCIM DOOEL, Radovis	Mining	1.790.118.310,00
46	55	MAK AUTOSTAR DOOEL, Skopje	Automobiles and motorcycles	1.759.891.877,00
47	46	MAKOSPED AD, Skopje	Forwarding agency	1.684.255.742,00
48	51	IMB MLEKARA AD, Bitola	Processing of milk, milk products and natural fruit juices	1.648.794.156,00
49	54	ZITO LUKS AD, Skopje	Production and trade with flour, bread and rolls	1.645.125.411,00

Source: Report of the Greek Office of Economic and Commercial Affairs, Skopje 2010.

Other areas of cooperation include cultural and educational issues. For instance, Greece has contributed, along with international organizations, to the implementation of numerous bilateral and multilateral programmes such as the 2001-2002 "Pericles Programme" for the teaching of the Greek language in Bitola and Gevgeli funded by UNESCO 27.[659] According to Kodonis, cooperation can also be seen in a number of joint educational cooperation programmes which were set under the aegis of the Stability Pact for South Eastern Europe. Such examples include history textbooks and educational and cultural exchanges in the framework of the Euroregions.[660]

The environment also is an area of cooperation. The strongest example is the 2001 tripartite collaboration (Greece-FYROM-Albania) for the formation of the Prespa International Park. The project came into practice after a meeting of the three prime ministers in Prespa on 2 February 2000 where they signed an agreement on environmental protection and sustainable development of the Prespa lakes district and its environs. It also is worth mentioning that as early as 1996 a meeting was held between experts from both sides in order to set a framework for protection and cooperation of fisheries and fish breeding areas, thus promoting the environmental preservation of the Doiran Lake. A striking example was the meeting held in Athens on 5 July 2002 that resulted in the creation of a mechanism for monitoring the cross-border waters. Moreover, the Memorandum of Understanding and Cooperation for Sustainable Development and the Environment that was signed in Skopje on 4 September 2000 is one more example of common attempts to enhance bilateral cooperation. Also of great importance is the five million euros Greece contributed to the construction of a wastewater unit at Strumica, under the aegis of the Municipal Environmental Action Programme (MEAP), a seventy million euro programme.

The progressively more positive stance of Greece towards FYROM's European perspective also characterized this period. FYROM signed the Stabilization and Association Agreement with the EU in 2001, with the Greek parliament ratifying it in 2003. In 2004, Skopje submitted its application for EU membership and one year later the European Council granted FYROM the status of candidate country. Greece's position remained focused on using the EU's enlargement policy as a stabilization tool for the

[659] Haralampos Kondonis (2005), p. 67.
[660] Such regions have been formed, mainly in the Prespa / Ohrid districts, together with agencies from Albania, as well as in the Doiran lake region in cooperation with Bulgarian organizations.

Western Balkans region. According to Serbos, within an international environment where FYROM's constitutional name has gained significant recognition (even the USA has recognized the name Macedonia Republic - Republika Makedonija) the Greek government has managed to import regional collaboration and good neighborhood relations as essential elements for FYROM's European future.[661]

The Greek side was seeking a solution based on a complex name with geographic determination of the term "Macedonia" which will prevail above all (*erga omnes*) and will be used in all circumstances. Nevertheless, FYROM's refusal to concede on the name has concerned the Greek side. This was especially clear during the NATO summit in 2008 in Bucharest. There Greece, without technically using the right of veto against FYROM's accession to the alliance managed nevertheless to block this prospect on the grounds that the two states should find a common solution for the name issue first within the framework of good neighborly relations. Specifically, the common bulletin of the Summit includes a clear statement underlining that NATO will welcome FYROM's accession as soon as a reciprocally acceptable solution is found to the name issue. This development caused great dissatisfaction for the government of FYROM, even if it was not unexpected. In response, FYROM appealed to the International Court of Justice to denounce Article 11 of the Interim Accord, which required that Greece would not bring any objections to FYROM's accession to international organizations of which Greece is already member. The decision of the court in December 2011 supported FYROM.[662]

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[661] Sotiris Serbos (2010), pp. 101-102
Commission of the European Communities, 'The Former Yugoslav Republic of Macedonia 2006 Progress Report', available at:
http://www.europarl.europa.eu/registre/docs_autres_institutions/commission_europeenne/sec/2006/1387/COM_SEC(2006)1387_EN.pdf (last accessed on 23/08/2014)

[662] 113. *Thus, the Court concludes that the Respondent failed to comply with its obligation under Article 11, paragraph 1, of the Interim Accord by objecting to the Applicant's admission to NATO at the Bucharest Summit. The prospect that the Applicant would refer to itself in NATO using its constitutional name did not render that objection lawful under the exception contained in the second clause of Article 11, paragraph 1. In the circumstances of the present case, Article 22 of the Interim Accord does not provide a basis for the Respondent to make an objection that is inconsistent with Article 11, paragraph 1.*

8.4FYROM's legal context and a complex administrative framework.

8.4.1 The legal context

FYROM's constitution adopted by the national parliament in 1991 declares that "… proper urban and rural planning to promote a congenial human environment, as well as ecological protection and development …" (Article 8)[663] constitutes one of the fundamental principles of the constitutional order of the "Republic of Macedonia". However, the right but also the obligation of each citizen to protect the environment and nature is guaranteed in Article 43 which states the following: 'Everyone has the right to a healthy environment to live in. Everyone is obliged to promote and protect the environment. The Republic provides conditions for the exercise of the right of citizens to a healthy environment'.[664]

Moreover, references to environmental protection are also made in Articles 55 and 56 of the Constitution. Article 55 Paragraph 3 allows the possibility of restricting market and business activities in order to safeguard the natural environment, while Article 56 is more specific, including the term "cultural environment" since it states that natural resources, flora and fauna, shared goods and the goods of particular cultural and historical value are goods of common interest and enjoy particular protection.[665]

The first essential legislative effort for environmental protection took place no sooner than 1996, when the basic law for the Protection and Promotion of the Environment and the Nature was voted on,[666] following the 1994 UN model law for the Environment.[667] This law was complicated, while at the same time according to Ralf, its legal context was

[663] http://www.hri.org/docs/fyrom/fyrom-const.html#Art8
[664] Theodoros Tzonos, *The Constitutions of Central and Southeast Europe,* Athens/Komotini:Sakkoulas, 2000, pp/ 499-535 (in Greek).

[665] Ibid.
[666] Law on Environment and Nature Protection and Promotion, Official Gazette No. 69/96
[667] United Nations Economic Commission for Europe (2002) Legal and Regulatory Instruments Institutional Arrangements in: Environmental Performance Review of FYROM , at the URL: http://www.unece.org/env/epr/studies/fyrom /chapter01.pdf

not harmonized with the *acquis communautaire* and did not actually incorporate the principles and the directives of the EU regarding environmental protection.[668]

In 2005 the new law for the environment came into effect, replacing the existing one. According to Article 1, the major goal of this new law was the regulation of rights and obligations of municipalities and legal and individual entities for the protection of the environment, aiming at the consolidation of the protection of the constitutional right of every citizen for a healthy environment as it is guaranteed in Article 43 of the Constitution. Article 4 of the law describes its goals:

1. The maintenance, protection, restoration and improvement of the quality of the environment
2. The protection of human life and health.
3. The protection of biological diversity.
4. The logical and sustainable use of natural resources.
5. The implementation and improvement of all the measures and methods for the confrontation of regional and international environmental problems.

As far as the particular issue of protection and management of water resources is concerned, in 1998 the government of FYROM introduced the law for water resources.[669] The basic provisions of this law regulate the conditions under which water is being used, as well as its protection. The law also regulates the sources of funding for all activities regarding water management and all the uses of water that are permitted. It also regulates the expulsion of waste in waters, water protection from pollution and last but not least international water resources.[670]

[668] Juelich Ralf, *Progress in Environmental Law Drafting in South Eastern Europe*, The Regional Environmental Center for Central and Eastern Europe, Hungary, 2005, p. 95

[669] Law on Waters, Official Gazette No. 4/98

[670] Juelich Ralf (2005), p. 100.

In general, the new elements introduced by the new law, compared to the older legal framework of water resources protection, concern the establishment of financing for water development works, the foundation of a public enterprise of water management, the appointment of inspectors for water management and the imposition of fines for pollution and special limits for sewage.[671] Nevertheless, the law does not include provisions for the pollution of groundwater and for the assurance of drinking water quality under specific conditions.

Apart from the law for water resources the most significant legal action for water protection in FYROM are the following:

1. Law for the lakes of Ohrid, Prespa and Doiran.
2. Mining Resources Law
3. Energy Law
4. Law for the supply of potable water and the sewage network.
5. Law for the management of water enterprises.

In 2008 a new law explicitly related to water emerged. The 2008 Law on Waters is much closer to the *acquis communautaire* and meets European principles of water management as described by the WFD. In particular, Article 5 describes the principles for sustainable water management and the "Pollutant Pays" principle occupies a prominent place. Article 9 refers to international river basin areas. It divides responsibilities between the respective administrative bodies according to their nature. For example, depending on the nature of activities, a state administrative body will be responsible while also having to cooperate with the respective administrative body responsible for foreign affairs. Characteristically it states that:

[671] United Nations Economic Commission for Europe (2002) Legal and Regulatory Instruments Institutional Arrangements in: Environmental Performance Review of FYROM , at the URL: http://www.unece.org/env/epr/studies/fyrom /chapter01.pdf

'For the purpose of establishing and managing the areas of international river basins with the respective neighboring countries, the state administrative body responsible for carrying out the activities in the field of environment in cooperation with the state administrative body responsible for carrying out the activities in the field of foreign affairs shall undertake activities for establishment and management of international river basin areas regarding the river basin areas on the territory of the Republic of Macedonia that are part of the international river basin area.'[672]

The second part of the law makes extensive reference to the use of waters, starting by setting the general provisions from Article 12 to Article 16. The third part focuses on planning and in Article 66 there is an analytic reference to the provisions of preparing river basin management plans. Article 67 establishes the importance of access to information for the public: "…. for the purpose of ensuring the participation of the public in the preparation of the plan, the draft plan shall be announced and made available for public insight."

Article 70 is devoted to international river basin areas. It regulates the way that FYROM's administrative bodies should act in order to cooperate with the bodies of the relevant states to prepare a single plan for the management of international river basins. It also mandates that as soon as an international agreement is ratified by FYROM defining an international river basin area, 'the state administrative body responsible for carrying out the activities in the field of environment shall ensure management of the part of the area of the international river basin located on the territory of the Republic of Macedonia in accordance with law and international agreement ratified by the Republic of Macedonia.'

8.4.2 Administrative Structure

As already mentioned, apart from the legal context of water management, administrative responsibilities and how they have been shared across the central

[672] Law for waters, Official Gazette of Republic of Macedonia, number 87/08

government is also central to the discussion. The autonomous Ministry of Environment, established in 1998, renamed in 2000 as the Ministry of Environment and Natural Planning is responsible for environment-related issues.[673] More specifically, the Ministry is divided into 5 sectors. The first deals with sustainable development and coordinates national environmental policy. The second is the Center of Intelligence, which coordinates the national system of information management. The third is the natural planning division, which is responsible for the National Planning Strategy. The fourth is the sector of European Integration, which is responsible for cooperation with EU bodies and institutions and the fifth is the legislative sector which prepares legislation and is responsible for harmonization with EU directives.

As far as the protection and the management of water resources is concerned, the Ministry of Environment is responsible only for the protection of the water from pollution, while the fundamental responsibilities for management and protection belong to the Ministry of Agriculture, Forests and Economy of Water Resources. This Ministry is responsible for all water uses, from irrigation to industrial uses, for management of floods and droughts and also for management and control of the quality and quantity of ground and surface waters. Besides, the Ministry of Agriculture has worked out the Strategic Plan for Management of water resources. Yet, some sectors of management also belong to other Ministries, such as the Ministry of Transport and Communication which is accountable for the water supply network and the sewerage mechanism, the Ministry of Health which is in charge of the quality of drinking and swimming waters and the Ministry of Economy which is responsible for the construction of dams and hydroelectric energy.[674]

With the new Law on Water mentioned in the preceding section, water management issues still remain under the jurisdiction of the Ministry of Environment. Yet, according to Article 7: 'The water management shall be carried out according to river basins, in hydrographic units separated by water courses of the river basins, taking into consideration the interconnection of the surface waters and groundwaters, while the administrative and territorial border of the municipalities, the municipalities in the City of

[673] Law of Organization and Operation of the state administration bodies, Official Gazette 58/2000

[674] Juelich Ralf (2005), p. 100.

Skopje and the City of Skopje shall not constitute an impediment to the integrated management of river basin areas.'

As far as local authorities are concerned, Article 115 of the Constitution enumerates their responsibilities, which do not include environmental protection and the management of water resources. Moreover, it also is interesting that, as has already been described above in the discussion of legal framework, there was no mandate for relocation of responsibilities from the central to local authorities and municipalities. However, a first step towards decentralization of responsibilities of environmental issues occurred in 2002 with the adoption of the new law for local administration. In particular, while the old law for local administration declared that municipalities were responsible for the management of drinking water, hygiene and waste management,[675] the new law states in Article 22, Paragraph 1, Part 2 that municipalities are responsible for: "…protection of the environment, regulation of nature, taking measures for the protection and the prevention of the pollution of water, soil and air, protection from the noise and radioactivity…" While this provision could be considered very general, it does allow the central government to authorize the municipalities to take action whenever environmental problems occur.[676]

8.5 SWOT Analysis of the Axios/Vardar Case Study

At this point SWOT analysis will be used as in the previous case studies to summarize the aforementioned issues related to the river. This will help clarify the current situation and also identify potential areas of cooperation or conflicts that could threaten the current situation.

The strength of this basin is important for the local economies in both countries. As mentioned, the river's water is vital for industrial and agricultural production. In the River's catchment, 60% of the land is used for agricultural purposes while forest and

[675] United Nations Environmental Programme (2000) *Post- Conflict Environmental Assessment*, UNEP, Switzerland.

[676] UNEP (2000) UNEP Balkans Technical Report Institutional Capacities for Environmental Protection in the Former Yugoslav Republic of Macedonia.

urban zones together cover no more than 40%. Adding to this, the 17 large dams for irrigation and flood control located at the river's tributaries in FYROM and also the small irrigation dam at its delta, it becomes even more obvious how significant the river is for the local economies of the two countries.[677]

However, there are also numerous problems that complicate drawing up and implementing an integrated plan for the sustainable management of the river. The first problem and perhaps the most difficult to overcome is the unstable bilateral relationship, product of the unresolved name dispute. Given that it is not likely for the two countries to reach an agreement soon, under the current circumstances and with the current political leadership in Skopje, this disagreement might spill over onto other bilateral issues, including the management of the river. Another weakness is the discrepancy in the administrative frameworks of the two countries and particularly in FYROM. The diffusion of responsibilities to different administrative levels is at the least confusing, since there are some cases where local authorities can take initiative while in other cases the ministry's opinion and permission is needed.

Nevertheless, things are not as dramatic as they may seem. A positive development that could be a window of opportunity for the promotion of bilateral cooperation between the two riparian states is FYROM's eagerness to join the EU. The prerequisite for this is, among other things, the harmonization of the country's national legislation with the EU *acquis,* which could be an important step for the improvement of the regulatory framework. Another opportunity, though perhaps too optimistic, is the utilization of the river as a navigation route. As mentioned earlier, many attempts have been initiated for the implementation of this ambitious project. Yet, and despite the fact that the benefits from this project would be important for all FYROM, Greece and Serbia, since they will become linked to central and western parts of Europe, Greek political circles have shown poor or no response, indicating that the navigable channel has not been considered as a serious option to explore.

As far as the threats are concerned, these are still present and should not been neglected. Apart from the bilateral political issue which undermines the potential for

[677] Nikolaos Skoulikids, 'The environmental state of rivers in the Balkans—A review within the DPSIR framework', *Science of the Total Environment,* 407, 2009, pp. 2501-2516.

cooperation, the overexploitation of the river for the aforementioned purposes, such as the reservoir construction, has resulted in dramatic modifications to water bodies.[678]

8.6 Conclusions

Despite the great importance of the river for the two countries, there are many obstacles preventing the potential cooperation on an integrated management plan. Some of these have their roots in historical setbacks between the two countries and unresolved disputes. Others have to do with structural deficiencies and scattered regulatory and administrative frameworks in both countries that make cooperation and coordination almost impossible. This lack of coordination of various actions that are required for the improvement of the river status might also mean conflict of interest and definitely no exchange of information between the different institutions. Therefore, water resources management remains incomplete and ineffective in both countries. In addition, the river's importance for FYROM's economy might also act as a limiting factor given the projects that have been planned regarding the construction of 12 hydropower plants along the river, extending from Kosovo to the Greek border. This ambitious 15-year mega-project, which will cost almost 1.5 billion EUR will be financed up to 85% by a loan from the China Development Bank and will be executed by China's International Water and Electric Cooperation.[679] In case the project is realized, its impact on the river's status will no doubt be immense. Besides, as experts indicate, the "Vardar Valley" project is a multipurpose project aiming to boost several sectors such as energy, transport, agriculture, tourism and industry.[680]

[678] Ibid.
[679] Loic Poulain, 'China's New Balkan Strategy', *Central Europe Watch,* CSIS Vol. 1(2), 2011.
[680] Toni Mileski, Emanuela C. Del Re (2013),p. 55.

Chapter 9

The Aoos-Vjose River

In the Northwest of the country, where Greece meets Albania, a large transboundary river named the Aoos-Vjose is found. The Aoos is the only large transboundary river that originates from Greece and descends into neighbouring Albania. Despite being a large river of great importance for the local population, there are very few studies implemented regarding the status of the river, possible pollution problems and generally cooperation over its management. The aim of this chapter is to present the current situation of the management of the river, revealing at the same time the reasons, if any, behind the slow progress made so far. The structure of this chapter will follow the general structure of the previous chapters, beginning with an analysis of historical references to the river in order to show its continuous significance since antiquity. Then, the geographical setting of the river will be described, and the third part will be devoted to a summary of the fundamental problems and challenges the river faces nowadays. The fourth part intends to explain the reasons for the fairly basic bilateral approach of the two riparian states regarding the co-management of the river. Finally, the fifth and final section will include conclusions regarding the current status of the river and the possibilities for a more fruitful cooperation between the two parties, Greece and Albania.

Figure 9.1 The Aoos/Vjose River

9.1Historical Footprints

The River Aoos has been well known since antiquity. There are different ideas about the origins of the river's name. A well-known theory suggests that its etymology derives from the Indo-European root "αχ" which means water. Another equally convincing stance claims that the name comes from the word "Αώς" which means «Ανατολή=Dawn». Moreover, according to Greek Mythology,[681] Aoos or Aous is an epithet also used to describe Adonis, the Greek God of beauty.[682] In fact, Aoos was the name of the god Adonis in Cyprus ('….In Cyprus, under his native name Aoos, Adonis has no place in any rituals except in a festival of Aphrodite…').[683] In Cyprus, a river and a mountain were also named Aoos while according to Fontenrose, the first king of Cyprus was also called Aoos.[684] Throughout history, the river has received other names, like that given by Hecataeus who referred to it as Aias (Αἴας). Plutarch, in his *Life of Caesar* uses the name Anios (Ἄνιος), while Polybius and Strabo used the term Aoos. References to

[681] See Parthenius of Nicaea, Clarendon Press, 1999
[682] See: Yves Bonnefou, *Greek and Egyptian Mythologies,* Chicago: Chicago University Press, 1992, p. 135.
[683] Ibid.
[684] Joseph Fontenrose, *Orion: the Myth of the Hunter and the Huntress,* Berkeley/Los Angeles/London: University of California Press, 1981, p. 103.

the river can also be found in Pausanias' work where he writes about beasts and sharks in the river as it flows through Thesprotia.[685] Later on, in the 6th century AD, Stephanus of Byzantium mentions the Aoos as Avos (Αύος).

Furthermore, the Aoos was an important point where crucial historical incidents took place. For example, in 274 BC Pyrrhus of Epirus defeated Antigonus II Gonatas near the river's banks, while in 198 BC, Philip V of Macedonia and the Roman Titus Quinctius Flamininus clashed at the Battle of the Aous. Research conducted by a Danish historian, M. Hansen, on behalf of the Copenhagen Polis Centre- the Danish National Research Foundation in 2005 has revealed that there were some indications of the existence of a harbor in Vjose.[686] During the Byzantine era, Aoos was also an important strategic spot. In the wider area one can find monasteries of the Byzantine and Post-Byzantine era. In contemporary history, the Aoos valley was "theater" during both the Balkan Wars and the Greek-Italian war.

9.2Geographical Setting

As mentioned in the introduction, the Aoos-Vjose is one of the 5 transboundary rivers that Greece shares with its neighbors. It is, however, the only one where Greece is the upstream riparian state. The second riparian state, where the river ends is Albania with its estuary in the Vlora Bay in the Adriatic Sea. According to the criteria in Annex II of the WFD, the Aoos is considered a large transboundary river with a basin area that covers 6710 km^2 (2,154 km^2 approximately in the Greek area). Its total length is 260-270 km with only 70-80 km in Greek territory. The springs of the river are located in the Pindus Mountains near the village of Vovousa in Epirus, near the Smolek and Agos Mountains. The river flows from southeast to northwest, through the Vikos-Aoos National park, forming canyons of unique beauty. It passes through channels formed by the nearby mountains of Trapezitsa 2,022 m (6,634 ft), Tymfi and Raidovouni 1,957 m (6,421 ft),

[685] Paus. 4.34, 'But the rivers of Greece contain no terrors from wild beasts, for the sharks of the Aous, which flows through Thesprotia, are not river beasts but migrants from the sea'.
[686] An Inventory of Archaic and Classical Poleis: An Investigation Conducted by The Copenhagen Polis Centre for the Danish National Research Foundation by Mogens Herman Hansen, 2005, page 329

creating another gorge that is 10 km long.[687] The canyon's direction is east-west and it features numerous stone single-arched bridges that make the landscape even more impressive. It passes through Konitsa and enters Albania near Carshove. Continuing northwest, it also passes through Permet, Tepelene and Novosele before reaching its deltaat the Adriatic Sea. The Vjose is fed in Albania by the Drino and the Shishice Rivers, while its major tributaries are the Sarantaporos (870 sq. km) and Voidomatis (384 sq. km).[688]

The Mediterranean climate obviously affects the hydrological characteristics of the river, with characteristic discharge extremes in late summer-autumn and in late winter-spring.

9.3Existing Problems and Pressures

Chatzinikolaou et al have accurately described the different uses of the river in Greece and Albania. In particular, in the Greek part, due to the roughness of the terrain there are limited forestry, cattle breeding and aquaculture units. Greece also hosts the Aoos Springs Hydroelectric Dam.

Moreover, the river section between the village of Vovoussa and the city of Konistsa is used mostly for different water sports and activities such as rafting and canoe/kayakjng, while tourism is an important economic activity in the area, especially in traditional Greek villages like the Zagorohoria located near the river.[689]

On the other hand, in the Albanian part, the most important activities are agriculture and cattle breeding. The untreated effluents from 5 urban settlements (Konitsa, Permet, Argirokastro, Tepelen, Mamalje, Selenica), also present a minor problem for the quality of the river's waters, as do small-scale industrial discharge and, in the lower parts, some byproducts of petroleum extraction. Yet, according to

[687] Large Dam Database in Greece, available at: https://www.itia.ntua.gr/~nikos/dams/list%20of%20dams/r_Aoos/r_Aoos.htm (last accessed on 14/07/2014)
[688] Available at: http://www.twrm-med.net/southeastern-europe/transboundary-river-basin-management/shared-surface-water-bodies/new-river-basins/aoos-vjosa-river-basin (last accessed on 14/07/2014)
[689] https://www.itia.ntua.gr/~nikos/dams/list%20of%20dams/r_Aoos/r_Aoos.htm

Chatzinikolaou et al, it appears that the Aoos-Vjose River is almost unpolluted, predominantly undisturbed and without major human interference.[690]

In general, the main pressures on the river currently result from agricultural activities, animal production and aquaculture. However, there are several plans for the construction of dams in the Albanian part of the river that might affect its uninterrupted course. A striking example is the project for the Kalivac Dam, which is funded by Deutsche Bank and would be implemented by an Italian company. The Albanian government has stated its intention to construct eight large dams on the Vjose River and many other smaller ones along its tributaries, which has raised important concerns for environmentalists in Albania who claim that these projects will be disastrous for the river's natural standards.[691]

9.4Trans-boundary cooperation on the Aoos/Vjose

Trans-boundary cooperation is disproportionately low in terms of the river's size and importance for the two countries and their local populations. Indeed, attempts to set up a cooperation framework cannot be found before the early 2000s, when the two states started discussing issues related to trans-boundary fresh water resources, with prominently the Prespa Lake. The Aoos has also attracted attention but it was not until 2003 when the two riparian states decided to institutionalize their cooperation and agree to a minimum of obligations regarding the sustainable use and protection of the river.

In 2003 Greece and Albania decided to form a joint permanent commission on trans-boundary freshwater issues. The agreement was an important step for the protection of shared water bodies. Each side could have nine representatives in the commission. Once a year, for at least five years, the commission would have regular meetings while its term would automatically renew after the first five years unless one of the parties

[690] Yorgos Chatzinikolaou,, Vasilis Dakos, Maria Lazaridou, 'Assessing the Ecological Integrity of a Major Transboundary Mediterranean River Based on Environmental Habitat Variables and Benthic Macroinvertebrates (Aoos-Vjose River, Greece-Albania)', *International Review of Hydrobiology,* 98(1), 2008, pp. 73-87.
[691] Available at: http://balkanrivers.net/en/news/albania-national-park-vjosa-river-instead-dams (last accessed on 05/08/2014).

objected. The Greek parliament ratified the agreement in 2005.[692] The final signatures for the establishment of the Greek-Albanian commission were given on 3 April 2007 in Athens, while the proceedings of the first meeting were signed on 10 April 2008 in Tirana and ratified by the Greek state on 10 July 2008.[693]

In the conclusions of the meeting, the Aoos was mentioned several times. Perhaps the most important development was that the two states agreed on the need for an exchange of information and views regarding the joint management of the river basin district. They both acknowledged the importance of the protection and sustainable use of the Aoos/Vjosa river basin. The Greek side, in particular, presented data on the status and characteristics of the river. To this end, Greece and Albania decided to create a sub-commission aiming at the creation of a single management plan for the whole river basin district.[694]

The EU has no doubt acted as a great catalyst for cooperation between the two countries in the region where the Aoos-Vjosa lies. An ambitious project, "the Vjosa-Aoos River Ecomuseum," was funded by EU and National Funds within the framework of the IPA Cross-Border Programme "Greece-Albania, 2007-2013."[695] The project was implemented by four organizations, two from each country. From Greece the Mediterranean Institute for Nature and Anthropos (MED-INA) and Pindos Perivallontiki, and the Institute of Nature Conservation in Albania (INCA) and the Forest Directorate in Permet from the Albanian side.

The two countries have combined forces in order to establish the River Ecomuseum to safeguard the natural and cultural heritage and identity of this trans-boundary area and also to provide a path towards a sustainable future for the entire area, aiming at a balanced co-existence of nature and culture that could contribute in a positive way the livelihoods of the local population. The outcome of extensive research and contacts with local associations, scientists, academics and local citizens, it took two years,

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[692] Greek Official Gazette, 264A'/2005.
[693] Greek Official Gazette, 134A'/2008.
[694] "*Both delegations agreed to create a sub commission on the basis of article 3, paragraph 2 of the Agreement, aiming at their coordination, for the production of a single management plan related to the whole river basin district*". Minutes of the meeting of the Greek-Albanian Permanent Commission on the Transboundary Freshwater Issues.
[695] Available at: www.ecomuseum.eu (last accessed on 14/08/2014)

from 2012 to 2014, for the Ecomuseum to be established but its impact is expected to be significant for the entire region.

Yet, it is important to understand why such delay took place. The reasons are rooted mostly in historical bilateral political relations and will be explained in detail within the following pages.

9.4.1 Greek-Albanian Relations

Greece and Albania have always been historically linked, but these bonds were not always positive. Nevertheless, it appears that in recent years relations have significantly improved to the level of normalization leading to the creation of stronger political ties. Yet, discrepancies still exist, and the following pages will examine the historical roots of this shaky relationship.

To begin with, in an article published in 2011 in *Mediterranean Quarterly*, Helen Abadzi presented an analysis of the history of Greek-Albanian relations. As she correctly notes, the history of the two states goes back centuries. Greece and Albania have been separate countries only since the nineteenth century. Until then and for almost twenty-two centuries they were parts of the same state, in various forms. Even deeper in the past, ancient Greeks and Illyrians were both parts of the greater Indo-European tribe. With their arrival in the Balkan Peninsula almost four thousand years ago, they intermarried with pre-Hellenic populations. Migrations were very regular, and as the article mentions, historical discoveries have shown that migration flows took place to and from the others' lands. For instance, in antiquity, Greek cities like Corinth established colonies on the Illyrian coast, while in the Middle Ages, Arvanites, Albanian speakers, migrated across Greece. Yet, despite this geographical and historical relationship, the feelings of the two societies are far from being described as friendly. The reasons for such a discrepancy are many, as long historical acquaintances can cause negative feelings instead of long-term friendship. Historical incidents and political decisions also play a catalytic role. For instance, for many Greeks the names of Albanian cities remind them of painful tragedies from the Second World War. The increased crime levels in Greece right after a large wave of Albanian immigrants in 1987 has also influenced the bilateral landscape. The

Cham issue[696] is also a diachronic discussion causing difficulties in communication. The name dispute with FYROM had a great impact, since many Albanians and particularly the youth, tend to believe Alexander the Great was Illyrian in origin, and they therefore support FYROM's claim to be called "Macedonia". What is more, young Albanians argue that they are original descendants of the ancient Pelasgians, the indigenous inhabitants of the Balkans, while in contrast, the Greeks do not accept such a theory claiming that in reality Albanians are not even descendants of the ancient Illyrians. This argument finds support from some Arvanites too who, however, also believe that they speak a type of the ancient language of the Pelasgians. In a nutshell, as Abadzi has pointed out, '…past and present stories create stereotypes on both sides.'[697] These stereotypes have prevented the two neighboring states from coming closer and creating stronger ties and communication channels several times. While physical borders have gradually opened to traffic, people's minds are less progressive.

However, avoiding a deep historical analysis, which is not the objective of this chapter and this thesis in general, the following pages will be devoted to the contemporary history of the relations between the two riparian states. Within this context, contemporary history of Greek-Albanian relations can be divided into three main periods. The first includes the years before the establishment of the Hoxha regime in 1944, the second covers the Communist period in Albania under Hoxha and his successor and third begins right after the collapse of the Communism to the present day.

[696] The Cham conflict arose as a result of the delineation of the border between Greece and Albania at the end of the Balkan Wars. During the Balkan Wars and after the end of WWII, wide migration flows of the Cham population took place while estimates argue that during WWII almost 5,000 Chams were killed. The Chams (who created a political party with the end of Communism in Albania in the early 1990s) demand the recognition of about 4,000 Chams who disappeared as a result of those conflicts, and the property rights of about 150,000 others. The Chams are also building charges against Greece in the international courts, arguing that they were stripped of around US $ 340 million worth of property. The Greek side however, does not recognize the Cham issue.(Miranda Vickers, 'The Cham Issue - Albanian National & Property Claims in Greece', *The Conflict Studies Research Centre,* Royal Military Academy, 2002, pp. 2-3

[697] Helen Abadzi, 'Historical Greece-Albania Relations: Some mysteries and riddles', Mediterranean Quarterly, 22:1, 2011, pp. 41-42.

- The pre-Hoxha period.

While the Ottoman Empire was gradually declining, Greece sought to increase its territory. These claims were expressed during the Congress of Berlin in June 1878. Yet, the Albanians, who were also under Ottoman rule for four centuries, had different plans. The League of Prizren that followed the gathering of Albanian intellectuals in Prizren, Kosova, presented at Berlin the hopes of the Albanians for the creation of an independent nation. Yet, Bismarck's position of not recognizing any Albanian nation, along with the rival claims by Serbia, Montenegro and Greece limited the Albanians' hopes. Greece was given a free hand to negotiate directly with the Porte for land in Northern Epirus. Negotiations concluded in 1881 and following the Berlin Congress and the summit of the official representatives in Istanbul, this resulted in the northern expansion of Greek territory to include Thessaly and Southern Epirus (Arta).[698] This also had the blessing of Great Britain as it could work as a buffer for Russia's desire to gain access to the Mediterranean.

The end of the Balkan Wars in 1913 found Greece once more on the winning side, acquiring even more territory within Epirus and particularly the capital city Jannina. While at the same time, neighboring Albania apart from its hopes to incorporate Epirus, also lost Kosova to Serbia. Albania's hands were tied and after recognition of statehood in November 1912, they could practically do very little and were fortunate not to lose the entire nation in the end. The First World War that followed was another important historical moment for the region and the relations between the two countries. Within a context of secret agreements between allies in order to ensure further territory, Greece managed to secure its northern border at Albania's expense.

The interwar period was relatively calm, though World War II and the immediate post-war era was quite challenging. The Italian invasion of Albania and its incorporation into the Kingdom of Italy in 1939 provided Mussolini with the opportunity to later use Albania as a launching pad for his invasion of Greece during October 1940. Yet, Greece with Great Britain's assistance was able to repel the Italians. In the meantime, the anti-fascist resistance groups that started emerging in both Greece and Albania received

[698] Richard Clogg, *A short History of Modern Greece,* Cambridge: Cambridge University Press, 1979, p. 136.

material support from Britain's Special Operations Executive. However, as described by Gus Xhudo, 'the variety of resistance movements in Albania thwarted Allied efforts to consolidate these groups into anti-fascist organizations as they often quarreled amongst themselves and, in some instance, collaborated with the Axis powers that were willing to cede their territorial demands'.[699] In the meantime, Mussolini's failure to conquer Greece was followed by German assistance. German troops remained in Albania until 1944, which meant for the Albanians gains in territory at Greece and Yugoslavia's expense. Greece responded by declaring war on Albania for assisting the Axis troops, and this state of war remained for almost 40 years.

- The Hoxha Period

This open state of war characterized the relations of the two countries for almost four decades. When Hoxha came to power, he expressed his frustration with Greek claims that Albania be considered on the side of the Axis alliance on the grounds that it provided "assistance" for Italy's invasion of Greece through its territory. This anomaly resulted in the lack of any attempts for diplomatic exchange during the 1960s and the 1970s. Moreover, the end of World War II also demonstrated Greece's ambitions for territory within Albania, specifically Northern Epirus. This sentiment existed among the Greeks living in this region who formed a delegation and in February 1946 travelled to London and the US to argue their case during the peace process. To this end, the Greek government also sent a memorandum to the Paris Conference of Foreign Ministers supporting the claims of the Greek delegation pointing to the 1919 Accord between Venizelos and Tittoni and the US Senate resolution of 1920 as well that was in favor of Northern Epirus' incorporation into Greece. Greeks' visit to the US resulted in a Congressional resolution that was passed unanimously by the Senate in July 1946 and awarded to Greece territory in Southern Albania mainly inhabited by ethnic Greeks.

The civil war that started in Greece right after World War II was a focal point for Greek-Albanian relations. During 1944, Hoxha's partisans had made contact with ELAS (National Popular Liberation Army), the military wing of the KKE (Greek Communist

[699] Gus Xhudo, 'Tension among neighbors: Greek-Albanian relations and their impact on regional security and stability', *Studies in Conflict and Terrorism,* 18(2), 1995, p. 117.

Party). Indeed, Hoxha attempted to intervene in the civil war by providing support to the Greek communists, placing several small units under ELAS command. In return ELAS handed over a number of "war criminals" that had fled to Greece just before the regime change in Albania and the establishment of communism. Hoxha realized the need of KKE to create alliances with neighboring countries in order to have better chances to take over the power since they did not enjoy the support of the Great Powers (the US and Great Britain). Therefore, the Greek communists did not make any mention of territory within Albania. Yet, Albania's interference in Greece's internal affairs caused much animosity between the two countries and further strained relations between Albania and the West. Indeed, the timing was not good for Albania since the civil war coincided with the expulsion of Yugoslavia from COMINFORM (the Communist Information Bureau). Due to this development, the Western powers tried to bring Greece and Yugoslavia together by enhancing their relations to work as a buffer against Soviet influence in the region. The Greek communist party lost a very important ally, Yugoslavia under Tito, and it then needed to find support elsewhere, with communist Albania being the only immediate choice. The official Greek government understood this development and believed that a possible direct action against Hoxha's regime would seriously harm KKE's support structure and prove crucial for the final outcome of the civil war.

In 1952, once the Greek civil war had ended and the Greek official government prevailed, Greece entered NATO. This development allayed Greek fears over Albanian territorial incursions but placed most of these local border disputes within the bipolar context of the Cold War. During the 1950s and 1960s there were no major developments regarding the relations of the two countries, while contact between them was mostly limited to minor incidents occurring along the border and near Corfu, which often had to do with Albanians seeking to escape to Greece, or Albanian and Greek border patrols exchanging fire for straying too close to the border.

During the 1980s severe economic turbulence in Albania impacted the country's doctrine of self-reliance. Supply shortages compelled Hoxha into a political shift of his attitude toward the outside world. At some point between 1983 and 1984, air links with Greece re-opened while a series of cultural, scientific and technical agreements were signed between the two countries. Also, a road link was opened by the end of 1984 on the Kakavija border near Gjirokaster, the first since 1945.

- The post-Hoxha period

Hoxha died in April 1985 and his successor, the longtime Communist Party member Ramiz Alia took over. Alia found the country in a terrible economic situation, given the national principles of rejecting any kind of foreign loan. Alia, in contrast to Hoxha, was more pragmatic. He began constructing communication channels with Albania's neighbors. He understood that normalization of relations with Albania's neighbors would serve as a road to economic development. To this end, during the fortieth session of the UN, Albania through its Foreign Minister, Reiz Malile, signed a number of agreements with Greece including plans for the construction of a chrome processing plant in Albania by a Greek company, as well as plans to open ferry links between Corfu and Sarande.

In 1987, the Greek government of Andreas Papandreou ended the official state of war that had existed for more than 40 years between the two nations. In that year also industrial projects were agreed upon, while the aforementioned ferry link was finally established. Moreover, Albanian and Greek delegates participated in Balkan conferences that took place during these years. However, Albania's economic situation worsened. By 1991, the country had accumulated a budget deficit of almost $580 million, a balance of payments deficit of $400 million and a foreign exchange deficit of $170 million. This situation along with the collapse of the USSR and the rising democratic sentiment across Eastern Europe resulted in strong pressure towards a democratic change. Nevertheless, as Xhudo wrote, 'relations with Greece took a turn for the worse….tentative links, followed by mutual pledges towards cooperation, and finally deterioration due to incidents such as border shootings, mutual refugee and ethnic minority mistreatment, and recriminations from both sides'.[700]

The political vacuum that followed in Albania with the consecutive interim governments that accompanied the collapse of the communist regime further deteriorated the situation. Neighbouring Albania was facing extensive economic setbacks, leading to massive migration flows mainly to Greece and Italy, and in Greece the government of Constantine Mitsotakis was unprepared to cope with them. Even in the streets of Greece's capital, with hundreds of Albanian male youths roaming and engaging in looting and other crime, created negative feelings among Greek society. The relations between the

[700] Gus Xhudo (1995), p. 125.

two nations get worse when the Greek Prime Minister decided to launch "Operation Broom" and expel thousands of Albanians without proper documentation from Greece. Albanians were also accusing Greek border patrols of opening fire against Albanians attempting to cross the border while the newly formed Albanian government under Berisha called on Greece to soften its position and show some understanding toward the Albanians.

At the same time, in Albania, a Greek minority party called Omonia sought status as a political party. Just before the March elections of 1992, the Albanian parliament unanimously denied this request. Despite the warnings from the EC and the threat of losing guest status in the EC Parliamentary Assembly, the Albanian government claimed that while Omonia would not receive political status as a party itself, it would be allowed to field independent candidates at will. Besides, according to the claims of Albania, minority rights were fully respected, but measures could not be avoided in cases of groups, such as Omonia, advocating a return of Greek inhabited lands, specifically Northern Epirus, to Greece. Simultaneously, relations between the two neighbouring states deteriorated significantly when Albania turned against the Greek minority with hostile actions.[701]

The Greek minority issue was always on the agenda of discussions between the two states. In the early 1990s the Greek state claimed that ethnic Greeks were not being allowed to freely practice their religion. The Greek government also accused the Albanian one of prohibiting schoolchildren from using the Greek language in schools, while Greek cultural events were either banned or disrupted by Albanians. Last but not least, the Greek administration claimed lack of adequate representation of the Greek minority in the Albanian government, at the local as well as national level. However, the leaders of the two nations, in an attempt to put aside their differences, met in Tirana in May 1992. The discussion between Mitsotakis and Berisha included guarantees for rights for both Greeks in Albania and ethnic Albanians residing in Greece in an area known as Cameria, but the talks remained inconclusive

[701] Ioannis Valinakis, *With Vision and Programme: Foreign Policry for a Confident Greece,* Thessaloniki: Paratiritis (in Greek), 1997, pp. 172-175.

Meanwhile, the name dispute between Greece and FYROM was cause for severe concern to the Albanians as well. The collapse of the Mitsotakis administration and the growing power of the newly born political party "Political Spring" raised Albania's concerns. Nevertheless, both Greece and Albania were pushed by the EU and the US to continue dialogue in order to resolve their differences. Low-level diplomatic exchanges mostly dealing with the issue of illegal migration and the guarantee of fair treatment for ethnic Greeks in Albania took place several times. Other economic relations between the two nations were also on the agenda, with a focus on the Greek investments in Albanian agricultural and technological projects.

While it could be claimed that step-by-step the relations between the two states were becoming smoother, an incident that took place in late June 1993 scaled back the progress. At that point the Albanian government decided to forcibly expel a Greek cleric for advocating anti-Albanian propaganda. Greek Archimandrite Chrysostomos, was expelled from Albania under the accusation of supporting anti-Albanian activities. Tirana accused him of preaching "Enosis" – union with Greece. This also led to wide scale attacks on Greek-owned property in southern Albania.[702] In reaction, the Greek army marched on Gjirokaster but was turned back. The Greek government, claiming an immediate need to contain the massive waves of immigration, replied with large-scale deportations of Albanian refugees, further escalating the situation. This policy accentuated anti-Greek feelings in Albania, thus burdening Greece's foreign policy with yet another conflict.[703]

With the new Greek administration (following the national elections of 10th October 1993), steps were taken to ease tensions. The new Greek foreign minister, Karolos Papoulias, visited Tirana and met his Albanian counterpart, Alfred Serreqi in November 1993. The main topic discussed was the rights of their respective minorities and ways to improve regional relations as well. Yet again, however, this meeting was more show than substance. Shortly after this visit Albanian soldiers were killed, with the Albanian government claiming that members of the National Liberation Front of Northern Epirus

[702] Miranda Vickers, 'The Greek Minority in Albania – Current Tensions', *Defence Academy of the United Kingdom* 10/02, 2002, p. 3.
[703] Sotiris Serbos, 'Greece and the Western Balkans', in: Yiannis Valinakis (ed), *Greek Foreign and European Policy,* Athens: Sideris (in Greek), 2010, pp. 89-124.

(MAVI), perhaps funded by Greek intelligence, were responsible. Athens denied those claims, but Tirana decided to recall its ambassador and cut its embassy staff in half.

Gradually, relations with Albania have improved. Despite the well-known problems concerning illegal immigration, the enduring mistrust concerning minority issues, and Greek concerns over evolving Albanian-Turkish friendship, Greece has supported Albania's path to European accession since the late 1990s. Moreover, Greece implemented a programme of bilateral development assistance during the "Pyramid Crisis" in 1997, thus helping preserve Albania's social cohesion and unity.[704] At the same time, thousands of Albanians who arrived in Greece were supporting their homeland's economy with remittances, thus enhancing interdependence between the two neighbours. At the same time, the Greek state moved towards the adoption of key measures for the legalization and inclusion of many Albanians living in Greece. However, even though Albania chose to prioritise EU accession, problems with Greece did not completely disappear. As many scholars have argued, issues relating to Albanian nationalism - such as the Cham issue - that were supported by specific domestic political forces and media, remained unresolved.[705]

In April 2009, Greece and Albania signed an agreement regarding the delimitation of maritime zones, including the continental shelf and the Exclusive Economic Zone (EEZ).[706] The agreement was based on the International Law of the Sea and on relevant UN decisions. Yet, this agreement - which was part of a broader Greek attempt to close all the open pendencies related to its sea borders in every direction - was annulled by Albania's constitutional court, following the condemnation of the agreement by the Albanian opposition as being harmful to the Albanian interests.[707] In accordance with the new doctrine of supporting the Western Balkans' European integration prospects, successive

[704] Charalampos Tsardanidis, Asteris Huliaras, 'The rise and fall of the Greek plan for the economic reconstruction of the Balkans', *Agora without frontiers,* 11(1), 2005, p. 180 (in Greek).
[705] Sotiris Wallden, 'Greece's Balkan Policy. Critical review of the post-war era and perspectives', in: Panagiotis Tsakonas, *Contemporary Greek Foreign Policy,* Athens: Sideris, 2003, p. 416 (in Greek).
[706] Thanos Dokos, Theodore. Tsakiris, 'A Strategic Challenge: The role of Greece in Europe's Southern Gas Corridor Strategy', ELIAMEP Policy Paper, no. 17, 2012, p. 14.
[707] On Tuesday 26 January 2010, the Albanian Constitutional Court annulled the maritime boundary agreement between Albania and Greece due to 'procedural and substantial violations' of the constitution and the UN Convention of the Law of the Sea (UNCLOS). The Albanian government's main opposition force, the Socialist Party, contested the accord and accused the government of holding negotiations in secret and giving up an area of about 225 square kilometers in exchange of future political support from neighbouring Greece. As a result, the Socialist Party officially requested the constitutional court to rule on the legitimacy of the maritime agreement.

Greek administrations continued to favour Albanian accession to Europe and NATO. Albania's NATO accession was finally agreed upon during the 2008 NATO Summit in Bucharest. Additionally, in April 2009 the Stabilization and Association Agreement between the EU and Albania was finally signed, and during the same month the country submitted its membership application. Greece, already engaged in an ongoing dispute with FYROM, decided to encourage Albania's Europeanization as a way of promoting its own interests.

Following the change of administration in Albania in June 2013, new efforts for the improvement of bilateral relations developed. The Greek President Papoulias visited Albania in November 2013, showing the willingness of the Greek government to move beyond past grievances. A first step was achieved in 2014 when the two parties reached an agreement regarding the use of place names in Albanian passports. Moreover, Albania was granted EU candidate status during the Greek Presidency in 2014. However, open issues remained unresolved, such as the Cham issue, and maritime borders. Besides, a study published by ELIAMEP in December 2013 showed that the societies in both states keep its distance from the politico/diplomatic field. Both societies seemed to have different perceptions on what should be considered as a threat, what is a problem that needs to be solved and so on. In sum, the societies are closely inter-connected but also separated by different social perceptions, cultural models and historical pasts.

9.5Albania: National Legislation on the Environment

The Water Framework Directive (WDF/2000/60) has been analyzed in depth in preceding chapters, and with two major contributions to the discussion of integrated water management. The first has to do with the organization of water management around river basins, which are considered the most suitable unit for implementation of the Directive's requirements. The second is related to the introduction of economic, environmental and ethical issues in water management. In particular, regarding ethics, through the WFD the EU has promoted public participation. It has also identified newly vested economic interests in water supply, as well as the growing concerns and sensitivities towards

environmental protection, and therefore promoted the need for adopting an approach of sustainable use and development.[708] Yet, it is important to see the progress made so far in the regulation framework in Albania and to what extent the latter has been fully harmonized with the EU *acquis*.

Article 56 of the Albanian Constitution (1998) establishes citizens' constitutional right to be informed about the status and the protection of the environment. This right seems to reflect the suggestions of the WFD regarding the ethics of public participation. As already mentioned, Directive 2000/60 requires states to inform the public regarding the management plans for river basins. Therefore, it could be argued that this article of the Albanian constitution incorporates the values promoted by the WFD regarding information provided to the public on environmental issues.

Also, Article 59 declares the state's obligation, in the framework of the constitution, to support private initiative and responsibility, through, among other things, the assurance of a healthy ecological environment for present and future generations and the rational exploitation of forests, water resources, grasslands and other natural sources on the basis of the sustainability principle. Once more, it seems that elements of the WFD can be found in a constitutional article. The WFD has paid significant attention to the sustainable use of water resources, as does this article of the constitution. Moreover, actions against non-sustainable use of the environment are also described in Articles 201-207 of the country's Penal Code L.7895/1995. Within this law there is a description of the penal sanctions for "criminal actions" at the expense of the environment (air pollution, toxic waste transportation, water resource pollution, illegal fishery, illegal logging etc.).[709] Within this context, Article 624 of the Civic Code (L. 7850/1994), which deals with the country's environmental responsibility, also states the obligation of those who have harmed the environment to pay reparation.[710] In addition, Article 159 affirms owners' obligation for the protection and preservation of the environment in their area. Finally,

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[708] Leeda Demetropoulou, Nikolaos Nikolaidis, Vasilis Papadoulakis, Kostas Tsakiris, Theodore Koussouris, Nikolaos Kalogerakis, Kostas Koukaras, Anastasia Chatzinikolaou, and Kostas Theodoropoulos, 'Water Framework Directive Implementation in Greece: Introducing Participation in Water Governance-the Case of the Evrotas River Basin Management Plan', *Environmental Policy and Governance,* 20, 2010, p. 340.

[709] Criminal Code of the Republic of Albania, Law No.7865.dated 27 January 1995. Available at:http://legislationline.org/documents/section/criminal-codes

[710] Civil Code of the Republic of Albania, Law No.7850 dated 29.07.1994. Available at: http://www.ms-albania.info/Laws%20english/Law%207850-1994%20On%20Civil%20Code.pdf

Article 276 states estate owners' obligation to provide drinking water for the fulfillment of their neighbors' basic needs when those do not have access to clear drinking water.

The country's basic law on environmental protection is L.8934/05.09.2002,[711] as it was amended by L.9537/18.05.2006, L.9890/20.03.2008, L.10137/11.05.2009 and L.10431/9.6.2011.[712] The law is structured into the following chapters: General Provisions (Articles 1-6), Environmental Policies (Articles 7-10), Usage and Protection of Environmental Sites (Articles 11-25), Assessment of Environmental Costs (Articles 26-33), Authorization for Activities that Affect the Environment (Articles 34-48), Prevention and Reduction of Environmental Pollution (Articles 49-51), Monitoring and Data (Articles 52-58), Environmental Inspection (Articles 59-63), Duties of the State Institutions for the Protection of the Environment (Articles 64-76), the Role of the Public (Articles 77-81), and Sanctions (Articles 82-90).

According to Article 1 of L.8934,[713] the basic aim of the legislation is the regulation of the human-environment relationship, the protection of the environment and the assurance of sustainable development through the appropriate regulatory framework for the application of the constitutional right to an ecologically healthy environment.

As far as the protection of water resources is concerned, in the law there are two articles included (14 and 15), where the concept of "Water Protection" is delimitated, surface and ground waters are determined and the criteria of water resources usage are laid out.

The Albanian regulatory framework for the protection of the environment also extends to other legal provisions, in addition to the aforementioned L. 8934/2002. The list includes:

- L.8906/06.06.2002[714] for Protected Areas, which was amended by L.9868/04.02.2008.[715] According to this law, protected areas are ranked in six

[711] It repealed L.7664/1993
[712] Through the last law, there is a higher level of environmental protection.
[713] Albania, Law No.8934/2002, *on Environnemental Protection*, date 5.09.2002. Available at:http://faolex.fao.org/docs/pdf/alb60655E.pdf
[714] Albania, Law no.8906, *on Protected Areas*, dated 06.06.2002 Available at the webpage: http://faolex.fao.org/docs/pdf/alb60472E.pdf
[715] The new law amends the last one in terms of the categories of the protected areas and introduces the basic preconditions that have to apply in order an area to be considered as protected, the preconditions for

categories: strictly protected natural shelters, national parks, national monuments, areas of natural management of the habitats and species, protected landscapes, protected areas of administration/areas of multiple uses.[716]

- L. 9587/20.07.2006 for the Protection of Biodiversity is designed to ensure the longevity and protection of biological variety in accordance with the provisions of the Convention for Biodiversity.[717]

As far as legislation for water resources is concerned, L.8093/21.03.1996 is most relevant,[718] as it was amended by L.8375/21.03.1998, [719]L.8605/20.04.2000,[720] L.8736/01.02.2001,[721] L.9837/03.12.2007, L.10137/11.05.2009,[722] and L.10345/4.11.2010.[723]

L. 8093/21.03.1996 provides a complete legal framework for the management of the country's water resources. It involves all water resources and their usages, inside the borders of Albanian State. Minerals and curative waters are excluded, as they are

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the specification of the limits and the procedures for the specification of the specially protected areas and the roundabout natural parks.

[716] For the implementation of the law, the Albanian state published a significant number of decisions and rules in order to rank the areas in the statutory protection categories. Indicatively we refer the nr. 684/02.11.2005 Decision of the Cabinet, which declared the lake Skodra as Stash of Natural Administration and the nr. 682/2.11.2005 Rule which declared the river Buna/Bojana and the region around it as Protected Landscapes. It is also important that the decision project of the Cabinet which will declare the lake Skodra as a National Park and, as a result, the lake will go higher in the protection scale, is under processing. *Kongoli Z., Final Report- Review of Legal Framework relevant to Skadar – Shkodra Lake ecosystem, management protection and sustainable development, Tirana, 2011.*

[717] As before.

[718] The Republic of Albania, *Law No.8093, On Water Resources*, 21 March 1993.

[719] Amends the article 15 of the l.8093 and exempts the public Water-Geological Service for the obligation of previous authorization for research activity. *Law No. 8375* amending Law No. 8093 on water sources.

[720] Completes the article 61 of the l.8093 with the enactment of new sanctions for the violations referred in the articles 14, 20, 24, 47-50 of the basic law that have to do with the fulfillment of some works without any previous approval from the public authority. Also, it completes the article 69 of the l.8093 about the legal procedures in front of the competent authorities. *Law No. 8605* concerning some changes and additions in Law No. 8093 on water reserves.

[721] Determines the fines about illegal drillings that happen in violation of the article 24 of the l.8093. *Law No. 8736* concerning some changes and additions to Law No. 8093 on water reserves, amended by Law No. 8605.

[722] Article 27 of the in question Law, adds some provisions regarding the authorization in l.8093

[723] Amended the article 61 of the l.8093, raising the economic sanctions about the violation of the law and added another article (71.1) about the procedures.

regulated by other laws.[724] More specifically, L. 8093/21.03.1996 is structured in 16 chapters and contains 74 articles. The aims of the law, according to Article 1, are:

-The assurance of the protection of the growth and sustainable usage of water resources.

-The fair distribution of water resources according to their usages as well as their efficient management.

-The assurance of their protection from pollution and dissolution.

-The determination of the institutional framework at a national level and at the level of the basin for the facilitation of the implementation of the national policy for water resources management, benefiting the public and the country's socio-economic interests.

Article 5 deals with the administrative structure and jurisdiction regarding water policy. According to this article, the main inter-institutional body in charge of determining water policy and major water-related decisions in the country is the National Water Council (NWC) and the Technical Secretariat. The NWC's composition is determined by the Ministry of Environment, Forestry and Water Administration which has the overall responsibility for water administration.[725] The NWC is responsible for the Technical Secretariat as well as the Basin councils. The latter are the competent authorities at the regional level and have been established by the NWC as the local authorities responsible for managing water resources in each of the six river basins.[726] Each basin has a water agency (part of the Environment Ministry structure) which is the executive unit of the respective Council. Law enforcement is delivered by several inspectorates that are in charge. Regarding the particular case of border waters, the Cabinet, following the NWC's proposal, can appoint a Special Commission for management and the promotion of cooperation with neighboring countries, according to Albanian legislation and the relevant international conventions. Articles 6-8 determine the competencies and the functions of the above administrational authorities

[724] Bajram Mejdiaj, Aferdita Ponari, *Legal Protection on Transitional Waters in Albania*, Nomosphysis (undated).
[725] Available at: http://www.unece.org/fileadmin/DAM/env/water/publications/assessment/English/M_Annexes_En.pdf (last accessed on 21/08/2014)

[726] In 1998, the NWC determined six river basins and two years later decided the creation of six basin councils.

Other important legislations for water resources are:

- L. 8102/23.08.1996, as amended by laws N.9352/03.03.2005, N.9584/17.07.2006, N.9845/17.12.2007 and N.9915/12.05.2008. The aim of the Law is the enactment of a normative framework and the creation of an Independent Regulatory Authority for the water supply as well as for sewage distribution and processing.[727]

- L. 8905/ 6.6.2002 for the Protection of the Marine Environment from Pollution and Damages. Through this law the provisions of the Barcelona Convention and its Protocols were incorporated into the Albanian legal system.

- L. 9115/24.7.2003 for the Environmental Processing of Polluted Waters. The aim of the law is the protection of the environment and human health from the negative ramifications of polluted waters, through the enactment of rules for the processing of those waters (i.e. civic sewage, industrial sewage, irrigation waters) before their disposal in a water environment (i.e. in the sea). L. 9115/2003 was amended by L. 10448/11 on environmental authorization.

- L. 9103/10.7.2003[728] for the Protection of Border Lakes. The implementation field of the law is the Albanian part of Prespa, Ohrid and Skodra Lakes. The aim of the law is the environmental protection of the border lakes, the assurance of the necessary conditions for the growth of life and of the lakes' ecosystems thought the promotion of activities consistent with the principle of sustainability and the prohibition of activities that could have negative effects on the lake ecosystems. The law is structured in 26 articles, which are included in its 7 chapters (General Provisions, Protection of the Border Lakes, Usage and Utilization, Environmental Authorization, Monitoring and Management, Inspection, and Sanctions). Article 8 is one of the most important articles of the law, as it mandates the creation of an administrative managerial constitution for every lake.

[727] The Republic of Albania, Law No.8102, *on the Regulatory Framework of the Water Supply and Wastewater Disposal and Treatment Sector*, 28 March 1996
[728] The Republic of Albania, Law No.9103, *On the Protection of Transboundary Lakes*, 10.07.2003. Available at: http://faolex.fao.org/docs/pdf/alb60527E.pdf

In conclusion, it is clear that the country enjoys a rich legal armory for the protection of the environment and water resources. The laws-frameworks 8093/1996 for water and 8934/2002 for environmental protection up to today are useful legal tools for the assurance of sustainable development. The majority of the legislation that has been examined is considered well-written and understandable. This gives the impression that the regulatory framework fits WFD standards. However there is still room for improvement. For instance there is a lack of consistency in the legislation's reference scope. Despite the fact that all the laws contain definitions, principles, rules of monitoring etc, in all the legislation that has been examined there is no reference to the existing regulatory framework, which disrupts the inclusive normative coherence. Another disadvantage of the environmental normative framework is the lack of technical specifications and standards for the establishment of rational environmental management.

These discrepancies can be overcome due to the country's European prospect which constitutes a significant motivator for the modernization and cohesion of the environmental normative framework. Due to the development of the Community water legislation, modernization of the relative regulatory framework is necessary. As of 2007, the National Strategy for Environment Protection (2007) foresees the expansion of the country's legal and regulatory framework. Within this context in 2010, the competent Ministry compiled a legislation project for water resources management, which incorporates the provisions of the WFD into national law.[729] The publication of the relative law was expected in 2014.

9.6SWOT analysis of the Aoos management

This analysis provides us with many different aspects of the complicated issue of the Aoos management. Moving to a SWOT analysis will help to identify potential future transboundary developments regarding this particular river's management.

[729] The project is available online at: http://www.moe.gov.al/en/ftp%20upload/legislation/public/Draft%20Law%20on%20Water%20Management.pdf (last accessed on 21/08/2014)

One positive point for this river is the very good environmental status that it undoubtedly enjoys. It is also perhaps in its favour that the upstream riparian is an EU member state that needs to comply with the EU *acquis*. Also the fact that the Greek side does not believe the Aoos to be a very important river for energy production has limited the likelihood of flooding incidents in the downstream state.

On the other hand, the difficult history of the two riparian states is a negative point. This past has created politico-diplomatic tensions and is always at the forefront with the potential to affect bilateral agreements and the work of the joint commission for the management of the Aoos. Also, weaknesses do exist in the Albanian regulatory framework as described above, but perhaps these will pass with new legislation.

Opportunities are deriving mostly from the fact that Albania is eager to become an EU member. The fact that it obtained official candidate status in 2014 is a positive sign for the harmonization of its legislation according to WFD standards.

Lastly, the Albanian government's plans for the construction of several dams can be considered a threat to the river's future. If such a plan is fulfilled according to environmentalists in Albania, it might cause severe harm to the river's flow. Of course, the different kind of pressures mentioned in the previous pages remain a threat to the quality of the river's waters and the possibility of Albania's EU accession could speed up economic development, causing more pressure on the waters.

To sum up, it appears that despite the historical problems between the two riparian states, the Aoos enjoys a healthy environmental status. Even so, concerns have emerged in the last two years, mostly from Albanian civil society where environmentalists have expressed their fears of dramatic changes due to the government's intent to construct several dams.[730] The EU *acquis* is a potential safety net, but does not necessary imply that the pressure on the river waters will remain at the current low level in the future.

[730] http://www.top-channel.tv/english/artikull.php?id=5566

Chapter 10

The Prespa Lakes Case Study: A Success Story

Within the previous chapters, the five transboundary rivers entering or originating in Greece have been analyzed in detail. The analysis makes clear that in each of these cases, an integrated water resource management plan is lacking. The reasons for this shortfall are many - some have their roots in historical issues and past rivalries. Nevertheless, there is one case where three neighboring countries engaged in the management of the river basins have managed to put aside their past and move on, creating the conditions for joint cooperation efforts for the management of a shared water body. This case, which is very well-known in a regional context, is the Prespa Lakes. Within the following pages the historical context within which cooperation between the three littoral states has flourished will be analyzed.

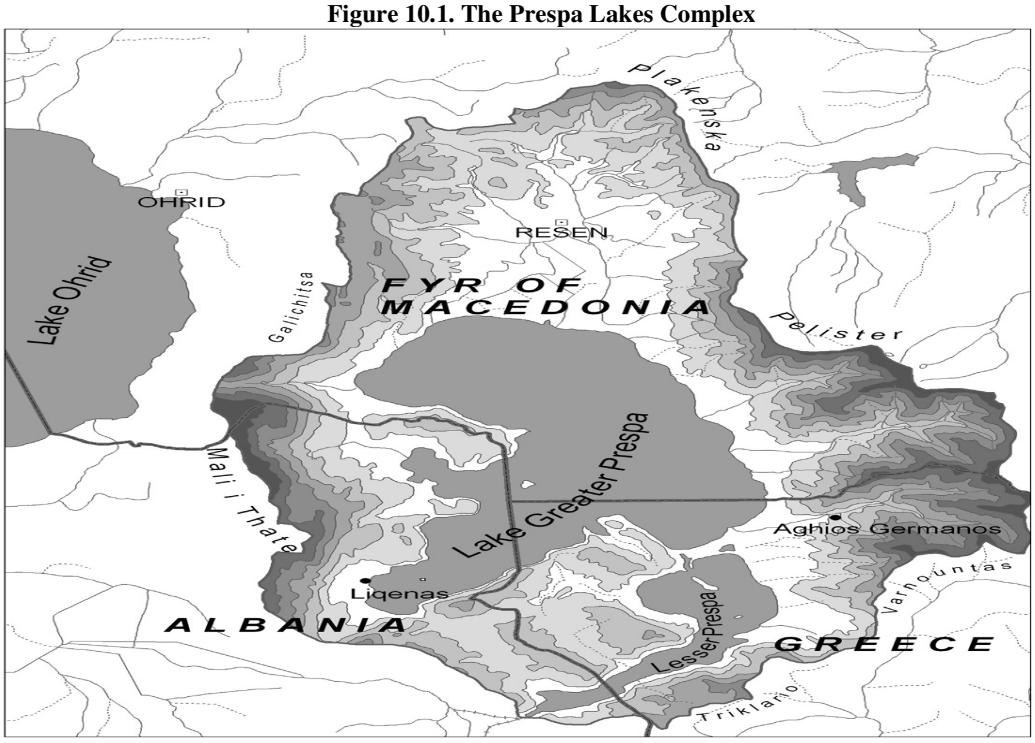
10.1 Geographical setting

The Prespa Lakes is a region of particular interest in many ways. The basin is unique, as the lake complex is separated into two different lakes (Macro Prespa and Micro Prespa) connected by a small land surface. Secondly, the littoral states have a long history of mistrust and generally complicated relations and thirdly, the complex has significant environmental importance. More specifically, the Prespa region is situated in the Balkan Peninsula and encompasses parts of Albania, FYR of Macedonia and Greece. It is a mountainous basin encircled by high mountains (over 2000m above sea level) covering an area of 1519km^2.[731] Regarding its environmental status, it is considered to be an ecosystem of global importance and has been identified as one of Europe's 24 major

[731] Christian Perennou, Miltos Gletsos, Chauvelon, Philippe, Alain Crivelli, Maureen DeCoursey,, Martin Dokulil,, Patrick Grillas, Remi Grovel, and Alain Sandoz, *Development of a Transboundary Monitoring System for the Prespa Park Area,* Society for the Protection of Prespa, Aghios Germanos, Greece 2009. Available at http://www.spp.gr/fullstudy_vol1.pdf (accessed 6 May 2011).

trans-boundary "ecological bricks."[732] The entire Prespa region is widely known for its natural beauty. It hosts unique biotopes that are important from both a European and global conservation perspective. In addition, the lake region is considered to be of great cultural and historical importance.[733]

Figure 10.1. The Prespa Lakes Complex



10.2 Protecting the Basin at National Level

The three littoral countries have long since acknowledged the ecological importance of the region. Hence, all three littoral countries have granted protection status to parts of the basin. In particular, the whole Prespa basin in Albania and Greece is

[732] Hanns Langer (ed.), *Ecological Bricks for Our Common House of Europe,* Munchen: Verlag für Politische Ökologie, 1990.
[733] Slavko Bogdanovic, 'Prespa Park Coordination Committee in Tranboundary Ecosystem Management', Novi Sad: GEF-UNDP, *Technical Assessment Report,* 2008, p. 11.

declared a National Park, while in FYROM there are three separate national protected areas. Additionally, international and European conventions and legislation like the Ramsar Convention and the Natura 2000 ecological network have provided Prespa with a protected status.[734] Yet, initial attempts to preserve the region were not all inclusive. On the contrary, each littoral state has tried to set a framework for the protection of the basin.

Greece has declared almost all of Greek Prespa to be a National Park since 1974. The Greek parts of Micro and Macro Prespa Lakes and the slopes of the mountains Triklario and Varnoundas overlooking them define the extent of the Park. It occupies an area of 256.9km² while the core of the park, a zone of absolute protection including all of Micro Prespa Lake, has an area of 49km². In 1975 the area was also declared a 'Landscape of Outstanding Natural Beauty.' Moreover, a large part of the Prespa National Park and a large section of Varnoundas Mountain were included in the NATURA 2000 network of protected areas.[735]

In July 2003 the Greek state established the Prespa National Park Management Body (PNPMB)[736], a Legal Entity of Private Law aiming to contribute to the management of the protected area and to safeguard the valuable natural features of the National Park. On 23rd July 2009, with a common ministerial decision the old Prespa National Park was redefined, covering an area of 327 km².[737] In addition, since 1974, Micro Prespa Lake was included in the group of 10 Greek wetlands which were described as being of international importance, coming thus under the aegis of the international Ramsar Convention.[738]

FYROM (part of the Former United Yugoslav at that time) established the Galicica National Park in 1958. The objective was the restoration and protection of the area's unique ecosystem. The Park covers an area of around 250km² and is situated on the mountain of the same name which lies between Macro Prespa Lake and Lake Ohrid. In

[734] Daphne Mantziou, Miltos Gletsos, 'The Development of Transboundary Cooperation in the Prespa Lakes Basin', in: Jacques Ganoulis, Alice Aureli, Jean Fried, (eds.), *Transboundary Water Resources Management: A Multidisciplinary Approach,* Weinheim: Wiley-VCH, 2011, p. 248.
[735] The Natura 2000 Network is a European Ecological Network of areas which are home to natural habitats of types which are important at a European level.
[736] The PNPMB is based in the village of Agios Germanos.
[737] KYA 28651/National Gazette 302 (4).
[738] The convention for Wetlands of International Importance was signed on 2nd February 1971 in the Iranian city of Ramsar and came into force in Greece and the other signatory countries on 21st December 1975.

1948, Yugoslavia also established the Pelister National Park situated to the east of Macro Prespa Lake at the Greek border. The Park covers an area of 125 km.² Later on, in 1966, the Ezerani Protected Reserve was established, situuated on the northern shore of Macro Prespa and covering an area of 20.8 km². Moreover, the Ezerani Reserve and the 189.2 km² of Macro Prespa Lake which belongs to FYROM has been a Wetland of International Importance under the Ramsar Convention since 1995. Macro Prespa Lake has been declared a 'Natural Monument' since 1977. Lastly, Albania established the Prespa National Park including an area of 277.5 km² in 1999, aiming for the restoration and protection of the important land and water ecosystems in the region.[739]

10.3 Initial attempts at trilateral cooperation

At an interstate level the first attempts towards cooperation began in 2000 during a meeting of the Prime Ministers of the three littoral countries. On World Wetlands Day, in February, when realizing the international ecological importance of the area and in particular the need for sustainable water management for the mutual benefit of the nature and the inhabitants, the three leaders declared Prespa as the first transboundary protected area in Southeast Europe. The Prespa Park was established.

The Prespa Park initiative was supported by the creation of an interim multi-stakeholder institutional structure/body, the Prespa Park Coordination Committee (PPCC). The newly formed Committee was empowered with the coordination of planning and implementing joint activities. It was a non-legal entity composed by representatives of the Ministries of Environment, the local municipalities and members of NGOs from each state party. The MedWet/Ramsar Initiative was also present with a permanent observer. For its first 10 years the Committee was quite active.[740] Although the PPCC has no substantial budget from the three countries and the three governments have not obligated themselves to support the PPCC, financially or otherwise, thirteen meetings were held to promote the implementation of joint projects and activities with the technical

[739] Information taken from the official site of the Society for the Protection of Prespa, available at: http://www.spp.gr/spp/index.php?option=com_content&view=article&id=4&Itemid=4&lang=en#1
[740] Daphne Mantziou, Miltos Gletsos (2011), p. 248.

support of a Secretariat consisting of three officers from the collaborating NGOs.[741] Indeed, it was only for the first year that the PPCC Secretariat's operation costs were covered through funding by the Greek government. Since then it has been dependent on support from WWF-Greece, with some funding directed to 'external' communication activities (website creation, newsletter publication, promotion in media and meeting organization) from the German GTZ (Gesellshaft für Technische Zusammenarbeit). The support from the Greek government continued on an *ad hoc* basis as did the contribution from the German development aid institution KfW (Kreditanstalt für Wiederaufbau).

The production of the Strategic Action Plan (SAP) for the Sustainable Development of the Prespa Park was a cornerstone for successful collaboration. The chief priority of the SAP was the recording of the ecological and socio-economic situation in the transboundary protected area in order to later evaluate and identify the main management issues. The SAP set objectives, quantity and quality measures for the region fostering cooperation between the littoral states and it was adopted in May 2004 by the PPCC (SAP, 2005: 3-7).

During the following years a noteworthy number of initiatives were carried out in the region including meetings of the national protected area authorities, the competent veterinary services and the fire-fighting authorities of all three sides of the basin. In 2006 and 2007 a Memorandum of Understanding and a Cooperation Protocol were signed by the mayors of the three sides of the basin respectively, setting the framework for regular cross-border meetings.

10.4 The role of third parties

As mentioned earlier, national level initiatives have been ongoing separately in each littoral state for several decades. Yet the joint efforts that began in 2000 were result of the Society for the Protection of Prespa (SPP), a Greek local NGO and WWF-Greece under the auspices of the Ramsar Convention on Wetlands. These two NGOs mobilized the Greek government in the summer of 1999 with the idea of a

[741] See the Report of the First Regular Meeting of the Prespa Park Coordination Committee, 30-31 January 2001, available at: http://www.spp.gr/spp/1st%20rm%20rpt_skopje_jan02_en.pdf

Prespa Park. This was a period of great challenges in Southeast Europe since the crisis in Kosovo was still unfolding and the prospect of a spill-over into other parts of the region was threatening the neighboring states. As Christopoulou and Roumeliotou argued, the Simitis administration in Greece perceived this proposal as an opportunity for Greece to take the lead as a peace facilitator in the region by promoting an agenda of cooperation and sustainable development.[742]

The idea of the SPP and WWF-Greece was met with positive responses from NGOs in Albania and FYROM. In particular, the Albanian NGO PPNEA (Protection and Preservation of Natural Environment in Albania), the oldest national environmental NGO in the country with notable presence in the region provided vital support for the establishment of the equivalent Prespa National Park in the country. On the FYROM side there was an alliance of 25 small NGOs participating in the initiative. Yet, their insufficient capacity and internal coordination problems hindered any substantial input to the transboundary cooperation.

Consequently, the SPP was the strongest link in this network. Indeed, its contribution was catalytic in backing up, along with the MedWet/Ramsar, transboundary cooperation in the region, by supporting the scope of the PPCC. The role of the SPP, apart from being a successful lobbyist at national and international levels was also to provide continuous technical support to the Secretariat of the PPCC. Characteristically, since 2001, the seat of the Secretariat was held by the SPP. Moreover, NGO's have been instrumental in playing the role of intermediates regarding the implementation of the Prespa Park objectives (Najam et al. 2004:32).[743] NGOs and particularly the SPP and WWF-Greece managed to mobilize the donor community even further. Indeed, as mentioned earlier, international donors were present since the preparatory stages of trilateral cooperation. Even before that, German bilateral assistance in both Albania and FYROM was a fact since the mid-90s contributing substantially to local conservation efforts in Prespa.

[742] Ioli Christopoulou, Vivi Roumeliotou, 'Uniting People Through Nature in Southeast Europe: The Role (and Limits) of Nongovernmental Organizations in the Transboundary Prespa Park', *Journal of Southeast European and Black Sea Studies,* vol. 6, no. 3, 2006, p. 337
[743] Najam et al, 32.

10.5 The role of International Donors

The international donor community mobilized from the beginning in order to engage in the protection of Prespa Park. For example, the MedWet initiative has contributed significantly from the first steps. Indeed, the first working meeting of the three sides in Tirana in October 2000 was held at the initiative and under the chairmanship of the Ramsar Convention Secretary General, demonstrating the catalytic role that international institutions and the secretariats of multilateral environmental agreements can have in regime building.[744]

The most prominent project in the basin was the 'GEF project.' It was a large multi-donor international project prepared by the Global Environmental Facility and approved in the winter 2005-2006. The PPCC efforts found fruitful ground and in 2004 the GEF approved a PDF B grant for the development of a full-size proposal. The proposed budget, submitted by the PPCC in July 2005 was US$ 13.5 million while the title of the project was 'Integrated Ecosystem Management in the Transboundary Prespa Park region.' The whole attempt led to the approval of a five-year regional project on integrated ecosystem management in the Prespa Lakes basin which commenced in 2006.[745]

The project was co-funded by the GEF, the governments of the three littoral states, local authorities and other international donors, such as the KfW and SDC, and it was implemented by the United Nations Development Programme (UNDP). Activities in the Greek part of the basin were financed by the Greek government. The main area of focus included environmental conservation, protection of biodiversity, mitigating pollution, encouraging sustainable resource use, strengthening stakeholder participation, building institutional cooperation and promoting integrated water management. In addition, the project included the establishment of a trilateral Prespa Working Group on Water Management as a subsidiary organ of the PPCC. NGO involvement was instrumental in assisting the PPCC with carrying out the GEF project in various ways

[744] Robin R. Churchill, Geir Ulfstein, 'Autonomous institutional arrangements in multilateral environmental agreements: A little-noticed phenomenon in international law.' *American Journal of International Law,* 94.4, 2000, pp. 623–659.
[745] United Nations Development Programme (UNDP) (2005) Integrated ecosystem management in the Prespa Lakes Basin of Albania, FYR-Macedonia and Greece, UNDP Full size Project Document, UNDP.

such as facilitating consultations or providing technical assistance to the various agencies and consultants involved.

In 2007 the GEF/UNDP project established a Monitoring and Conservation Working Group (MCWG), consisting of experts from ministries, academia/research, national parks and the NGO sector from all three countries. The MCWG aims to satisfy the need for scientific and political guidance, ensure ownership of the TMS project, as well as tap expert resources from the three countries. The MCWG regularly convenes two to three times a year, with funding and support from the GEF/UNDP Prespa project.

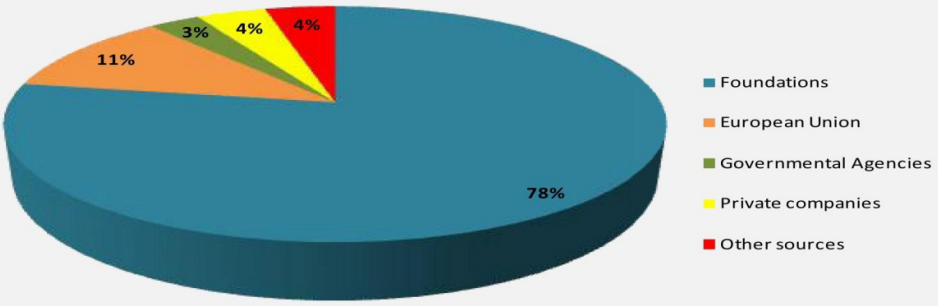
The next stage of the TMS process involved the development of an Expert Study. Trilateral thematic expert groups consisting of experts from the three littoral countries, and leading international experts from France, Austria and the USA met in the Prespa area in 2009 and worked on seven monitoring themes: water resources; aquatic vegetation and habitats; forests and terrestrial habitats; fish and fisheries; birds and other biodiversity; socio-economics; and land-use.

The Expert Study also recommended the national institutions that should be responsible for the future monitoring system, whenever it will be deployed – in accordance with national legislation, the conclusions of the trilateral thematic groups and the recommendations of and the supervision by the MCWG members. The final draft of the Expert Study was presented to the MCWG in November 2009.[746] The development of the Expert Study was followed by the purchase and installation of equipment, supported by the GEF/UNDP Prespa Park Project, the SPP and the national monitoring institutions.

The importance of international donors in the functioning and implementation of different projects and initiatives in the basin can be deduced from the data published on the official website of the SPP. As the following chart shows during the previous year (01/07/2011 – 30/06/2012), the income from foundations amounted to 78% of the entire amount, with income coming from the EU reaching 11%, from governmental aid agencies 3% and from private companies 4%.

[746] Owen McIntyre, *'Enhancing Transboundary Cooperation in Water Management in the Prespa Lakes Basin (Greece, FYR Macedonia, Albania), United Nations Development Programme (UNDP) Consultant Report,* 2008, p. 3.

Figure 10.2. Income Sources



Income 2012	2012	2011
Foundations	821.774	820.349
European Union	118.318	142.397
Governmental Agencies	31.838	18.611
Private companies	43.000	-
Other sources	43.313	17.148
Total	**1.058.243 €**	**998.505 €**

747

10.6Making Progress

Since the 2000 kick-off of high level meetings almost 13 years have passed. During this period a number of steps and actions have been taken in order to promote an integrated water management approach combining institutional capacity building and scientific research. As already mentioned, these steps included the creation of the PPCC and scientific projects, such as the GEF project, aiming to improve cooperation and ensure environmental conservation. Within this context, representatives from the water authorities of the three littoral states held, in autumn 2006, their first joint meeting as a parallel session to the 9th PPCC meeting in Korcha, Albania. With the closure of the discussion, the representatives decided to establish an *ad hoc* trilateral working group with an emphasis on water management issues in order to develop a transboundary monitoring system in the basin. The GEF/UNDP project contributed to the composition of a draft proposal by providing recommendations for the working group, which were discussed later in 2008 at the second meeting of the water management authorities in Pyli, Greece. Moreover, in 2007 another four-year project commenced with the involvement of experts from the littoral countries. It was a project focusing on the development of a joint environmental monitoring system (Transboundary Monitoring System). It was

747 Available at: http://www.spp.gr/spp/index.php?option=com_content&view=article&id=5&Itemid=5&lang=en

implemented by the SPP with the assistance of the Tour du Valat, a French research centre and in coordination with the ongoing GEF/UNDP project.[748] In 2011, the original TMS was revised by a group of national water experts. The revision was based on the WFD 2000/60.

Yet, the lack of further progress was due to the absence of an in-depth and formalized cooperation between the three countries. According to Mantziou and Gletsos 'the adoption of joint management measures in sectoral areas, such as water management, faced difficulties due to the lack of a binding commitment amongst the states.'[749]

In November 2009, however, during the tenth anniversary of the Prespa Park, the Prime Ministers of the three countries met in Prespa, expressing their willingness to advance transboundary cooperation through the adoption of an intergovernmental agreement on the protection and sustainable development of the basin.[750] The three leaders made a commitment to establish appropriate mechanisms for the development of joint strategies, plans and measures for the effective conservation and management of the region. Particular reference was also made to integrated water management initiatives.

Later on, in February 2010, at a ceremony in Pyli, Greek Prespa, the Ministers of Environment of the three littoral states with the presence of the European Commissioner for the Environment signed a legally binding agreement for the Prespa Park, restating their commitment for the fortification of this unique ecosystem.[751] This was undoubtedly a significant step forward as it set up a solid legal frame for cooperation and integrated water management, fulfilling at the same time the efforts of various stakeholders which had been closely and intensively collaborating towards this goal for the last ten years.

EU involvement in the aforementioned agreement was central to its success. Indeed, the EU participation as a party in the Prespa Park Agreement underlined the importance of this particular basin for Europe, demonstrating the EU Commission's

[748] Miltos Gletsos, Molnar Kolaneci, Svetislav Krstić,, Vaso Tsiaousi, Giorgos Parisopoulos, 'Towards Transboundary Water Monitoring in the Prespa lakes', *BALWOIS, Vth International Scientific Conference on Water, Climate and Environment,* Ohrid, FYROM, 2012, p. 2.
[749] Daphne Mantiou, Miltos Gletsos (2011), p. 250.
[750] Ibid.
[751] Ministers of the Environment of Albania, Greece and the Former Yugoslav Republic of Macedonia and the European Commissioner for the Environment (2010) Joint Statement on the Agreement on the Protection and Sustainable Development of the Prespa Park Area, 2 February 2010, Pyli, Greece, http://europeandcis.undp.org/ourwork/environment/show/455BAE59-F203-1EE9-BDAFA4FCAD67CAE0

willingness to support and promote cooperation in the region. As the 27 June 2006 decision of the Council initiated, the EC participates in negotiations aiming at the conclusion of international river basin agreements with the ultimate goal being the radical improvement of cooperation in European river basins shared between certain member states and third countries.[752]

As far as the agreement itself is concerned, it has brought new developments regarding the management of the basin. Initially, the PPCC was replaced by the Prespa Park Management Committee (PPMC). The new institution would consist of representatives of the Ministries of Environment, the local communities, the protected area management authorities, environmental NGOs and the EU, as well as of two permanent observers, one from the MedWet/Ramsar initiative and the other from the Ohrid Management Committee. A high-level segment consisting of the Ministers of Environment and the EU representative will hold regular meetings to prepare the agenda, provide political guidance and review progress.

One of the pillars of the agreement is the commitment of the parties to promote IWM within the EU legislative framework and in particular the WFD (Article 5). Additionally, in order to achieve the required quantity and quality standards, the Agreement provides for the establishment of a trilateral working group on water management (Article 14). The working group will consist of representatives of the competent authorities and stakeholders of each state and will serve as a technical expert body of the PPMC to facilitate coordination of efforts for integrated water management, as reflected in the EU WFD.

Nevertheless, it should be noted that the Agreement, though already approved by the EU, has not been ratified by Greece, which paradoxically was its most prominent supporter among the three littoral states.[753]

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[752] http://www.google.gr/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=4&cad=rja&ved=0CEkQFjAD&url=http%3A%2F%2Feuropa.eu%2Frapid%2Fpress-release_PRES-06-192_en.doc&ei=YhN0UZvoK4nVswaI64HoDw&usg=AFQjCNEy1KZhkyfFDXQVVwaYjiMpAUJdug&sig2=dte4C3AfnquCDsSNPyp8yg

[753] SPP Press Release, *Prespa Park 2000-2013: Time to take new initiatives*, 1st February 2013.

10.7 Cross-border Cooperation and Development: Tourism in the Prespa region.

One of the major instruments for achieving cross-border cooperation was the "Interreg" programme. In 1991, the European Commission recognized that border regions were disadvantaged, and thus "Interreg" programmes became a tool for development and especially job creation. Throughout the years of implementation of cross-border programmes, it became clear that closer cross-border contacts boosted trust particularly to the point where important joint conservation works took place.[754]

A principal goal for all the European Territorial Cooperation programmes is sustainable development in the targeted regions. According to the famous Brundtland report (1987) "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Within this context, the social and economic challenges that people face are tied together with the carrying capacity of natural systems. In the examined cross-border region a way to achieve this is controlled tourism. As already mentioned, the Prespa Lakes is a very successful case study where local groups with support from international NGOs like theWWF and the GEF, have contributed to the promotion of sustainable use of this unique environment.

According to Petrescu, traditionally tourism has the capacity to strengthen local economies. However, in its general form, the impact that tourism may have on natural resources, consumption patterns, pollution and social systems can be crucial.[755] Thus, there is a need for sustainable/responsible planning and management. The tool to achieve such an ambitious objective is through sustainable and responsible tourism practices.

Although there is not a precise definition of sustainable tourism, the most widespread way to understand it is by applying the basic principles of sustainable development. Thus, sustainable tourism has been broadly defined as "tourism which is economically viable but does not destroy the resources on which the future of tourism

[754] David Turnock, 'Cross-border cooperation: A major element in regional policy in East Central Europe', Scottish Geographical Journal, 118:1, 2008, p.27.
[755] Dacinia Petrescu, 'Tourism, nature protection and responsibility', *Quaestus multidisciplinary research journal,* (undated), available at: http://www.quaestus.ro/en/wp-content/uploads/2012/02/TOURISM-NATURE-PROTECTION-AND-RESPONSIBILITY.pdf

will depend, notably the physical environment and the social fabric of the host community."[756] Putting it differently, sustainable tourism is about the interaction between the needs of the visitor, industry, community and environment.[757] Should all these stakeholders perform in harmony, the outcome would be equally distributed leading to a win-win situation.

The role of the stakeholders was also described with the adoption of a new term – "responsible tourism". Although, the differences with sustainable tourism are not too palpable, the new term that was introduced at the Cape Town Declaration in 2002, attempted to clearly stress the role that stakeholders should play. This term put an emphasis on the responsibility that all who are involved should show. As Petrescu states, responsible tourism is about 'the legacy and the consequences of tourism.'[758]

Going back to the examined area, the Prespa Region is situated at the border of Albania, Greece and fYROM. Although it lies in a relatively peripheral location from the main tourism routes of the three countries, its unique and comparable advantage is its natural beauty. Yet, as Gottfried Hilz-Ward correctly observed in 2008, despite the valuable and plentiful tourism resources, the tourism industry is in its infancy and has never truly reached its potential if one compares Prespa with Ohrid Lake for instance.[759]

Moreover, during the previous years there was a slightly unequal development of tourism infrastructure with the Greek side of Prespa benefitting considerably from EU programmes, such as LEADER or Interreg, especially as small-scale public tourism infrastructures are concerned. On the contrary, tourism in the Korca region, which is concentrated mostly in tourist villages in Prespa, faces the problem of the absence of communities in the process of building, developing and implementing plans and strategies. According to Shkira et al, 'communities in these areas are good oriented in agriculture but not sufficiently informed in tourism impacts and benefits.'[760]

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[756] John Swarbrooke, *Sustainable tourism management,* Wallingoford/New York: CABI publishing, 1999, p. 13

[757] Esmeralda Shkira, Stela Zoto, Oriola Theodhori, 'Community based tourism, a strategy for sustainable tourism management in Korca Region', (undated) p.1, available at: http://marketing.ue-varna.bg/resources/15/COMMUNITY_BASED_TOURISM.pdf

[758] Dacinia Petrescu (undated), 17.

[759] Gottfried Ward Hilz, 'Preparation of a Tri-lateral Tourism Strategy and Action Plan for the Prespa Region A situational analysis and proposal', GEF, 2008, p.5.

[760] Esmeralda Shkira et al (undated), p. 4.

Yet, the National Parks and the trilateral agreements mentioned earlier in this text have clearly shown that cooperation is not something unknown. In fact, it is based on this legacy that more joint efforts focusing on development should take place, constructed around the value of environmental sustainability. Besides, within the SAP the objectives of the Prespa Park include both environmental protection and sustainable economic and social development.

> Objective I: Conservation of ecological values and functions of the biological diversity in the Prespa Park area.
>
> Objective II: Enhance opportunities for the sustainable economic and social development of the local societies and the prudent use of natural resources for the benefit of nature, local economies and future generations.
>
> Objective III: Preservation of cultural values such as monuments, traditional settlements and traditional human activities and cultural elements that promote the sustainable management of natural resources.
>
> Objective IV: Seek participation, co-operation and involvement in decision-making and in benefit- or loss-sharing of stakeholders in the three countries.[761]

Thus, building upon the progress made so far with the National Parks and the other joint initiatives mentioned earlier, more recreational and learning opportunities for incoming visitors should be provided, while at the same time the local population in both parts should be better informed about the potential of sustainable tourism.

[761] As found in: Gottfried Hilz-Ward , Preparation of a Tri-lateral Tourism Strategy and Action Plan for the Prespa Region: *A situational analysis and proposal,* 20 December 2008, GEF.

10.8 SWOT Analysis of the Prespa case study

From the analysis so far the conclusion that can be reached is that in contrast to the other cases of transboundary rivers that Greece, Albania and FYROM share, in this particular case positive outcomes have been realised. Entering into a SWOT analysis of this interesting case will help congregate all the variables that have contributed to the current situation as well as identify those that could impact future developments.

A strength, of course, is the significant ecological importance of the complex as well as its meaning for the local economies, which was understood by all three littoral states. This was coupled with the interest in this site from both organized civil society, mainly in Greece, as well as the mobilization and finally the involvement of international donors towards the improvement of its ecological status. Unquestionably, the European Union's policies to boost development of bordering regions, such as those lying in the Greek, Albanian and FYROM parts, through funding bilateral projects, along with Greece's willingness to play a more active role as an EU member in the region, were crucial to the initiatives taken, and their success.

A weakness, which has notably been overcome, was the unstable relations between the three states which still have open issues on their agendas. Also, the fact that the three states were in different institutional as well as development-related positions could also work to impair the development of a cooperation dynamic.

Opportunities are still present and are attached mostly to the European prospect of the two out of three littoral states, Albania and FYROM. With these two nations eager to join the EU, the situation can be further improved. Meeting EU standards and following EU requirements and directives will enhance communication between the three countries and thus improve the organizational capacity of the trilateral management body in the complex, harmonizing the administrative structure of the three states. In addition, a potential EU accession could work as a catalyst for the solution of all open issues and the improvement of the climate between the nations engaged in Prespa's management.

A potential threat is always the possibility of the failure of the EU scenario, which could worsen relations between Greece as an EU member and the other two nations. Misconceptions could again come to the forefront of the discussion and perhaps all the success so far would be abandoned as a response to nationalistic rhetoric. Such a scenario might have a domino effect on the involvement of third parties, such as international donors and organized civil society, since they would no longer have grounds to promote and establish cooperation channels towards an effective integrated water management approach.

10.9 Conclusion

The Prespa Lake case study is a striking example of a generally successful collaboration between littoral states aiming to establish a framework for the protection of the basin. While, initially each littoral state attempted to do so by establishing environmental parks, a shift occurred in 2000 with the high level meeting between the prime ministers of the three states.

Nevertheless, the role of third parties including NGOs and international donors was crucial for this progress. The role of NGOs was twofold since they contributed to the mobilization of state authorities and at the same time they managed to attract funding for the support of the various initiatives. International donors have engaged in different ways and on different levels. Since the mid-1990s, German bilateral development assistance funds have been providing institutional and technical support to the National Parks in Albania and FYROM from the KfW (German Bank for Reconstruction), engaging at the preparatory stages of the trilateral cooperation. The donor community continued to stand by the initiative, providing the means at practical level such as the establishment of monitoring systems. International donors also contributed to setting up the legal framework for the institutionalization of trilateral cooperation. This was mainly achieved through EU involvement in the 2010 Agreement, as well as with the 2000/60 Water Framework Directive.

All these indicate that in the Prespa case, international donors have engaged at different stages, adopting different strategies. From strictly funding assistance, to capacity

building of existing structures and construction of legal frameworks, international donors have participated actively in the success of the Prespa initiative. They have both mobilized cooperation and been mobilized to provide support, making their engagement instrumental for the fulfillment of the implemented projects.

The success of the Prespa Lake project has occured despite the negative political climate between the three littoral states. It is widely accepted that the three states have important bilateral issues to solve such as the well-known name dispute between Greece and FYROM; yet this initiative has been perceived by many as a positive development for the improvement of relations between the littoral states. Even if this not the case *per se*, the Prespa initiative has managed to bring representatives from all the riparian states to the same discussion table, creating constructive communication channels. A characteristic example was the 2001 meeting in Thessaloniki held by the PPCC where representatives from both Albania and FYROM were present, despite the fact that it occurred during a period of intense political unrest in FYROM, with government forces practically fighting against ethnic Albanian insurgents in the north and west of the country.[762] However, the view that the Prespa Initiative could work as a "Trojan horse" to enhance cooperation and improve relations between the three littoral states can not be considered credible, since despite the progress on this issue so far, no connection can be made directly to other problems that remain unresolved.

[762] Ioli Christopoulou, Vivi Roumeliotou (2006), pp.337-338.

Chapter 11

Conclusions

The **main hypothesis** of this thesis was that trans-boundary freshwater resources have an important impact on the relations among the states sharing them. To this end, the main research question was whether the challenges for the management of trans-boundary freshwater resources promote conflict or cooperation. Our conclusion is that transboundary water resources promote cooperation. Yet, it is impossible to actually predict what the future holds.

This research's area of focus was the Balkan Peninsula, and particularly trans-boundary freshwater resources in which Greece is a riparian or littoral state. This choice was made mostly because, after preliminary research, it became clear that this is an understudied area, but one that is of tremendous academic interest due to a number of peculiarities in historical, geographical, economic and political developments that have been explained in depth in the preceding chapters. **Our hypothesis was that due to the importance of these resources for the local and national economies of the states sharing them, their case would be of particular interest.** Thus, the specific question this thesis answers is whether or not these particular trans-boundary freshwater resources have created a fertile ground for cooperation between Greece and her neighboring countries regarding their management. Therefore, the evolution of the management of these resources has being analyzed in depth from different perspectives and using a number of variables, such as politico-historical, administrative and legal factors in each of the case studies.

There are many conclusions that have been reached, depending on each particular case study but also beginning from the theoretical chapters as well. **The most important conclusion, however, is that while trans-boundary freshwater resources are placed on the foreign relations agendas of both Greece and its neighbors, very little progress has yet been made in setting up a realistic and sustainable framework of cooperation for their management, with the exception of the Prespa Lakes. This, however, does not necessarily mean that there is a high potential for conflict. On the**

contrary, what is more noticeable is a state of lethargy in moving things forward, demonstrating that there are other issues worrying these states.

But before summarizing the conclusions deriving from the analysis of each case study, let us summarize the main answers to a set of working hypotheses that have been presented at the beginning of this thesis and set the overall framework for this research.

The first working hypothesis is that the environment has become a political issue and thus it constitutes a research agenda for political science. This hypothesis has been confirmed in the first chapters of this thesis. Indeed, environment has gradually become a political issue. As was mentioned in Chapter 2 the term "Green Politics" can be traced back to the 1950s. This term has progressively become a "political fashion" and used to be linked mostly with the "radical ideas and policies of Green political parties."[763] In the 1970s the environment was internationalized as a political issue through the United Nations Conference on the Human Environment held in Stockholm from 5 to 16 June 1972. Almost simultaneously, the governments of important states, like France, began introducing a host of measures in response to the growing demand for environmental protection. Later on, in the early 1980s, the concept of sustainable development was introduced by the UN Secretary General, Gro Harlem Brundtland, the former Prime Minister of Norway.

The second working hypothesis that was also confirmed was that environmental resources are closely linked to the security of a state. This conclusion derived from the analysis of environmental security as a term in Chapter 2. In fact, the term "environmental security" is used in two ways. The first focuses mostly on the protection of the environment, an "ecological" security which requires collective action on the grounds that environmental problems are universal. This is mostly the view of the United Nations, which defines environmental security as the quest for relative stability of Earth's ecosystems against human acts (e.g. global environmental change, greenhouse gases, etc.). On the other hand, environmental security has the meaning of securing the environment and environmental resources (renewable or non-renewable) in order to maintain the security of the state, its citizens and its institutions. This definition reflects

[763] Robert Garner, *Environmental Politics,* Howdmills: MacMillan Press, 2000, p. 3.

the belief that environment should be taken into consideration along with the security of the state; thus nation-states should still work toward ensuring environmental security.

The third working hypothesis is based on the great value of trans-boundary freshwater resources, which has gained attention internationally due to the impact of freshwater on large populations across the globe. The data presented in the introduction clearly justifies this hypothesis. More precisely, while there is an abundance of water on earth, only approximately 2.7% is potable with most of it isolated and inaccessible in the form of ice in the poles and on the top of mountains. In addition, the growing global population requires an increase in agricultural production. This has a direct impact on freshwater resources, since 73% is used for agricultural purposes.[764]

In addition, almost 40% of the world's population lives within the basins of international rivers, and, as Sadoff and Grey wrote, over 90% of the world's population lives within the countries that share these basins.[765] According to existing data there are 263 trans-boundary lakes and river basins that cover almost one half of the Earth's land surface. These basins represent approximately 60% of the global freshwater flow, while 145 states share the sovereignty of these basins and 30 countries lie entirely within them.

The fourth working hypothesis was that the lack of an internationally accepted institution dealing with trans-boundary freshwater resources, as well as the lack of internationally accepted binding rules, weakens the relationships among the states sharing trans-boundary freshwater resources. Indeed, as was analyzed in-depth in the main text, much academic debate has focused on the relationships of states sharing transboundary freshwater resources. The potential for conflict was examined, and the conclusion was quite revealing since up to now, history has provided us with numerous examples where freshwater resources worked as a motive for cooperation rather than conflict. Yet, there is also no doubt that, as water scarcity increases due to a variety of reasons like climate change or the growth of global population, the prospect of a violent conflict cannot be ignored, especially in those areas where the levels of available freshwater are insufficient to cover the needs of the populations sharing them.

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[764] Alexandre Kiss, Dinah Shelton, *Manual of European Environmental Law*, Cambridge: Cambridge university press, 1997, p. 290

[765] Claudia W. Sadoff and David Grey, 'Cooperation on International Rivers. A Continuum for Securing and Sharing Benefits', *Water International,* Vol. 30, no. 4, December 2005, p.1.

The validation of the aforementioned hypotheses was the motivating factor for this thesis. They became the foundations for the analysis that followed, revealing the great significance that trans-boundary freshwater resources have for the states sharing them. To this end, the author approached the six case studies that were analyzed in the main text with these basic hypotheses in mind. Yet before explaining the main findings of the analysis, it is important to summarize the basic points that were examined so as to reach the main conclusions.

The **fifth working hypothesis** was that the particular case studies analyzed in this thesis may share some common characteristics defining them. Indeed, from the analysis presented in the main part comes out that the general rule embodied in all the case studies but the Prespa lakes is that transboundary freshwaters are not being placed within the first places of the states' foreign policy priorities agendas. This results in low density levels of cooperation attempts and almost an absence of signed agreements or better put it agreements in effect.

The Variables

The dependent variable of the research is the lack of an integrated trans-boundary freshwater resource management plan in the case studies analyzed. Why this deficiency exists and what impact it might have on the relationships of the riparian states were the main research questions throughout the analysis. These questions were addressed by examining a number of independent variables: political relations in a historical perspective; weaknesses in administrative capacity; the different uses of the rivers covering different kind of needs; differences in national legal frameworks; and the regional context - especially the role of the EU.

The case studies

The case studies that were examined, especially the trans-boundary rivers Evros, Nestos and Strymonas, fit into the theoretical discourse regarding environmental security. Initially, the fact that there is no precedent of conflict and also the fact that there has been progress toward cooperation signal the dominance of the cooperation scenario, following the international trend. However, the initial agreements also verified the triumph of

environmental security, in terms of utilization of the waters and implementation of norms of customary law. Environmental security was linked with state security, and to this end initial agreements focused on quantity rather than quality issues. However, the progressive shift towards environmental security in terms of sustainable development and protection of the environment was obvious. In any case, however, various deficiencies as well as politicization of the rivers' management has resulted in a slow process of replacing norms of international water law with those of international environmental law, and thus retaining cooperation at a very low level. Nevertheless, each case study examined enjoys some unique characteristics that are presented in the five chapters.

Chapter 5 deals with the Evros River case study. This is the only trans-boundary river where Greece is a riparian state and that is shared by more than two states. Of course there are also common characteristics with the other case studies examined in this thesis, like the fact that one of the riparian states, in this case Turkey, is not an EU member. Yet there are also features that designate the Evros as a unique case. First and foremost, we are talking about the second longest river in the Balkans, after the Danube, with a length of 430km. Second, almost 20km of its length constitutes a Greek-Turkish border. This means that the Evros is practically an EU boundary, whatever that means in term of security, migration and so on. Thirdly, it is not a boundary between two friendly neighbors. On the contrary, it belongs to a militarized region, due to the antagonism among Greece and Turkey. Bulgaria, the upstream riparian, which despite being an EU member state is still behaving irrationally not only towards Turkey but also towards Greece, should also be added to the equation.

Within this framework and after a thorough analysis of various issues related to Evros management, a number of conclusions were presented in the form of SWOT analysis. The first conclusion is that the river and in particular its Delta area is extremely important in environmental terms, enjoying strong protection. This, coupled with the cultural diversity across the river, means that it is an area of vast cultural and environmental interest that could be the basis for joint initiatives exploiting its potential (touristic, developmental etc.) among the riparian states. Another important strength, not of the river *per se,* but of the region in general that has had positive effects in building an integrated cooperation scene is the fact that it receives a large portion of EU funding for development purposes and reconstruction. This has the result that infrastructure, such as

the road network, is developing quite rapidly, making the region more easily reachable, and thus improving the possibilities of closer cooperation at a national and international level. The river's strong potential is also represented by the great diversity of agricultural products that are produced on both the Greek and Turkish side, as this could be a contributing factor to further cooperation at the transnational level.

All these factors have played an instrumental role in leading local authorities from the three riparian states to initiate attempts to build up joint cooperation initiatives. To this end, in November 2003 a meeting was organized in Xanthi where representatives of the Prefectures of Evros, Rodopi, Xanthi, Drama, Kavala, and Serres in Greece, Haskovo, Kardzhali, Smolyan, and Blagoevgrad in Bulgaria and Edirne in Turkey participated.[766] The participants unanimously decided to create a network of cross-border collaboration of Prefectures. The aim of this cooperation would have been daily communication for common action to be undertaken tackling routine issues of common interest, such as dangerous meteorological phenomena or issues related to environmental pollution. A step forward was agreed upon on January 2005 during a meeting that took place in Orestiada, where the parties agreed to improve collaboration concerning issues of natural destruction, pollution and industrial accidents.

Yet, and despite the positive intentions mentioned above, the reality is different, as the analysis has shown. Cooperation remains at low levels while communication is quite problematic. The reasons are many. For instance, taking as a first example Greece, the decision-making process at the national level regarding issues related to Evros management can be characterized as complicated at best. The number of authorities involved in the management of water resources at the national and local level works only as an obstacle for the formation of an integrated management plan. However, the situation is not very different in the other two riparians as well. For example, in Bulgaria, jurisdiction on issues concerning the Maritza River are scattered among the Ministry of Environment and Water, the Ministry of Regional Development and Public Works, the Ministry of Health, the Ministry of Agriculture and Forestry, the Ministry of Finance, the National Institute of Meteorology and Hydrology and the representatives of Municipalities of the region. As far as the Turkish side is concerned, jurisdiction is in the hands of the Ministry of Environment, the Ministry of Energy and Natural Resources and

[766] http://www.netgbt.com/cgs.cfm?areaid=1&id=735

the local communities. The General Directorate of State Hydraulic Works (DSI) is responsible for all water resources (surface and ground waters) and has the responsibility of controlling, planning and implementing all works. Thus, overlapping competences and fragmentation of responsibilities among different institutions and management agencies are a continual occurrence resulting in setbacks concerning the creation of an integrated plan. Moreover, as the research has revealed, further attempts towards decentralizing authority and transferring more jurisdiction and power to the local level further complicates the situation.[767] Another negative characteristic that can be seen in this case study, though not exclusively, is the various uses of the Evros for the three riparian states. For instance, Bulgaria uses the River as a source of electric power. This, which by the way creates the extensive flooding that take place twice every year in the downstream states, forces the country to withhold vast quantities of water in their reservoirs so as to secure a steady energy production. Therefore, in times of excessive rainfall, Bulgaria in an attempt to deter possible flooding in its territory opens the sluice gates, sending extremely high quantities of water to the other countries. This need is in contrast to those of the two downstream riparians. Greece and Turkey mostly use the River's waters for agricultural production, therefore flooding incidents cause severe economic losses for the farmers of the region, not to mention the properties that are destroyed every year in both the downstream riparians.

Other important development plans for the region might also have a positive impact for the management of the river. A striking example that was mentioned in the analysis was the Burgas - Alexandroupoli energy pipeline. Such projects could have brought the region to the fore of international discussions, impacting the situation in a positive manner by including the Evros as a potential sub-project. Yet the fact that this specific project remained only on paper limited this potential.

Opportunities, however, for the promotion of cooperation among the three riparians are not limited to such projects. The EU's enlargement agenda could also push for cooperation. Such an agenda includes programmes like Interreg. The Interreg Programme III A Greece – Turkey Programme 2000 – 2006, mentioned in the analysis, aims to support economic development and counteract the barriers which exist in the

[767] United Nations Economic Commission for Europe (ECE), Meeting of the Parties to the Convention on the Protection and Use of Transboundary
Watercourses and International Lakes, 29 April 2011, p. 8.

border region.[768] In fact, one of the priority axes, axis no 3 is devoted to enhancing cooperation through environment and culture (Quality of Life, Environment and Culture). As mentioned in the main text, the project set as an objective 'the sustainable management of ecosystems and water resources through joint cross-border initiatives and actions, in conjunction with the use of renewable sources of energy.' Within this context, water resource management, as a priority, takes a prominent place. As is clearly stated 'Priority will be given to the integrated management of the cross-border waters in accordance with Directive 2000/60/EC.' [769] Moreover, the programme has pointed out 'actions to protect and manage water resources (integrated management and protection of rivers, development of systems to effectively manage water resources, promotion of systems for saving water, development of infrastructures to monitor water resources, actions aiming at the sustainability of fishing, actions concerning the management of coastal areas, interventions to reduce the disposal of waste, development of infrastructures to provide information and education about the environment, and actions whose aim will be to sensitise people to the need of water resource management).[770]

Yet, EU accession is not a panacea. For example, Bulgaria's EU accession has not brought significant changes regarding the establishment of an integrated plan for cooperation. Even the WFD does not seem to have such a positive and direct impact on the way that the upstream riparian and EU member state behaves. Thus, a similar attitude could be expected regarding Turkey, a country that is undergoing accession negotiations. Besides, as was stated in the text, EU accession might also trigger a series of structural changes in the economies of the new Member States. For instance, economic growth following accession might change the energy demands of a country, leading it to seek more power from renewable resources, for instance, impacting neighboring states. In our case this can be very easily applied to the Evros River, since Bulgaria's EU accession and the prospect of economic growth could definitely impact the ways the country uses river resources in the future.

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[768] Interreg III, Strategy and Objectives available at: http://www.interreg.gr/default.aspx?lang=en-GB&loc=1&page=310

[770] Interreg III A/Greece – Turkey: DETAILED DESCRIPTION OF ELEMENTS AT PROGRAMME MEASURE LEVEL, p. 31-32 available at: http://www.interreg.gr/default.aspx?lang=en-GB&loc=1&page=400

The Nestos and Strymonas Rivers, which were analyzed in Chapter 6, have similar characteristics with the Evros as well. The upstream riparian is the same, Bulgaria. There are issues of pollution as well, while their Deltas also have high environmental value. In addition, these two rivers are being used for various purposes, like the Evros. From agricultural and water supply to energy production, the river is a very important factor for the development of local economies. Yet, they are not as complicated cases as the Evros. This is due to specific characteristics. The Nestos and the Strymonas are shared only by two riparians, Bulgaria and Greece. Both the riparians are EU member states. Finally, in contrast to the Evros and to the other case studies examined in this thesis, Nestos management is specifically based upon a bilateral agreement signed in 1995.

Despite the 1995 agreement, however, things are not running smoothly, as one might expect. In fact, following a thorough investigation and evaluation of the agreement it turned out that it is the agreement itself that causes problems. Regardless of the adoption of international principles and norms, and despite the cooperation discourse that is present throughout the text, the truth is that the agreement remains practically inactive.[771] Moving to the practical part of the agreement, a negative development was the significant attention paid by the Greek side to the amount of water flowing yearly into Greek territory, which has left many other issues untouched or unclear, while specific issues regarding its enforcement are not clearly stated. For instance the agreement does not foresee the goal of a joint management plan or even the preparations for a future accomplishment of such a plan.

More importantly, the research has revealed that in practical terms the two countries did not prioritize the creation of a thorough management plan for the whole catchment. They rather focused on how to overcome the water allocation issue. Therefore, instead of an integrated plan covering the whole area of the river basin, each country created its own strategy for its water resources. As a result, the catchment is divided into two parts with two different and independent management plans. For example, as far as the Greek part of the river is concerned, such a plan was scheduled by the Public Power Corporation (DEH) of Greece and approved by the Ministry of

[771]Yanni Mylopoulos, Elpida Kolokytha, D. Vagiona, E. Kampragou, E. Eleftheriadou, 'Hydrodiplomacy in Practice:Transboundary Water Management in Northern Greece', *Global Nest Journal,* Vol 10, No. 3, 2008, p. 289.

Environment (KYA 18492/19-09-1996). It was based on the 1995 agreement as well as on the requirements of the Ramsar Treaty.[772]

But even if we focus only on the Greek legislative network, noting that Greece is an old EU member state relative to Bulgaria, we could expect a more comprehensive approach towards creating channels of cooperation. Yet, in practice the reality does not meet our expectations. The legislative framework that was enacted in Greece in 2003[773] for harmonization with the WFD does not concern the policy that should be followed regarding the cooperation between Greece, Bulgaria, Turkey, FYROM and Albania for the management of the trans-boundary Rivers. So, the perception of the agreement remained unchanged. It is quite odd that the phrase 'trans-boundary waters' is only mentioned once within the legislative text, in order to state that the National Water Commission cooperates with the Greek Ministry of Foreign Affairs on issues of international waters.[774]

Moving forward, the conclusions from Chapter 7 are also not promising. The SWOT analysis tool that has been used to discuss the current situation and the prospects of the Axios River has revealed that while the river is very important for the local economies of both riparian states (in the river catchment, 60% of the land is used for agricultural purposes; there are 17 large dams for irrigation and flood control located at the River's tributaries in FYROM and also a small irrigation dam at its Delta),[775] this importance is paired with with the historical and unresolved bilateral issue of the Macedonia name dispute. This means that, while in any other case the importance of a trans-boundary river for both riparians would have inspired cooperation initiatives, in this case the two riparians think selfishly, not creating cooperation mechanisms due to their unsteady political relationship. This situation does not seem likely to change soon, since it is not likely that the two countries will reach an agreement under the current circumstances and with the current political leadership in Skopje. But, apart from the problematic bilateral relations there are also other issues and weaknesses that create extra

[772] Aris Psilovikos, Sophia Margoni, Antonis Psilovikos, 'Monitoring Water Quality Parameters of the Transboundary River Nestos', *American Journal of Applied Sciences,* 2 (4), 2006, p. 759.
[773] Law 3199/2003, Protection and Management of Waters, Official Gazette 280/A' 9-12-2003.
[774] A. Kallioras, F. Pliakas, I. Diamantis, 'The Legislative Framework and Policy for the Water Resources Management of Transboundary Rivers in Europe: The Case of Nestos/Mesta River, Between Greece and Bulgaria', *Environmental Science and Policy,* 9 (2006), p.297.
[775] Nikolaos Skoulikids, 'The environmental state of rivers in the Balkans—A review within the DPSIR framework', *Science of the Total Environment,* 407, 2009, pp. 2501-2516.

difficulties for the promotion of joint and collaborative efforts. Following thorough research on the administrative structures in both countries, it became clear that a variety of different and difficult-to-reconcile views exist. The diffusion of responsibilities within different administrative levels is at the least confusing, as there are cases where local authorities can take initiatives on specific issues while in other cases the ministry's opinion and permission is needed.

Even when it comes to discussing future prospects and opportunities that one could expect in the future, and particularly those deriving from a future FYROM EU accession that would automatically mean a harmonization of the country's national legislation with the EU *acquis,* once more the name dispute and slow negotiation process hinder any possible progress. Another opportunity, though too optimistic as well, is the utilization of the river as a navigation route. As mentioned earlier, many attempts have been initiated for the implementation of this ambitious project. Yet, and despite the fact that for experts mainly from FYROM and Serbia the benefits of the project would be important for all three countries connecting southern Europe to central and western parts of the continent, Greek political circles have shown poor to no response, indicating that the navigable channel has not been considered a serious option. These stalemates do not seem likely to fade away soon. Thus, as long as the overexploitation of the river continues without a concrete and strict trans-boundary management plan, the situation will continue to deteriorate, with permanent consequences for the environment.

To sum up the situation regarding the Axios River, the most crucial and determining factor in the years to come will be the progress around the name dispute, which will allow the two countries to put aside historical burdens and begin collaborating on practical issues, such as joint management of the river. Besides, finding a commonly accepted solution on this issue will eventually unblock FYROM's EU prospects, giving a stronger boost to the implementation of the EU *acquis* in the neighboring country. In addition, it should be underlined that the current lack of coordination of various actions that are required for the improvement of the river's status might also mean conflict of interest and lack of information exchange between the different institutions at a national level. The outcome is that the framework of water resource management remains incomplete and ineffective in both countries. Lastly, the fact that FYROM is showing great interest in expanding the use of the river for economic reasons, planning to

construct 12 hydropower plants along the river extending from Kosovo to the Greek borders, with the support of Chinese funds but without, however, consulting the downstream riparian might also negatively impact relations between the two countries, not to mention the environmental deterioration of the River.

In Chapter 8, the only case study where Greece is the upstream riparian was analyzed, the Aoos River. In contrast to the other cases where Greece is the downstream riparian, this one has some very interesting characteristics. The first is that the environmental status of this river is very good compared to the other trans-boundary rivers. This is due to Greece's EU membership, which imposes specific measures and rules that it has to comply with. Another characteristic has to do with the importance of the river as an energy resource. It is the only case where the upstream riparian does not consider the river as a potential source of hydro-electric power, thus limiting the potential of flooding in the downstream state. Yet, following the trend that was presented in all the other case studies, with the exception of the Nestos River, the historical past of the two riparian states and the suspiciousness of bilateral relations can affect the existing bilateral agreements and the work of the joint commission for the management of the Aoos. This is the biggest fear, since even the existing weak Albanian regulatory framework will be overcome with the introduction of the new legislation. Albania's EU accession prospect is also a great opportunity for the construction of a more effective integrated management plan in the future. Another threat compounding the problematic bilateral relationship is the prospect of the construction of several dams for energy generation on the Albanian side. While this development will not directly affect Greece as the upstream riparian, it has raised a lot of concerns from many environmentalists in the neighboring country and not only, since it could cause severe harm to the river's flow. Of course, the different kind of pressures mentioned in Chapter 8 are still a threat to the quality of the river's waters and an Albanian EU accession in the future could speed up the economic development of the country, thus causing more pressure on the waters.

Yet, it appears that despite all the problems between the two riparian states, the Aoos enjoys a good environmental status. Even so, concerns have emerged in the last two years, mostly from Albanian civil society, where environmentalists have expressed their

fears of dramatic changes due to the government's intention to construct several dams.[776] The EU *acquis* is a safety net, but that does not necessarily imply that the pressure on the river will remain at low levels in the future.

In Chapter 9 an optimistic side of shared waters' management is presented. The case study analyzed, the Prespa Lakes complex, is a striking example of a generally successful collaboration between littoral states aiming to establish a framework for the protection of the basin. Very useful conclusions are drawn from the analysis of this case study. The first conclusion is that in order for cooperation initiatives to flourish, political will is required, especially from the most advanced state or regional power involved. Indeed, it was only when the Greek administration decided to change its policy regarding the country's presence in the region and relations with its neighbors in early 2000 beginning the construction of a more active profile and promoting herself as a guarantee of stability and cooperation in the region. Yet, as research has shown, this was not enough. Even if we accept that political will can trigger positive developments laying the foundations of the trilateral cooperation that followed, the difficulties that emerged made it clear that more help was required by different players. These were third parties, NGOs and international donors. In particular, as the evolution towards establishing trilateral cooperation has shown, the role of third parties and particularly NGOs was catalytic, since they contributed to the mobilization of state authorities and at the same time they managed to attract funding for the support of the various initiatives. The historical discussion has presented the engagement of international donors in national frameworks significantly before the establishment of trilateral cooperation. Their support was also evident and vital to the creation of the legal framework needed for institutionalizing trilateral cooperation. For instance, EU presence and support was catalytic to the 2010 Agreement, while with the 2000/60 WFD an important legal framework was created, supporting the institutionalization of the agreements. Moreover, the analysis has shown that international donors have engaged at different stages, adopting different strategies during the previous years. From strictly funding assistance, to capacity building of existing structures and construction of legal framework, international donors have participated actively in the success of the Prespa initiative. They have both mobilized

[776] http://www.top-channel.tv/english/artikull.php?id=5566

cooperation and been mobilized for providing support, making their engagement instrumental for the fulfillment of the implemented projects.

Another important conclusion from the examination of this very interesting and also promising case study is that all this progress was achieved despite the existing negative political climate among the three littoral states. It is unnecessary to list the various bilateral issues and historical burdens that have limited cooperation, but it is important to underscore that this initiative has been perceived by many as a positive development for the improvement of relations between the littoral states. Indeed, the Prespa Initiative has managed to bring to the same discussion table representatives from all the riparian states, creating constructive communication channels. A striking example was the 2001 meeting in Thessaloniki held by the PPCC where representatives from both Albania and FYROM were present, despite the fact that it was a period of difficult political conditions in FYROM with government forces practically fighting against ethnic Albanian insurgents in the north and the west of the country.[777] However, it is definitely not safe to generalize by arguing that the Prespa Initiative could bring an era of improved cooperation and better relations among the three littoral states, especially since other issues have remained unresolved, while fluctuations of the political climate between the littoral states is a very common phenomenon, without, however (and perhaps here lies the success of this case study) impacting the cooperation over the Prespa Lakes.

Putting things together, there are some general conclusions that can be summarized in a few lines. The first is related to the progress of bilateral cooperation on the management of the aforementioned river case studies. It seems that attempts for cooperation are more evident in those rivers where Bulgaria is the upstream riparian. These attempts date back to 1964, and validate the international norm implying that cooperation is the most usual scenario.

Yet, the first agreements followed the general international trend of treating water as a "commercial product" rather than "heritage" under protection. Riparian states, following the traditional IR theory of realism, and influenced by a past of politico-military hostilities, moved in the direction of claiming sovereignty rights over these

[777] Ioli Christopoulou, Vivi Roumeliotou, 'Uniting People Through Nature in Southeast Europe: The Role (and Limits) of Nongovernmental Organizations in the Transboundary Prespa Park, *Journal of Southeast European and Black Sea Studies,* vol. 6, no. 3, 2006, pp.337-338.

waters. This was the general concept of the agreements since the 1995 agreement over the Nestos River. The riparians took initial steps to build cooperation, embraced issues of utilization of the waters referring to the control over works being constructed on the river basins which could have severe negative impacts on the other riparians. However, even at this very early stage, cooperation prevailed since the overall objectives of the agreements focused on ensuring benefits for all the riparians by use of the waters. The agreements embodied the most common principles of customary law such as "restricted sovereignty" and "equitable use." Nevertheless, they failed to avoid fragmented cooperation measures, something which gradually changed with the 1995 agreement between Greece and Bulgaria on the Nestos and afterwards with the 2002 bilateral agreement between the two riparians as well.

Yet the analysis revealed that despite the agreements mentioned, cooperation has been slow and quite hesitant from all sides due to a variety of reasons such as insufficient administrative capacity, lack of trust stemming from hostile historical relations and lack of political will.

River	Number of riparians	Level of cooperation	Agreements in effect	Problems/Pressures	Causes of mismanagement
Evros	3	Low	No	Floods and quality issues	Political relations/different uses/complex decision making framework in national level
Nestos	2	Low	Yes	Mostly quality issues	Political relations/complex decision making framework
Strymonas	2	Low	No	Floods and quality issues	Political relations/complex decision making framework
Axios	2	Low	No	Mostly quality issues	Political relations/complex decision making

					framework
Aoos	2	Low	No	Limited quality issues	Political relations/complex decision making framework/low place in national agendas

In a nutshell, through attempting to make a cross-case study comparison, some very interesting conclusions can be deduced. The first is related to the hydro-hegemony paradigm as applied to the Prespa Lakes case study. Progress was achieved when Greece, the regional power at the time (the only EU and NATO member in the region enjoying military and economic security) decided to incorporate the management of Prespa, through the promotion of trilateral cooperation, into her broader foreign policy agenda towards the Balkans. This can be explained with the FPA tool. More precisely, it was the Greek administration's change of perception regarding the role that Greece should play in the region as its most powerful country that has catalytically impacted the decision-making process and resulted in this initiative's launch. In the Danube case, presented in Chapter 4, again the perceptions of the hegemon have driven the cooperation initiatives from time to time. Of course there are profound differences with the other case studies examined earlier, the most striking of which is that Prespa is a lake while the other transboundary waters are rivers, and thus there is a greater variety regarding their use. Yet, this example partially contests one of the Maryland School's arguments about cooperation on multilateral basins, since all three littoral states are included in the cooperation framework. Another interesting conclusion comparing the case studies is related to the 1995 agreement on Nestos management. This agreement was an outcome of bilateral negotiations that were intensified mostly because of the density of rainfall during the early 1990s, which was extremely low, threatening the operation of Greek hydroelectric dams as well as the sustainability of the river's Delta. The finalization of the agreement and the institutionalization of bilateral cooperation has confirmed Dinar's theory, presented in Chapter 2. Dinar has supported the idea that moderate scarcity can foster transboundary cooperation while abundance or extreme scarcity can threaten it. In the case of the Nestos, prior to the beginning of the negotiations, there was no urgent need for regulating the use of the river's waters, yet as soon as scarcity began became a

practical issue, the two states sat down at the negotiating table, finally reaching an agreement. However, in the meantime the level of yearly rainfalls increased, solving the problem and thus leaving the agreement almost inactive. The Evros case, in contrast to the Prespa lakes case study, confirms a component of the Maryland's School's theory. As described earlier, the Evros is the only river shared by three states. According to the Maryland School, when the number of riparians of a river increases, the potential of for integrated cooperation decreases. In fact, various examples around the globe verify the assumption that it is very common for bilateral agreements to be reached regarding rivers with three or more riparians, than agreements including all the riparians. The case of the Evros fully complies with this general rule. In fact, as was presented in Chapter 5, there are several bilateral agreements between Greece and Turkey, Turkey and Bulgaria and Greece and Bulgaria, but none with all three of them. Another common characteristic is related to the "friendship" status among the riparians, and whether this impacts any progress towards cooperation. Absence of formalized and institutionalized cooperation is present across all the examined case studies. Even in those cases where bilateral relations seemed to be moving forward, like between Greece and Bulgaria (both EU Members), other causes (like a problematic and intricate decision-making framework at the national level; or public opinion, also an area examined by FPA in order to explain decision-making processes) hinders the establishment of basic communication channels that could foster cooperation later on. Lastly, a final conclusion is that Greece's placement as an upstream riparian state does not seem to make a great difference to the promotion of cooperation, as the Aoos River case reveals.

The future

Making predictions for the future is something quite risky. Yet the only thing safe to say is that conflict is not expected at any level, but political accusations and complaints, especially as long as issues of flooding and pollution remain, are widespread. However, no one can predict precisely the impact that different factors can have on the waters of the trans-boundary rivers. In order for trans-boundary cooperation to move forward to more sustainable river management, a relative de-politicization of the measures related to water protection and management could be a first step towards

rationalization and systematization of the goals set by the existing agreements. Moreover, it is perhaps important that the riparian states sharing the examined rivers proceed in further amending the provisions of the bilateral agreements in force in relation to the WFD. In addition, the Prespa Lakes case study should be taken as a good example that could be a model of cooperation. Third parties should be motivated to engage in the management of the examined case studies either by providing funding for joint projects (like monitoring systems) or by providing capacity building. Therefore, the creation of a framework for partnerships and participatory practices and networking with stakeholders would be a great asset that could boost cooperation. The positive thing is that since 2002 there is an impetus towards enhancing cooperation for a more environment-oriented approach, including issues of sustainability of the preceding agreements of utilization, especially in the trans-boundary rivers coming from Bulgaria.

ANNEX 1

The Helsinki Rules on the Uses of the Waters of International Rivers

Adopted by the International Law Association at the fifty-second conference, held at Helsinki in August 1966. Report of the Committee on the Uses of the Waters of International Rivers (London, International Law Association, 1967)

CHAPTER 1. GENERAL

Article I

The general rules of international law as set forth in these chapters are applicable to the use of the waters of an international drainage basin except as may be provided otherwise by convention, agreement or binding custom among the basin States.

Article II

An international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.

Article III

A "basin State" is a State the territory of which includes a portion of an international drainage basin.

CHAPTER 2. EQUITABLE UTILIZATION OF THE WATERS OF AN INTERNATIONAL DRAINAGE BASIN

Article IV

Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.

Article V

I. What is a reasonable and equitable share within the meaning of article IV to be determined in the light of all the relevant factors in each particular case.

II. Relevant factors which are to be considered include, but are not limited to:

1. The geography of the basin, including in particular the extent of the drainage area in the territory of each basin State;
2. The hydrology of the basin, including in particular the contribution of water by each basin State;
3. The climate affecting the basin;
4. The past utilization of the waters of the basin, including in particular existing utilization;
5. The economic and social needs of each basin State;
6. The population dependent on the waters of the basin in each basin State;
7. The comparative costs of alternative means of satisfying the economic and social needs of each basin State;
8. The availability of other resources;
9. The avoidance of unnecessary waste in the utilization of waters of the basin;
10. The practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and

11. The degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.
III. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article VI
A use or category of uses is not entitled to any inherent preference over any other use or category of uses.

Article VII
A basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State a future use of such waters.

Article VIII
1. An existing reasonable use may continue in operation unle ss the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated so as to accommodate a competing incompatible use.
2. (a) A use that is in fact operational is deemed to have been an existing use from the time of the initiation of construction directly related to the use or, where such construction is not required, the undertaking of comparable acts of actual implementation.
(b) Such a use continues to be an existing use until such time as it is discontinued with the intention that it be abandoned.
3. A use will not be deemed an existing use if at the time of becoming operational it is incompatible with an already existing reasonable use.

CHAPTER 3. POLLUTION

Article IX
As used in this chapter, the term "water pollution" refers to any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin.

Article X
1. Consistent with the principle of equitable utilization of the waters of an international drainage basin, a State:
(a) Must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State;
(b) Should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a cobasin State.
2. The rule stated in paragraph 1 of this article applies to water pollution originating:
(a) Within a territory of the State, or
(b) Outside the territory of the State, if it is caused by the State's conduct.
Article XI
1. In the case of a violation of the rule stated in paragraph 1 (a) of article X of this chapter, the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it.

2. In a case falling under the rule stated in paragraph 1 (b) of article X, if a State fails to take reasonable measures, it shall be required promptly to enter into negotiations with the injured State with a view towards reaching a settlement equitable under the circumstances.

CHAPTER 4. NAVIGATION (Articles XII-XX)

CHAPTER 5. TIMBER FLOATING (Articles XXI-XXV)

CHAPTER 6. PROCEDURES FOR THE PREVENTION AND SETTLEMENT OF DISPUTES

Article XXVI
This chapter relates to procedures for the prevention and settlement of international disputes as to the legal rights or other interests of basin States and of other States in the waters of an international drainage basin.

Article XXVII
Consistently with the Charter of the United Nations, States are under an obligation to settle international disputes as to their legal rights or other interests by peaceful means in such a manner that international peace and security and justice are not endangered.
It is recommended that States resort progressively to the means of prevention and settlement of disputes stipulated in articles XXIX to XXXIV of this chapter.

Article XXVIII
1. States are under a primary obligation to resort to means of prevention and settlement of disputes stipulated in the applicable treaties binding upon them.
2. States are limited to the means of prevention and settlement of disputes stipulated in treaties
binding upon them only to the extent provided by the applicable treaties.

Article XXIX
1. With a view to preventing disputes from arising between basin States as to their legal rights or other interest, it is recommended that each basin State furnish relevant and reasonably available information to the other basin States concerning the waters of a drainage basin within its territory and its use of, and activities with respect to, such waters.
2. A State, regardless of its location in a drainage basin, should in particular furnish to any other basin State, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the regime of the basin in a way which might give rise to a dispute as defined in article XXVI. The notice should include such essential facts as will permit the recipient to make an assessment of the probable effect
of the proposed alteration.
3. A State providing the notice referred to in paragraph 2 of this article should afford the recipient a reasonable period of time to make an assessment of the probable effect of the proposed construction or installation and to submit its views thereon to the State furnishing the notice.
4. If a State has failed to give the notice referred to in paragraph 2 of this article, the alteration by the State in the regime of the drainage basin shall not be given the weight normally accorded to temporal priority in use in the event of a determination of what is a reasonable and equitable share of the waters of the basin.

Article XXX

In case of a dispute between States as to their legal rights or other interests, as defined in article XXVI, they should seek a solution by negotiation.

Article XXXI

1. If a question or dispute arises which relates to the present or future utilization of the waters of an international drainage basin, it is recommended that the basin States refer the question or dispute to a joint agency and that they request the agency to survey the international drainage basin and to formulate plans or recommendations for the fullest and most efficient use thereof in the interests of all such States.
2. It is recommended that the joint agency be instructed to submit reports on all matters within its competence to the appropriate authorities of the member States concerned.
3. It is recommended that the member States of the joint agency in appropriate cases invite non-basin States which by treaty enjoy a right in the use of the waters of an international drainage basin to associate themselves with the work of the joint agency or that they be permitted to appear before the agency.

Article XXXII

If a question or a dispute is one which is considered by the States concerned to be incapable of resolution in the manner set forth in article XXXI, it is recommended that they seek the good offices, or jointly request the mediation of a third State, of a qualified international organization or of a qualified person.

Article XXXIII

1. If the States concerned have not been able to resolve their dispute through negotiation or have been unable to agree on the measures described in articles XXXI and XXXII, it is recommended that they form a commission of inquiry or an ad hoc conciliation commission, which shall endeavor to find a solution, likely to be accepted by the States concerned, of any dispute as to their legal rights.
2. It is recommended that the conciliation commission be constituted in the manner set forth in the annex.

Article XXXIV

It is recommended that the States concerned agree to submit their legal disputes to an ad hoc arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice if:
(a) A commission has not been formed as provided in article XXXIII, or
(b) The commission has not been able to find a solution to be recommended, or
(c) A solution recommended has not been accepted by the States concerned, and
(d) An agreement has not been otherwise arrived at.

Article XXXV

It is recommended that in the event of arbitration the States concerned have recourse to the Model Rules on Arbitral Procedure prepared by the International Law Commission of the United Nations at its tenth session b/in 1958.

Article XXXVI

Recourse to arbitration implies the undertaking by the States concerned to consider the award to be given as final and to submit in good faith to its execution.

Article XXXVII

The means of settlement referred to in the preceding articles of this chapter are without prejudice to the utilization of means of settlement recommended to, or required of, members of regional arrangements or agencies and of other international organizations.

ANNEX 2

Annex 3

Agreement between the Republic of Turkey and the People's Republic of Bulgaria on the Cooperation of the Utilization of the Waters of the Rivers Flowing in the Territories of the Two Countries [own translation]

The contracting parties have agreed on the following issues: by informing each other, in general terms, on the facilities built or envisioned to be built on the rivers crossing both countries, and on Meric, Tunca, Degirmendere (Veleka) and Rezve rivers which constitute the border and the quality of water in these rivers;

By acknowledging the necessity for close cooperation in the use of these waters flowing in their respective countries for irrigation and other needs which are of vital importance for the economic development of the respective countries and which require necessary measures for protection against adverse consequences from floods and icing;

By indicating that development of the water resources through the application of science and technology are important elements for the welfare of their people;

Based on the principles of international law and good neighborly relations.

ARTICLE 1

The Republic of Turkey and the People's Republic of Bulgaria shall cooperate in examination and studying the facilities to be built and operated on the rivers flowing through territories of two countries which will be beneficial to both parties.

ARTICLE 2

The contracting parties have agreed not to inflict serious damages to each other by constructing and operating facilities on the rivers flowing through their territories.

ARTICLE 3

The contracting parties have agreed to exchange information on floods and icing instantly.

Additionally, the contracting parties agree to exchange hydrological and meteorological data on the rivers flowing through their respective countries.

The procedure of communication and exchange of data in this regard shall be determined with a technical protocol to be signed between the two contracting parties.

ARTICLE 4

If one of the parties requests the compilation, preparation and delivery of the data and information mentioned in article 3, and required only by the party making the request, the party making the request shall pay for the expenses made by the other party complying with the request.

The balances of these expenses shall be cleared every year. Formula in this regard shall be prepared in the protocol mentioned in article 3.

ARTICLE 5

The agencies mentioned in article 6 shall act in accordance with the principles of this Agreement by signing separate implementation agreements for each individual undertaking that will provide new mutual benefits and conditions to the contracting parties.

ARTICLE 6

Following the entering into effect of this agreement, the contracting parties, within three months, shall notify each other of the addresses of the agencies authorized to implement this agreement.

The meetings of the agencies mentioned in this article shall be determined and arranged through diplomatic channels.

ARTICLE 7

Turkish and Bulgarian languages shall be used in the meetings. The documents to be prepared jointly (technical data, protocols, decisions, etc.) shall be prepared in both languages.

The information, data, documents, letters etc. to be exchanged between the contracting parties shall be prepared in the language of the party submitting such documents.

ARTICLE 8

The disputes that may arise from the implementation of this agreement shall be referred to the Joint Turkish-Bulgarian Commission, comprised of experts of both parties in equal numbers.

Through diplomatic channels, the contracting parties shall inform each other about the appointment of the experts to the Joint Commission as well as the place, date of the meetings and related issues on the works of the Joint Commission.

If the Joint Commission cannot reach an agreement on the matters they are reviewing, these matters shall be resolved through diplomatic channels through negotiations between the contracting parties.

ARTICLE 9

This agreement shall be subject to ratification and shall enter into effect thirty days after the date of exchange of the ratification documents in Sofia.

This agreement has been prepared and signed in duplicate original copies in Turkish and Bulgarian in Istanbul on twenty-three October of the year one thousand nine hundred and sixty-eight, and both texts are equally valid.

ANNEX 3

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΠΕΡΙΦΕΡΕΙΑ Α.Μ.Θ
ΝΟΜΑΡΧΙΑΚΗ ΑΥΤΟΔΙΟΙΚΗΣΗ
ΡΟΔΟΠΗΣ-ΕΒΡΟΥ
ΝΟΜΑΡΧΙΑΚΟ ΔΙΑΜΕΡΙΣΜΑ ΕΒΡΟΥ
ΓΡΑΦΕΙΟ ΝΟΜΑΡΧΗ

Ταχ. Δ/νση: Καραολή & Δημητρίου 40
Ταχ.Κώδικας : 68 100 Αλεξ/πολη
Πληροφορίες :
Τηλ : 25510-36500
Fax : 25510-35300
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Αλεξανδρούπολη 20-2-2005

Προς: Πρωθυπουργό
κ. Κων/νο Καραμανλή

Θέμα: Αντιπλημμυρική προστασία Νομού Έβρου

Κύριε Πρωθυπουργέ

Ο Νομός για μια ακόμα φορά βρίσκεται στο έλεος των πλημμυρών με ανυπολόγιστες ζημιές σε όλους τους παραγωγικούς τομείς.

Ο Τριεθνής ποταμός Έβρος (Μαρίτσα για Βουλγαρία, Μέρτς για την Τουρκία) με τους παραποτάμους εμφανίζουν στο ελληνικό έδαφος ένα πολύπλοκο σχήμα υδρολογίας που καλύπτει σχεδόν ολόκληρο το νομό.

Η λεκάνη απορροής του Έβρου απαρτίζεται από σημαντικές υπολεκάνες, όπως του Αρδα, του Τούντζα , του Εργίνη, του Ερυθροπόταμου.

Η λεκάνη απορροής του Έβρου συνολικής έκτασης 53.000 Km2 (περίπου το μισό της συνολικής έκτασης της Ελλάδας) είναι κατανεμημένη κατά 66% στη Βουλγαρία. 28% στην Τουρκία και μόνο κατά 6% στην Ελλάδα.

Οι πλημμυρικές βέβαια παροχές που οφείλονται στις λεκάνες απορροής της κάθε χώρας είναι ελαφρά διαφοροποιημένες, σε σχέση με τα προαναφερόμενα ποσοστά.

Το πλέον σοβαρό στοιχείο όμως που αφορά στα φαινόμενα των πλημμυρών, είναι ότι το μήκος του ποταμού που αποτελεί τη συνοριακή γραμμή μεταξύ Ελλάδας και Τουρκίας (περίπου 187 Km) είναι αυτό που δέχεται όλο τον όγκο υδάτων του συνόλου των λεκανών απορροής.

Επίσης ιδιαίτερη σημασία παρουσιάζουν οι εκβολές του ποταμού, που είναι ένας υγροβιότοπος, προστατευόμενος από τη συνθήκη RAMSAR.

Η τριεθνής αυτή υπόσταση του π. Έβρου προϋποθέτει τριεθνή συνεργασία και οποιεσδήποτε ρυθμίσεις ή έργα αποτροπής των δυσμενών επιπτώσεων από τις πλημμύρες, θέτουν θέματα διασυνοριακής συνεργασίας μεταξύ των ενδιαφερομένων κρατών.

Παρόλη τη δυσκολία που δημιουργεί αυτός ο χαρακτήρας του π. Έβρου, η ολοκληρωμένη αντιμετώπιση της αντιπλημμυρικής προστασίας της περιοχής, της διαχείρισης των υδατικών πόρων και της προστασίας του περιβάλλοντος πρέπει να

αποτελέσει προτεραιότητα λόγω των επανειλημμένων τεραστίων καταστροφών, για τα συναρμόδια υπουργεία.

Προτείνουμε σε συνεργασία με τις όμορες χώρες (Βουλγαρία, Τουρκία) να διερευνηθεί η δυνατότητα ανάθεσης από κοινού μελέτης, πιθανόν και μέσω διεθνούς Οργανισμού, η οποία θα έχει ως αντικείμενο την ανάδειξη της καταλληλότερης πρότασης για τη συνολική διαχείριση των υδάτων της όλης λεκάνης απορροής του ποταμού Έβρου

Η μελέτη αυτή θα λάβει υπόψη της όλες τις χρήσεις γης των παραποτάμιων περιοχών όπως αυτές προσδιορίζονται από τις τρεις χώρες αλλά και από τις διεθνείς συνθήκες (RAMSAR κ.λ.π) με στόχο την ορθολογική χρήση των υδάτων και την προστασία των παραποτάμιων περιοχών από ανεξέλεγκτα πλημμυρικά φαινόμενα.

Ο Νομάρχης

Νικόλαος Ζαμπουνίδης

ANNEX 4

ΔΙΚΤΥΟ ΔΙΑΣΥΝΟΡΙΑΚΗΣ ΣΥΝΕΡΓΑΣΙΑΣ ΝΟΜΑΡΧΙΩΝ
ΕΛΛΑΔΑΣ-ΒΟΥΛΓΑΡΙΑΣ- ΤΟΥΡΚΙΑΣ
ΣΥΜΦΩΝΟ ΣΥΝΕΡΓΑΣΙΑΣ

Σήμερα στις 16 Απριλίου 2004 στην πόλη της Ορεστιάδας οι υπογράφοντες:

Πρόεδρος Ν.Α Ροδόπης-Έβρου	ΧΑΤΖΟΠΟΥΛΟΣ ΧΡΗΣΤΟΣ
Πρόεδρος Ν.Α Ξάνθης- Καβάλας- Δράμας	ΤΑΤΣΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ
Νομάρχης Δράμας	ΕΥΜΟΙΡΙΔΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ
Νομάρχης Έβρου	ΖΑΜΠΟΥΝΙΔΗΣ ΝΙΚΟΛΑΟΣ
Νομάρχης Καβάλας	ΚΑΛΛΙΟΤΖΗΣ ΘΕΟΔΩΡΟΣ
(εκπροσωπούμενος εν προκειμένου από τον Αντινομάρχη κ. Μπαλίκα Ανδρέα)	
Νομάρχης Ξάνθης	ΠΑΥΛΙΔΗΣ ΓΕΩΡΓΙΟΣ
Νομάρχης Ροδόπης	ΠΑΝΝΑΚΙΔΗΣ ΑΡΙΣΤΕΙΔΗΣ
Νομάρχης Σερρών	ΠΑΠΑΠΑΝΑΠΩΤΟΥ ΚΩΝΣΤΑΝΤΙΝΟΣ
Αντινομάρχης Κίρτζαλι	KOVATCHEV NATCHO
Νομάρχης Μπλαγκόεβγκραντ	BRATCHKOV ANTON
Νομάρχης Σμόλιαν	PALAGATCHEV DIMITAR
Νομάρχης Χάσκοβο	ZARTCHEV GEORGI
Νομάρχης Εντίρνε	FAHRI YUCEL

συμφώνησαν και συναποδέχθηκαν τα παρακάτω:

Σε εκτέλεση του από 8-11-2003 Πρωτοκόλλου Προθέσεων με το παρόν σύμφωνο δημιουργούν το «ΔΙΚΤΥΟ ΔΙΑΣΥΝΟΡΙΑΚΗΣ ΣΥΝΕΡΓΑΣΙΑΣ ΝΟΜΑΡΧΙΩΝ ΕΛΛΑΔΑΣ -ΒΟΥΛΓΑΡΙΑΣ- ΤΟΥΡΚΙΑΣ», χωρίς να θίγονται οι Κυβερνητικές Πολιτικές, το οποίο θα λειτουργεί με τους παρακάτω όρους και συμφωνίες:

Α. ΣΚΟΠΟΙ

Σκοποί του Δικτύου είναι:

1. Η βελτίωση των επαφών, αμοιβαία πληροφόρηση και συνεργασία ανάμεσα στις διασυνοριακές Νομαρχίες για θέματα καθημερινότητας, κοινού ενδιαφέροντος τοπικού επιπέδου, όπως λ.χ. διασυνοριακές πανδημίες, επιδημίες και παράγοντες μετάδοσης ασθενειών, ζωονόσους, επικίνδυνα καιρικά φαινόμενα, αντιμετώπιση θεομηνιών, μόλυνση περιβάλλοντος, λαθρομετανάστευση.

2. Η ενδυνάμωση της συνεργασίας σε θέματα τουρισμού, πολιτισμού και ανάπτυξης με ανταλλαγή εμπειρίας και τεχνογνωσίας, όπως και σε άλλα θέματα όμοιας κλίμακας, στα πλαίσια της Διεύρυνσης της Ευρωπαϊκής Ένωσης.

Β. ΜΕΣΑ :

Το Δίκτυο για την εκπλήρωση των ως άνω σκοπών του έχει ως έργο:

1. Να προβάλει και να προωθεί προς επίλυση τα ιδιαίτερα προβλήματα που οφείλονται στην απομόνωση της παραμεθορίου περιοχής των νομών.
2. Να προβάλει τα διασυνοριακά ενδιαφέροντα σε εθνικό και διεθνές επίπεδο, φορείς, όργανα και ιδρύματα.
3. Να αναπτύξει πρωτοβουλίες, να υποστηρίξει και να συντονίσει την συνεργασία σε Ευρωπαϊκό επίπεδο.
4. Να ανταλλάξει εμπειρίες και πληροφορίες, να διαμορφώσει και να συντονίσει κοινή αναπτυξιακή γραμμή υπερασπίζοντας τα οικονομικά συμφέροντα από τα διάφορα προβλήματα, να εκμεταλλευτεί τις ευκαιρίες και να προσφέρει λύσεις.
5. Να υποβάλλει αιτήσεις για χρηματοδότηση από Ευρωπαϊκά προγράμματα.
6. Να διοργανώνει εκδηλώσεις που σχετίζονται με την διασυνοριακή ανάπτυξη και τη διασυνοριακή συνεργασία.
7. Να βοηθάει στην επίλυση προβλημάτων διασυνοριακής συνεργασίας και να διοργανώνει ειδικές εκδηλώσεις.
8. Να προετοιμάζει και να εκτελεί αναπτυξιακά σχέδια.
9. Να επεκτείνει τις δράσεις του σε συνδυασμό με τις δράσεις της Ευρωπαϊκής Ένωσης, του Συμβουλίου της Ευρώπης, καθώς επίσης και με άλλους διεθνείς οργανισμούς.

10. Να ενημερώνει τους Ευρωπαϊκούς φορείς χάραξης πολιτικής και την κοινή γνώμη για τα θέματα της διασυνοριακής συνεργασίας.
11. Να γίνει μέλος του Συνδέσμου Ευρωπαϊκών Συνοριακών Περιφερειών, καθώς επίσης και άλλων Ευρωπαϊκών συνδέσμων, ενώσεων και οργάνων που συμβάλουν στην ανάπτυξη των διασυνοριακών περιοχών.

Γ. ΜΕΛΗ

1. Τακτικά Μέλη του Δικτύου είναι οι Νομαρχίες του δικτύου, ενώ μπορούν να γίνουν μέλη άλλες Νομαρχίες ή τοπικές αρχές, που διαχειρίζονται τα προβλήματα των τοπικών κοινωνιών, τα οποία προκύπτουν και επηρεάζονται σημαντικά από τη διασυνοριακότητα.

2. Τα μέλη του Δικτύου εγγράφονται με απόφαση της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου, η οποία πρέπει να εγκριθεί από την απόλυτη πλειοψηφία των παρόντων μελών της πρώτης μετά την εγγραφή Ολομέλειας των Νομαρχών. Αν η εγγραφή εγκριθεί από την Ολομέλεια, ισχύει από την ημερομηνία της αποφάσεως της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου.

3. Τα μέλη του Δικτύου αποβάλλονται από αυτήν μετά από εισήγηση της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου, η οποία εγκρίνεται από την Ολομέλεια με πλειοψηφία τουλάχιστον των παρόντων μελών.

Δ. ΟΡΓΑΝΑ

Όργανα του «ΔΙΚΤΥΟΥ ΔΙΑΣΥΝΟΡΙΑΚΗΣ ΣΥΝΕΡΓΑΣΙΑΣ ΝΟΜΑΡΧΙΩΝ ΕΛΛΑΔΑΣ- ΒΟΥΛΓΑΡΙΑΣ- ΤΟΥΡΚΙΑΣ» είναι η Ολομέλεια των Νομαρχών, η Συντονιστική Επιτροπή - Διοικητικό Συμβούλιο και η Εκτελεστική Επιτροπή.

1 . ΟΛΟΜΕΛΕΙΑ ΝΟΜΑΡΧΩΝ

α. Ανώτατο όργανο του «Δικτύου Διασυνοριακής Συνεργασίας Νομαρχιών Ελλάδας- Βουλγαρίας- Τουρκίας» είναι η Ολομέλεια, που συγκροτείται από όλα τα συμβαλλόμενα μέλη.

β. Η Ολομέλεια συνέρχεται τακτικά τουλάχιστον δύο φορές κάθε έτος και έκτακτα όταν το αποφασίσει η Συντονιστική Επιτροπή -Διοικητικό Συμβούλιο ή το ζητήσουν τα 2/5 των μελών, και αποφασίζει για το Πρόγραμμα Δράσεως και για όλα τα θέματα ημερησίας διατάξεως. Στην πρόσκληση για την Ολομέλεια, η οποία συντάσσεται από τη Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο αναφέρονται τα θέματα, ημερησίας διατάξεως, ο χρόνος και ο τόπος που αυτή θα συνέλθει και ο χρόνος και ο τόπος των επαναληπτικών Ολομελειών, εφόσον δεν επιτευχθεί απαρτία στην πρώτη συνέλευση.

γ. Η Ολομέλεια βρίσκεται σε απαρτία με παρόντα τα μισά συν ένα μέλη, του κλάσματος παραλειπομένου. Αν δεν επιτευχθεί απαρτία η Ολομέλεια επαναλαμβάνεται, οπότε αρκεί η παρουσία του ενός τρίτου (1/3) των μελών, του κλάσματος παραλειπομένου, και αν και πάλι δεν επιτευχθεί απαρτία επαναλαμβάνεται με όσα μέλη παρίστανται.

δ. Κάθε συμβαλλόμενο μέλος έχει μια μόνο ψήφο. Τα μέλη του Δικτύου εκπροσωπούνται στην Ολομέλεια με τον εκάστοτε νόμιμο εκπρόσωπο της Νομαρχίας που συμβάλλεται. Σε περίπτωση κωλύματος αυτού στην Ολομέλεια παρίσταται ο νόμιμος αναπληρωτής του, ο οποίος μπορεί να τον αντιπροσωπεύει πλήρως.

ε. Η Ολομέλεια εκλέγει τη Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο και την Εκτελεστική Επιτροπή του Δικτύου, των οποίων η θητεία είναι διετής. Η Ολομέλεια εκλέγει επίσης τον Πρόεδρο, τους Αντιπροέδρους και τον Διευθύνοντα Σύμβουλο της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου , από τα εκλεγμένα μέλη αυτού στην ίδια συνεδρίαση.

στ. Η Ολομέλεια με πλειοψηφία των παρόντων μελών, η οποία όμως δεν μπορεί να είναι μικρότερη των 2/3 του συνόλου των μελών, αποφασίζει για την τροποποίηση του παρόντος, καθώς και για την διάλυση του.

2. ΣΥΝΤΟΝΙΣΤΙΚΗ ΕΠΙΤΡΟΠΗ (ΔΙΟΙΚΗΤΙΚΟ ΣΥΜΒΟΥΛΙΟ)

α. Η Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο αποτελείται από πέντε μέλη με την δέσμευση να εκπροσωπείται κάθε χώρα από ένα τουλάχιστον μέλος, τα οποία εκλέγονται από την Ολομέλεια.

Η θητεία της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου είναι διετής και μπορεί να παραταθεί μέχρι την πρώτη μετά την λήξη της Συνεδρίασης της Ολομέλειας, όχι όμως για περισσότερο από έξι μήνες. Η θητεία της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου λήγει εφόσον αυτή απομείνει με λιγότερα από τα μισά μέλη που η Ολομέλεια εξέλεξε, οπότε γίνεται επανεκλογή της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου από την Ολομέλεια.

Κατ' εξαίρεση η θητεία της πρώτης Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου θα αρχίζει από την υπογραφή του Συμφώνου Συνεργασίας και θα λήγει δύο χρόνια μετά τη δημιουργία των νομικών προσώπων σύμφωνα με τις τελικές διατάξεις του παρόντος.

β. Μεταξύ των μελών της Συντονιστικής Επιτροπής -Διοικητικού Συμβουλίου εκλέγονται ο Πρόεδρος, ο Α' Αντιπρόεδρος, ο Β' Αντιπρόεδρος , ο Διευθύνων Σύμβουλος και ο Γενικός Γραμματέας.

Ο Διευθύνων Σύμβουλος είναι μέλος του δικτύου.

γ. Ο Πρόεδρος συγκαλεί την Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο και προεδρεύει στις συνεδριάσεις της. Αντιπροσωπεύει το Δίκτυο ενώπιον κάθε τρίτου, ενώπιον όλων των αρχών και υπηρεσιών.

Ο Α' Αντιπρόεδρος αναπληρώνει τον Πρόεδρο σε όλα τα καθήκοντα του και σε περίπτωση κωλύματός του αναπληρώνεται από τον Β' Αντιπρόεδρο.

Οι αρμοδιότητες των δύο Αντιπροέδρων και του Διευθύνοντα Συμβούλου καθορίζονται από την Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο.

δ. Σε περίπτωση παραιτήσεως ή εκλείψεως του Προέδρου, η Συντονιστική Επιτροπή - Διοικητικό Συμβούλιο, εκλέγει τον αντικαταστάτη του μέχρι τη λήξη της θητείας της .

Η Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο μπορεί με απόφαση της να ορίζει ειδικά καθήκοντα στα μέλη της. Στη Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο μπορούν να κληθούν να συμμετέχουν από ένας αντιπρόσωπος από την Ευρωπαϊκή Επιτροπή, το Συμβούλιο της Ευρώπης, το Συμβούλιο του Συνδέσμου Ευρωπαϊκών Συνοριακών Περιφερειών, το Ευρωπαϊκό Δίκτυο Περιφερειών και Δήμων και άλλων οργανισμών με παρεμφερείς σκοπούς. Η παρουσία τους έχει συμβουλευτικό

χαρακτήρα, δεν έχουν δικαίωμα ψήφου και δεν υπολογίζονται για τον σχηματισμό απαρτίας.

ε. Η Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο συνεδριάζει τακτικά μια φορά στους τρεις μήνες και έκτακτα, όποτε το καλέσει ο Πρόεδρος ή ο Α' Αντιπρόεδρος ή το ζητήσουν τρία μέλη της. Η Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο συνεδριάζει έγκυρα με την παρουσία των μισών συν ένα μελών της, του κλάσματος παραλειπομένου, και αποφασίζει με πλειοψηφία των παρόντων μελών. Η Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο αποφασίζει για κάθε θέμα που αφορά το Δίκτυο και τους σκοπούς του, εκτός από όσα σύμφωνα με την παρούσα ανήκουν στην αποκλειστική αρμοδιότητα της Ολομέλειας, και λαμβάνει αποφάσεις για οποιαδήποτε άλλο θέμα, εφόσον παρίσταται ανάγκη και δεν μπορεί να συγκληθεί εγκαίρως η Ολομέλεια. Όλες οι αποφάσεις της Συντονιστικής Επιτροπής – Διοικητικού Συμβουλίου επικυρώνονται από την Ολομέλεια.

στ. Ενδεικτικά δράσεις και αρμοδιότητες της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου είναι:

I. Η προετοιμασία και η εκτέλεση των στόχων του Δικτύου.

II. Ο ορισμός ειδικών επιτροπών έργων και δράσεων.

III. Η σύνταξη ανακοινώσεων και η ενημέρωση σε Ελληνικό, Βουλγαρικό, Τουρκικό και Ευρωπαϊκό επίπεδο για τα προγράμματα και τη δράση του Δικτύου.

IV. Ο συντονισμός της συνεργασίας με Ευρωπαϊκές Οργανώσεις, Φορείς, άλλες "Ευρωπεριοχές" κλπ.

V. Η απόφαση για συμμετοχή σε άλλα Ευρωπαϊκά Δίκτυα με παρεμφερείς σκοπούς.

3. ΕΚΤΕΛΕΣΤΙΚΗ ΕΠΙΤΡΟΠΗ

α. Η εκτελεστική επιτροπή είναι τριμελής, αποτελείται από εκπροσώπους των τριών χωρών, εκλέγεται από την Ολομέλεια του δικτύου κι έχει την ίδια θητεία με την Συντονιστική Επιτροπή- Διοικητικό Συμβούλιο.

Β. Η εκτελεστική επιτροπή φροντίζει για την εκτέλεση των αποφάσεων της Ολομέλειας του Δικτύου και της Συντονιστικής Επιτροπής- Διοικητικού Συμβουλίου και για την διαχείριση μέσα στο γενικό πλαίσιο δράσεως του Δικτύου. Για να ανταποκριθεί

στις αρμοδιότητες της αυτές, μπορεί να χρησιμοποιεί εξωτερικούς συνεργάτες υψηλού κύρους και κατάρτισης.

Ε. ΟΜΑΔΑ ΤΕΧΝΟΚΡΑΤΩΝ

Για την υλοποίηση των δράσεων του «Δικτύου Διασυνοριακής Συνεργασίας Νομαρχιών Ελλάδας -Βουλγαρίας -Τουρκίας» συγκροτείται ομάδα τεχνοκρατών που θα αποτελείται από έναν εκπρόσωπο από κάθε νομαρχία για την προετοιμασία και επεξεργασία των σχετικών θεμάτων.

ΣΤ. ΕΔΡΑ ΤΟΥ ΔΙΚΤΥΟΥ

Έδρα του δικτύου ορίστηκε η Ορεστιάδα του νομού Έβρου, και ο Νομάρχης Έβρου φροντίζει για τη στέγαση του δικτύου.

Ζ. ΤΕΛΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

Τα συμβαλλόμενα μέλη με το παρόν σύμφωνο δεσμεύονται να δημιουργήσουν ανά κράτος, αντίστοιχο φορέα/ εταιρεία/ οργάνωση, νομικά πρόσωπα φορείς υλοποίησης των στόχων του Δικτύου με οποιαδήποτε νομική μορφής προβλέπεται από το τοπικό δίκαιο του κάθε κράτους.

Η. ΠΡΩΤΗ ΣΥΝΤΟΝΙΣΤΙΚΗ ΕΠΙΤΡΟΠΗ (ΔΙΟΙΚΗΤΙΚΟ ΣΥΜΒΟΥΛΙΟ)

Με το παρόν σύμφωνο τα συμβαλλόμενα μέρη ορίζουν ομόφωνα τα μέλη της πρώτης Συντονιστικής Επιτροπής (Διοικητικού Συμβουλίου) :

Πρόεδρος	ΠΑΥΛΙΔΗΣ ΓΕΩΡΓΙΟΣ, Νομάρχης Ξάνθης
Α΄Αντιπρόεδρος	PALAGACHEV DIMITAR, Νομάρχης Σμόλιαν
Β΄Αντιπρόεδρος	FAHRI YUCEL, Νομάρχης Εντίρνε
Διευθύνων Σύμβουλος	ΖΑΜΠΟΥΝΙΔΗΣ ΝΙΚΟΛΑΟΣ, Νομάρχης Έβρου
Γενικός Γραμματέας	ZARTCHEV GEORGI, Νομάρχης Χασκόβου

ΟΡΕΣΤΙΑΔΑ 16 ΑΠΡΙΛΙΟΥ 2004

ΠΡΟΕΔΡΟΣ Ν.Α ΡΟΔΟΠΗΣ-ΈΒΡΟΥ,ΧΑΤΖΟΠΟΥΛΟΣ ΧΡΗΣΤΟΣ

ΠΡΟΕΔΡΟΣ Ν.Α ΞΑΝΘΗΣ- ΚΑΒΑΛΑΣ- ΔΡΑΜΑΣ, ΤΑΤΣΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ

ΝΟΜΑΡΧΗΣ ΔΡΑΜΑΣ, ΕΥΜΟΙΡΙΔΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ

ΝΟΜΑΡΧΗΣ ΈΒΡΟΥ, ΖΑΜΠΟΥΝΙΔΗΣ ΝΙΚΟΛΑΟΣ

ΝΟΜΑΡΧΗΣ ΚΑΒΑΛΑΣ, ΚΑΛΛΙΟΤΖΗΣ ΘΕΟΔΩΡΟΣ

ΝΟΜΑΡΧΗΣ ΞΑΝΘΗΣ, ΠΑΥΛΙΔΗΣ ΓΕΩΡΓΙΟΣ

ΝΟΜΑΡΧΗΣ ΡΟΔΟΠΗΣ, ΠΑΝΝΑΚΙΔΗΣ ΑΡΙΣΤΕΙΔΗΣ

ΝΟΜΑΡΧΗΣ ΣΕΡΡΩΝ ,ΠΑΠΑΠΑΝΑΠΩΤΟΥ ΚΩΝΣΤΑΝΤΙΝΟΣ

ΝΟΜΑΡΧΗΣ ΚΙΡΤΖΑΛΙ, PRIMOV KALIN

ΝΟΜΑΡΧΗΣ ΜΠΛΑΓΚΟΕΒΓΚΡΑΝΤ, BRATCHKOV ANTON

ΝΟΜΑΡΧΗΣ ΣΜΟΛΙΑΝ, PALAGATCHEV DIMITAR

ΝΟΜΑΡΧΗΣ ΧΑΣΚΟΒΟ, ZARTCHEV GEORGI

Ο ΕΚΤΕΛΩΝ ΧΡΕΗ ΝΟΜΑΡΧΗ ΕΝΤΙΡΝΕ

ANNEX 5

ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

ΑΘΗΝΑ 26 ΙΟΥΛΙΟΥ 1988	ΤΕΥΧΟΣ ΠΡΩΤΟ	ΑΡΙΘΜΟΣ ΦΥΛΛΟΥ 160

ΠΕΡΙΕΧΟΜΕΝΑ

ΔΙΑΤΑΓΜΑΤΑ

(1)

ΠΡΟΕΔΡΙΚΟ ΔΙΑΤΑΓΜΑ ΥΠ' ΑΡΙΘ. 365

Αύξηση των συνεδριάσεων του Τριμελούς Εφετείου Πατρών.

Ο ΠΡΟΕΔΡΟΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

Έχοντας υπόψη:

1. Τις διατάξεις του άρθρου 249 του Οργανισμού των δικαστηρίων.

2. Τη διάταξη του άρθρου 5 του Νόμου 6415/1934 και

3. Τη με αριθμό 13/1988 απόφαση της Ολομέλειας του Εφετείου Πατρών με πρόταση του Αντιπροέδρου της Κυβέρνησης και Υπουργού Δικαιοσύνης, αποφασίσαμε :

Άρθρο μόνο.

Αυξάνονται οι συνεδριάσεις του Τριμελούς Εφετείου Πατρών, από 1ης Μαΐου 1988 και εφεξής, για την εκδίκαση των εφέσεων κατά αποφάσεων των Τριμελών Πλημμελειοδικείων της περιφέρειας του Εφετείου Πατρών, κατά δύο (2) φορές το μήνα και ορίζονται ημέρες συνεδριάσεων η 1η και 2η Δευτέρα κάθε μήνα.

Στον Αντιπρόεδρο της Κυβέρνησης και Υπουργό Δικαιοσύνης, αναθέτουμε τη δημοσίευση και εκτέλεση του παρόντος διατάγματος.

Αθήνα, 8 Ιουλίου 1988

Ο ΠΡΟΕΔΡΟΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
ΧΡΗΣΤΟΣ ΑΝΤ. ΣΑΡΤΖΕΤΑΚΗΣ

Ο ΑΝΤΙΠΡΟΕΔΡΟΣ ΤΗΣ ΚΥΒΕΡΝΗΣΗΣ
ΚΑΙ ΥΠΟΥΡΓΟΣ ΔΙΚΑΙΟΣΥΝΗΣ
ΑΓΑΜΕΜΝΩΝ ΚΟΥΤΣΟΓΙΩΡΓΑΣ

ΑΠΟΦΑΣΕΙΣ

(2)

Έγκριση Πρακτικού της Ελληνο - βουλγαρικής Επιτροπής για τον Νέστο. Σόφια, 16.3.1988.

ΟΙ ΥΠΟΥΡΓΟΙ
ΕΞΩΤΕΡΙΚΩΝ, ΕΘΝΙΚΗΣ ΟΙΚΟΝΟΜΙΑΣ ΚΑΙ
ΒΙΟΜΗΧΑΝΙΑΣ - ΕΝΕΡΓΕΙΑΣ ΚΑΙ ΤΕΧΝΟΛΟΓΙΑΣ

Έχοντας υπόψη:

1. Τις διατάξεις της Συμφωνίας Ελλάδας — Λαϊκής Δημοκρατίας της Βουλγαρίας για συνεργασία στη χρησιμοποίηση των υδάτων των ποταμών που διαρρέουν τα εδάφη των δύο Χωρών, η οποία υπογράφτηκε στην Αθήνα στις 9 Ιουλίου 1964 και κυρώθηκε με το υπ' αριθ. 4393/1964 Ν.Δ. που δημοσιεύτηκε στο υπ' αριθ. 193 Φύλλο της Εφημερίδας της Κυβερνήσεως Τεύχος Α' της 4 Νοεμβρίου 1964.

2. Το περιεχόμενο του υπό έγκριση Πρακτικού, αποφασίζουμε:

Εγκρίνουμε ως έχει και στο σύνολό του το Πρακτικό της Ελληνο-βουλγαρικής Επιτροπής για το Νέστο που υπογράφηκε στη Σόφια στις 16.3.1988, του οποίου το κείμενο σε πρωτότυπο στην ελληνική γλώσσα έχει ως εξής:

Αθήνα, 18 Ιουλίου 1988

ΟΙ ΥΠΟΥΡΓΟΙ

ΕΞΩΤΕΡΙΚΩΝ — ΕΘΝΙΚΗΣ ΟΙΚΟΝΟΜΙΑΣ
ΚΑΡΟΛΟΣ ΠΑΠΟΥΛΙΑΣ — ΠΑΝΑΓΙΩΤΗΣ ΡΟΥΜΕΛΙΩΤΗΣ

ΒΙΟΜΗΧΑΝΙΑΣ, ΕΝΕΡΓΕΙΑΣ ΚΑΙ ΤΕΧΝΟΛΟΓΙΑΣ
ΑΝΑΣΤΑΣΙΟΣ ΠΕΠΟΝΗΣ

ΠΡΑΚΤΙΚΟ

Από 14 μέχρι 16 Μαρτίου 1988 πραγματοποιήθηκε στη Σόφια η συνάντηση Ελλήνων και Βουλγάρων εμπειρογνωμόνων προκειμένου να συζητήσουν θέματα σχετικά με τον ποταμό Νέστο.

Της Ελληνικής Αντιπροσωπείας ηγήθηκε ο κ. Ιωάννης Γκέτσελης, Ειδικός Γραμματέας στο Υπουργείο Εθνικής Οικονομίας.

Της Βουλγαρικής Αντιπροσωπείας ηγήθηκε ο κ. STAMEN STAMENOV, Αντιπρόεδρος του Εθνικού Συμβουλίου υδάτων.

Τα ονόματα των μελών των δύο αντιπροσωπειών εμφαίνονται στα παραρτήματα Ι και ΙΙ των πρακτικών αυτών.

Οι δύο πλευρές εξέθεσαν τις θέσεις τους και ενημέρωσαν η μία την άλλη για τη μέχρι τώρα δραστηριότητά του

και για τα μελλοντικά τους σχέδια σχετικά με τη χρησιμοποίηση των υδάτων του ποταμού Νέστου.

Διαπιστώθηκαν διαφορές πάνω στα εξετασθέντα προβλήματα και ιδιαίτερα πάνω στην ποσότητα των υδάτων την οποία η βουλγαρική πλευρά προτίθεται να αφήσει να διαρρέει τα ελληνο βουλγαρικά σύνορα.

Η βουλγαρική πλευρά έκανε μια ανασκόπηση του θέματος. Υπογραμμίστηκε ότι η ελληνική πλευρά είχε επανειλημμένα επισήμως πληροφορηθεί για τα εκπονηθέντα σχέδια για την χρησιμοποίηση των υδάτων του ποταμού Νέστου στο βουλγαρικό έδαφος. Η βουλγαρική πλευρά επιβεβαίωσε τις προτάσεις οι οποίες περιεχονται στο Σχέδιο Συμφωνίας που υπεδόθηκε τον Μάϊο 1981. Βάσει αυτού εξέφρασε την ετοιμότητά της στο πνεύμα της ανάπτυξης της καλής γειτονίας, φιλίας και συνεργασίας μεταξύ της Ελλάδος και Βουλγαρίας να διαθέσει μη ρυθμισμένα ύδατα του ποταμού Νέστου (300 εκατομμύρια κυβικά μετρα ετησίως σε χρονιά μέσης ετήσιας βροχοπτώσεως) τα οποία υπερβαίνουν στμαντικά το απαραίτητο ελάχιστο όριο για τη διατήρηση της οικολογικής ισορροπίας στην κοίτη του ποταμού που ανέρχεται, κατ' ελάχιστον, σε 130 εκ. κυβικά μέτρα ετησίως.

Η βουλγαρική πλευρά θήλωσε εκ νέου ότι είναι έτοιμη να συζητήσει την πραγματοποίηση κοινού σχεδίου για τη μεταφορά ορισμένων ποσοτήτων ύδατος του ποταμού Στρυμόνα δια του ποταμού Νέστου ρυθμισμένα στο ελληνικό έδαφος.

Η βουλγαρική πλευρά εξέφρασε επίσης την άποψη ότι η ελληνική πλευρά διαθέτει σημαντικά αποθέματα για περισσότερο αποτελεσματική αξιοποίηση των υδάτων του ποταμού Νέστου που απορρέουν από το ελληνικό έδαφος.

Η ελληνική πλευρά τόνισε ότι οι ανάγκες της στους τομείς ύδρευσης, άρδευσης, προστασίας περιβάλλοντος, βιομηχανίας, τουρισμου και παραγωγής ηλεκτρικής ενέργειας μόλις καλύπτονται με τους σημερινούς όγκους εισρεόντων υδάτων στα ελληνο-βουλγαρικά σύνορα.

Η ανωτέρω βουλγαρική πρόταση και ως προς τους χρόνους και πασότητες της σταδιακής μείωσης των εισροών στα σύνορα όσο και το ύψος της τελικής εισροής, θα είχε σαν συνέπεια την πρόκληση ουσιώδους ζημίας εις βάρος της ελληνικής πλευράς, πράγμα ρητώς αντίθετο με τη συμβατική υποχρέωση της βουλγαρικής πλευράς που απορρέει από το άρθρο 2 της Ελληνοβουλγαρικής Συμφωνίας «περί συνεργασίας εις τη χρησιμοποίηση των υδάτων των ποταμών των διαρρεόντων τα εδάφη των δύο χωρών».

Επίσης η βουλγαρική πρόταση που προβλέπει την μονομερή κατακράτηση των τεσάρων πέμπτων (4/5) της φυτικής απορροής του δημιουργούνται στο βουλγαρικό έδαφος του ποταμού Νέστου είναι αντίθετη προς το Διεθνές Δίκαιο και τη διεθνή πρακτική που εφαρμόζεται στους διεθνείς ποταμούς.

Η ελληνική πλευρά τόνισε ότι για τους ανωτέρω λόγους η βουλγαρική πρόταση δεν είναι δυνατόν να γίνει αποδεκτή και εκάλεσε τη βουλγαρική πλευρά, αφού λάβει υπόψη τις συμβατικές της υποχρεώσεις, τις ζωτικές ανάγκες της Ελλάδος και το φιλικό κλίμα συνεργασίας στις σχέσεις των δύο χωρών, να επανέλθει με περισσότερο ρεαλιστικές προτάσεις.

Τέλος, η ελληνική πλευρά επανέλαβε τη γνωστή θέση της ότι το θέμα των εισροών στο ελληνικό έδαφος από τον ποταμό Νεστο πρέπει να αντιμετωπισθεί αυτοτελώς και χωρίς αναφορά σε άλλο διεθνή ποταμό.

Υστερα από πρόταση της ελληνικής πλευράς συζητήθηκε το θέμα της ποιότητας των υδάτων του ποταμού Νέστου για το παρόν και το μέλλον.

Οι εμπειρογνώμονες των δύο πλευρών αναγνωρίζουν την ανάγκη της παρακολούθησης της ποιότητας των υδάτων του ποταμού Νέστου και συμφώνησαν να προτείνουν στους αρμόδιους κυβερνητικούς φορείς κάθε πλευράς τη σύσταση Μικτής Ομάδας Εργασίας με αντικείμενο τη μελέτη του προβλήματος στο σύνολό του και την παρουσίαση Σχεδίου Οργάνωσης που θα επιλαμβάνεται όλων των θεματων ποιότητας των υδάτων του ποταμού Νέστου.

Οι συζητήσεις διεξήχθησαν σε πνεύμα ειλικρινείας, καλής θελήσεως και φιλίας.

Το πρακτικό αυτό έγινε στη Σόφια και υπογράφη στις 16 Μαρτίου 1988 σε δύο κείμενα στην Ελληνική και Βουλγαρική γλώσσα. Τα δύο κείμενα έχουν την ίδια ισχύ.

Για την Ελληνική πλευρά
ΙΩΑΝΝΗΣ ΓΚΕΙΒΕΛΗΣ

Για τη Βουλγαρική πλευρά
STAMEN STAMENOV

ΠΑΡΑΡΤΗΜΑ Ι

ΕΛΛΗΝΙΚΗ ΑΝΤΙΠΡΟΣΩΠΕΙΑ

Ιωάννης Γκείβελης, Ειδικός Γραμματέας Υπουργείου Εθνικής Οικονομίας.

Παναγιώτης Καρακατσούλης, Καθηγητής Ανωτάτης Γεωπονικής Σχολής Αθηνών.

Κωνσταντίνα Ζαχοριανού — Πρίφτη, Γραμματέας Πρεσβείας Β', Υπουργείο Εξωτερικών.

Μιχαήλ Ζωγράφος, Προϊστάμενος Τμήματος Τεχνικής Συνεργασίας, Υπουργείο Εθνικής Οικονομίας.

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Παναγιώτης Τσουμάνης, Τοπογράφος—Μηχανικός, Υπουργείο Βιομηχανίας, Έρευνας και Τεχνολογίας.

Γεώργιος Βασνάς, Διευθυντής Διεύθυνσης Ανάπτυξης Ενεργειακών Έργων, Δ.Ε.Η.

Μιχαήλ Σταυρινός, Διεθνολόγος, Υπουργείο Εξωτερικών.

Μαρία Κούλη, Διερμηνέας.

ΒΟΥΛΓΑΡΙΚΗ ΑΝΤΙΠΡΟΣΩΠΕΙΑ

Stamen Stamenov, Αντιπρόεδρος Εθνικού Συμβουλίου Υδάτων, Αρχηγός της Αντιπροσωπείας.

Jordan Spasov, Γενικός Σύμβουλος Υπουργικού Συμβουλίου.

Lioubomir Jordanov, Ειδικός Εμπειρογνώμονας ENERGOPROEKT.

Snejana Naidenova, Β' Γραμματέας Πρεσβείας, Υπεύθυνη Τμήματος ΥΠΕΞ.

Lioubomir Kasidov, Σύμβουλος ΥΠΕΞ.

Tsenko Dinchev, Αναπληρωτής Γεν. Δ/ντής Οργανισμού Υδάτων «VODNOSTOPANSTVO».

Kroum Makedonski, Ειδικός Εθνικού Συμβουλίου Υδάτων.

ANNEX 6

1879

ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ

ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 98

4 Ιουνίου 1996

ΝΟΜΟΣ ΥΠ' ΑΡΙΘ. 2402

Κύρωση Συμφωνίας μεταξύ της Κυβέρνησης της Ελληνικής Δημοκρατίας και της Κυβέρνησης της Δημοκρατίας της Βουλγαρίας για τα ύδατα του ποταμού Νέστου.

Ο ΠΡΟΕΔΡΟΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

Εκδίδομε τον ακόλουθο νόμο που ψήφισε η Βουλή:

Άρθρο πρώτο

Κυρώνεται και έχει την ισχύ, που ορίζει το άρθρο 28 παρ. 1 του Συντάγματος, η Συμφωνία μεταξύ της Κυβέρνησης της Ελληνικής Δημοκρατίας και της Κυβέρνησης της Δημοκρατίας της Βουλγαρίας για τα ύδατα του ποταμού Νέστου, που υπογράφηκε στη Σοφία στις 22 Δεκεμβρίου 1995, της οποίας το κείμενο σε πρωτότυπο στην ελληνική γλώσσα έχει ως εξής:

ΣΥΜΦΩΝΙΑ
ΜΕΤΑΞΥ ΤΩΝ ΚΥΒΕΡΝΗΣΕΩΝ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
ΚΑΙ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ ΤΗΣ ΒΟΥΛΓΑΡΙΑΣ
ΓΙΑ ΤΑ ΥΔΑΤΑ ΤΟΥ ΠΟΤΑΜΟΥ ΝΕΣΤΟΥ

Η Κυβέρνηση της Ελληνικής Δημοκρατίας και η Κυβέρνηση της Δημοκρατίας της Βουλγαρίας, που θα αναφέρονται εφεξής ως "Συμβαλλόμενα Μέρη", επιθυμώντας να αναπτύξουν ακόμη περισσότερο τις μεταξύ τους φιλικές σχέσεις και τις σχέσεις καλής γειτονίας, σύμφωνα προς τους κανόνες του Διεθνούς Δικαίου, τις διατάξεις των μεταξύ τους σχετικών Συμφωνιών και την Κοινή Δήλωση που υπέγραψαν οι Πρωθυπουργοί των δύο χωρών, στις 20 Ιουνίου 1995, στην Αθήνα, συμφώνησαν τα ακόλουθα:

Άρθρο 1

Το ύψος των δικαιωμάτων χρήσεως της Ελληνικής Δημοκρατίας καθορίζεται σε ποσοστιαία βάση επί των υδάτων του ποταμού Νέστου που σχηματίζονται στο βουλγαρικό έδαφος, με βάση το σύνολο της Μέσης Φυσικής Απορροής πολλών ετών. Το ποσοστό αυτό καθορίζεται στο 29%. Η Μέση Απορροή πολλών ετών έχει καθορισθεί, βάσει στοιχείων των ετών 1935-1970, σε ένα διακοσαμμύριο πεντακόσια εκατομμύρια κυβικά μέτρα (1.500.000.000 Μ3). Το μέγεθος τούτο θα επαναπροσδιορίζεται από την Επιτροπή Υδροοικονομίας, που προβλέπει το Άρθρο 5 της Συμφωνίας, το αργότερο εντός τριών (3) ετών από της θέσεως σε ισχύ της Συμφωνίας αυτής. Κατόπιν, το μέγεθος αυτό θα επαναπροσδιορίζεται από την ίδια Επιτροπή κάθε επτά (7) χρόνια, εκτός αν η Επιτροπή αποφασίσει διαφορετικά.

Άρθρο 2

Οι ποσότητες ύδατος που θα εισρέουν στο ελληνικό έδαφος από τον ποταμό Νέστο, πέραν του συμφωνηθέντος στο Άρθρο 1 ποσοστού, δεν θα θεμελιώνουν απαιτήσεις ή δικαιώματα αποζημιώσεως.

Άρθρο 3

Τα Συμβαλλόμενα Μέρη θα ανταλλάσσουν πληροφορίες και στοιχεία σχετικά με την κατάσταση των υδάτων του ποταμού Νέστου από άποψη ποσότητας και ποιότητας, καθώς και για τα υπάρχοντα, τα υπό εκτέλεση και τα σχεδιαζόμενα έργα που δύνανται να επηρεάσουν τη φυσική απορροή και την ποιότητα των υδάτων αυτών.

Άρθρο 4

Τα Συμβαλλόμενα Μέρη θα λαβουν όλα τα προσηκοντα μέτρα με βαση τις Διεθνείς Συμβάσεις, τα διεθνη πρότυπα και τις Οδηγίες της Ευρωπαικης Ενωσης για τη βελτίωση της ποιοτητας των υδάτων του ποταμού Νέστου και τη διατήρηση της ισορροπίας του οικοσυστήματος του ποταμού. Τα Συμβαλλόμενα Μέρη θα ορίσουν κριτήρια για την εκτίμηση της ποιότητας των υδάτων, τις θέσεις και την μεθοδολογία της λήψεως, επεξεργασίας και αναλύσεως των δειγμάτων επί τη βάσει των υποδείξεων της Ευρωπαικης Ενωσης.

Άρθρο 5

Τα Συμβαλλόμενα Μέρη συμφώνησαν να συστήσουν Μόνιμη Ελληνο-Βουλγαρική Επιτροπή Υδροοικονομίας

στην αρμοδιότητα της οποίας θα συμπεριληφθούν η παρακολούθηση και ο έλεγχος για την εφαρμογή επι μονίμου βάσεως της παρούσας Συμφωνίας.

Η κατανομή των εξόδων για τη βελτίωση, κατασκευή και συντήρηση του συστήματος παρακολούθησης και ελέγχου της φυσικής απορροής του Νέστου καθορίζεται από την παραπάνω Επιτροπή.

Η Μονιμη Ελληνο-Βουλγαρική Επιτροπή Υδροοικονομίας θα υιοθετήσει τον Εσωτερικό της Κανονισμό με τις αρμοδιότητές της, κατ' εφαρμογή της παρουσας Συμφωνίας.

Άρθρο 6

Η παρούσα Συμφωνία θα τεθεί σε ισχύ από την ημερομηνία ανταλλαγής των Εγγράφων Επικυρώσεώς της μεταξύ των Συμβαλλόμενων Μερών και θα παραμείνει σε ισχύ επί τριάντα πέντε (35) έτη.

Άρθρο 7

Ενά (1) έτος πρό της λήξεως της ισχύος της παρουσας Συμφωνίας, τα Συμβαλλόμενα Μέρη θα διεξαγαγουν διαπραγματεύσεις για τη σύναψη νέας Συμφωνίας για τα ύδατα του ποταμού Νέστου, επι τη βάσει της τότε ισχύουσας πραγματικής και νομικής καταστάσεως.

Άρθρο 8

Ολες οι διαφορές σχετικά με την ερμηνεία ή την εφαρμογή της παρούσας Συμφωνίας θα επιλυονται από τη μονιμη Ελληνο-Βουλγαρικη Επιτροπή Υδροοικονομίας που προβλέπεται στο Άρθρο 5. Αν η Επιτροπη δεν επιτύχει να επιλύσει τη διαφορά, αυτή θα επιλύεται με διαπραγματεύσεις μεταξύ των Κυβερνήσεων των δύο χωρών.

Η παρούσα Συμφωνία υπεγραφη στη Σόφια, την 22α Δεκεμβρίου 1995, σε δύο πρωτότυπα, ένα στην ελληνικη και ενα στη βουλγαρική γλώσσα. Τα δύο κείμενα εχουν την αυτή ισχύ.

ΓΙΑ ΤΗΝ ΚΥΒΕΡΝΗΣΗ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ	ΓΙΑ ΤΗΝ ΚΥΒΕΡΝΗΣΗ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ ΤΗΣ ΒΟΥΛΓΑΡΙΑΣ
(υπογραφή)	(υπογραφή)
ΚΑΡΟΛΟΣ ΠΑΠΟΥΛΙΑΣ	ΓΚΕΟΡΓΚΙ ΠΙΡΙΝΣΚΙ

Άρθρο δεύτερο

Τα Πρωτόκολλα-Πρακτικά που καταρτίζονται από τη Μονιμη Ελληνο-Βουλγαρική Επιτροπή Υδροοικονομίας σε εκτέλεση του Άρθρου 5 της Συμφωνίας, εγκρίνονται με κοινή Πράξη των αρμοδίων κατα περίπτωση υπουργων.

Άρθρο τρίτο

Η ισχύς του νόμου αυτου αρχίζει από τη δημοσίευση του στην Εφημερίδα της Κυβερνήσεως και της Συμφωνίας που κυρώνεται από την πλήρωση των προϋποθέσεων του Άρθρου 6 αυτής.

Παραγγέλλομε τη δημοσίευση του παρόντος στην Εφημερίδα της Κυβερνήσεως και την εκτέλεσή του ως νόμου του Κράτους.

Αθήνα, 29 Μαΐου 1996

Ο ΠΡΟΕΔΡΟΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
ΚΩΝΣΤΑΝΤΙΝΟΣ Δ. ΣΤΕΦΑΝΟΠΟΥΛΟΣ

ΟΙ ΥΠΟΥΡΓΟΙ

ΕΣΩΤΕΡΙΚΩΝ — **ΘΕΟΔ. ΠΑΓΚΑΛΟΣ**

ΕΘΝ. ΟΙΚΟΝΟΜΙΑΣ — **ΓΙΑΝΝΟΣ ΠΑΠΑΝΤΩΝΙΟΥ**

ΓΕΩΡΓΙΑΣ
ΣΤΕΦ. ΤΖΟΥΜΑΚΑΣ

Θεωρήθηκε και τέθηκε η Μεγάλη Σφραγίδα του Κράτους

Αθήνα, 30 Μαΐου 1996

Ο ΕΠΙ ΤΗΣ ΔΙΚΑΙΟΣΥΝΗΣ ΥΠΟΥΡΓΟΣ
ΕΥΑΓΓ. ΒΕΝΙΖΕΛΟΣ

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3. Interview taken from the General Secretary of Evros Prefecture, Mr. Chris Petritzikis, on 25 June 2008
4. Interview taken from Mr. Kostas Ouzounis, Professor at the Polytechnic School of Democritus University, on 26 June 2008.
5. Interview taken from Mr. Alkis Papademetriou, International Programme Director, Dramma Champer of Commerce and Industry on 28 June 2008.
6. Interview taken by Mr. Katsimidis Konstantinos, Head of Construction Works, Region of Eastern Macedonia, Thrace, on 3/04/2012.
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