

«Cross-border Environmental Peace» as the Interaction of Regional Norms and Local Power: Lessons from Cross-Regional Analysis of Water Security Debates

«Paz ambiental transfronteriza» como interacción de normas regionales y poder local: Lecciones desde análisis y debates transregionales sobre seguridad hídrica

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Abstract

This article contends that notions of «peace» and «justice» in cross-border water management vary in different world regions. Moreover, it argues that «peace» and «justice» can be explained by analyzing the interaction between «regional» interpretations and implementation of water security norms and local cross-border power structures. «Regional water security» is defined as the normative commitment to provide necessary water resources to communities within world regions. «Power,» which is defined traditionally as «the ability of actors to obtain their objectives despite opposition» is viewed as a function of political entrepreneurialism and opportunity structures.

This article derives from a review of the pertinent literatures on «water security» and «water justice,» the two elements of «water peace» as well as scholarship on cross-border water management in different world regions. It discusses water governance within the framework of cross-border politics and comparative regional integration. It also includes analysis of the policy documents and websites of seventeen regional organizations as well as interviews with key actors and local experts on water management in specific cross-border case studies. The article is divided into five sections. Following this introduction, part two examines «water security» and «water justice» in international affairs. Part III then discusses «power» in cross-border water governance debates and addresses the transnational face of water security discussions. Part IV presents a comparative examination of cross-border «water justice» in selected world regions which is followed by theoretical considerations that are addressed in part V, the conclusion. In general, the article emphasizes the need to promote comparative cross-regional research on cross-border water governance in order to examine how «peace,» «security» and «justice» are framed in debates over water resources.

Keywords: Water Security, Water Justice, Cross-Border Water Governance, Regional Integration, Power

Resumen

Este artículo sostiene que las nociones de «paz» y «justicia» en la administración transfronteriza del agua varían entre diferentes regiones del mundo. A su vez, argumenta que ambos conceptos pueden ser explicados al analizar la interacción entre interpretaciones y la implementación de normas regionales de seguridad hídrica y las estructuras de poder transfronterizas locales. La «se-

guridad hídrica regional» es definida como el compromiso normativo para proveer el necesario recurso hídrico a las comunidades en las regiones del mundo. El «poder», que es definido tradicionalmente como «la habilidad de los actores para lograr sus objetivos pese a la oposición» se ve cómo una función del emprendimiento político y las estructuras de oportunidad.

Este artículo deriva desde una revisión a la literatura pertinente acerca de los dos elementos de la «paz hídrica»: «seguridad hídrica» y «justicia hídrica», así como la investigación sobre administración transfronteriza del agua en diferentes regiones del mundo. Discute la gobernanza del agua dentro del marco de referencia de las políticas transfronterizas y la integración regional comparativa. Incluye además un análisis de los documentos oficiales y sitios web de diecisiete organizaciones regionales junto con entrevistas a actores claves y expertos locales en administración del agua en casos de estudio específicos transfronterizos. El artículo está dividido en cinco secciones. Ulterior a esta introducción, la parte dos examina la «seguridad hídrica» y la «justicia hídrica» en el ámbito internacional. La parte tres discute el «poder» en el debate sobre administración transfronteriza del agua, y aborda el semblante transnacional de las discusiones sobre seguridad hídrica. La parte cuatro presenta un análisis comparativo de la «justicia hídrica» transfronteriza en diferentes regiones del mundo, el cual es seguido por conclusiones teóricas abordadas en la parte cinco. En general, el artículo enfatiza la necesidad de promover investigaciones comparativas transregionales sobre la gobernanza transfronteriza del agua, para analizar como «paz,» «seguridad» y «justicia» están enmarcados en los debates sobre recursos hídricos.

Palabras clave: seguridad hídrica, justicia hídrica, gobernanza transfronteriza del agua, integración regional, poder.

1. Introduction

Water security is one of the most salient issues in contemporary global affairs. It combines both international and transnational dimensions. The international arena is defined by normative commitments to meeting the basic water needs of human beings throughout the world as well as providing sanitation to address important threats to public health. This universal attention to the importance of water to human life was codified in the Millennium Development Goals' (MDGs) objective 7c (Halve by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation) and the Human Right to Water and Sanitation which was passed by the United Nations Human Rights Council in 2010. The Sustainable Development Goals (SDGs) which define the post-2015 global development agenda, continue this recognition of the importance of water through objective 6 (Ensure availability and sustainable management of water and sanitation for all).

Conversely, the transnational element of water security debates focuses more significantly on power and negotiations between both state and local officials on the distribution of cross-border water resources. This issue has received prominent attention because there are 276 transnational water basins that cross the boundaries of two or more countries and they include 80 percent of the world's fresh water and affect 40 percent of the world's population.¹

1. <http://www.newsecuritybeat.org/2011/08/international-river-basins-mapping-institutional-resilience-to-climate-change/>

The literature on cross-border water governance is rich and varied as numerous themes have emerged related to management structures, political agency, water rights, the quality of water resources, etc. However, despite the numerous subjects present in this body of scholarship, one essential question continues in its prominence: who gets how much water, why and how? This question drives academic inquiries and political movements in this field because it touches so many sectors of politics including economic development models, environmental conservation, human rights, the treatment of ethnic groups/minorities, state sovereignty, regional integration, amongst other themes. It has also given rise to numerous paradigms such as «hydro-hegemony,» «water justice,» «the human right to water,» «hydrosolidarity» and «transboundary water management,» etc.

While these discussions are both scientifically rich and policy-relevant, they often are limited to individual regional contexts. Thus far, comparative cross-regional studies of cross-border water management have been scarce. This has confirmed a seeming assumption in the literature on international water governance that concepts such as «power» and «justice» have universal definitions and can be applied in a uniform manner to different world regions.

This article questions this position. It contends that notions of «peace» and «justice» in cross-border water management vary in different world regions. Moreover, it argues that «peace» can be explained by analyzing the interaction between «regional» interpretations and implementation of water security norms and local cross-border power structures. «Regional water security» is defined as the normative commitment to provide necessary water resources to communities within world regions. «Power,» which is defined traditionally as «the ability of actors to obtain their objectives despite opposition» is viewed as a function of political entrepreneurialism and opportunity structures.

This article results from a review of the pertinent literature on «water justice» as well as scholarship on cross-border water management in different world regions. It discusses water governance within the framework of cross-border politics and comparative regional integration. The contribution is divided into five sections. Following this introduction, part two examines «water security» and «water justice» in international affairs. Specifically, it reviews the literature on these key concepts. Part III then discusses «power» in cross-border water governance debates and addresses the transnational face of water security discussions. Part IV presents a comparative examination of cross-border «water justice» in different world regions which is followed by theoretical conclusions that are addressed in part V, the conclusion. In general, the article emphasizes the need to promote comparative cross-regional research on cross-border water governance.

1.1. Research design and Methods

This article provides the conceptual background for this special issue and the empirical articles that follow. For this reason, it is based on a review of the academic literatures on water security, water justice and cross-border water management which will be presented in the sections below. Furthermore, the websites and policy documents from the United

Nations (UN) and various regional organizations have been consulted in order to infuse the article with preliminary empirical considerations and interviews were conducted with observers (academics) and practitioners (local government officials and representatives of NGOs) in water security debates in the case cities. Approximately twenty interviews were conducted with local government officials, representatives of non-government organizations and members of local business communities and academics. Interviewees were selected based on references provided by stakeholders in local water politics.

This article results from a writers' workshop sponsored by the Consortium for Comparative Research on Regional Integration and Social Cohesion (RISC) and financial support from the University of Luxembourg funded HUMENITY (Human and Environmental Security in Cross-border Regions) research project which examined human and environmental security in seven cross-border cases in Europe and the Americas. These cases were chosen in order to vary the regional contexts in which local cross-border security politics occur. The research design includes two internal EU borders (Eurométropole and the Luxembourgish Greater Region); one EU external border (Melilla, Spain and Nador Morocco); one internal NAFTA border (San Diego, US-Tijuana, Mexico); one external NAFTA border (Chetumal, Mexico-Corozal, Belize); and a comparative study of the Colombia-Venezuela border (Norte de Santander, Colombia-Tachira-Venezuela) including examination of the case as both an internal Andean Community of Nations border and an external CAN border due to the withdrawal of Venezuela from the regional organization in 2006. By varying the positions of the cross-border cases in terms of their relationships to different types of regional organizations (EU is committed to water security and institutionally developed, the CAN is committed to water security but less institutionally developed and NAFTA is neither committed to water security nor institutionally developed), this project aims to examine the impacts of regional and local regimes on cross-border human and environmental security.

1.2. Key terms and Concepts

As stated above, the key concept presented in this paper is «cross-border environmental peace.» The cross-border element of this discussion refers to the transnational nature of border environmental politics. It specifically focuses on the dynamics of environmental debates in localized communities that span national divides, where regional and international environmental norms are relevant. Regional integration refers to the emergence of supranational governance of environmental resources in relation to regional organizations. «Environmental peace» is defined as a function of two elements: «environmental security» and «environmental justice.» The former is defined as the elimination of environmental threats to human security. In the context of this article, it refers to security for cross-border communities and their inhabitants. «Environmental justice,» refers to the equitable distribution of water in cross-border contexts. These concepts will be operationalized within the specific field of water. This is developed in the literature review presented in the following section.

2. Water Security and Water Justice: Normative Constructs in need of definition

Water Security has become an important norm in international affairs. It is one of the central pillars of «human security» and «environmental security» which have been codified in the Millennium Development Goals and the Sustainable Development Goals, amongst other international agreements. 'Water Security' is conceptually tied to the 2000 Global Water Partnership (GWP) document entitled, «Towards water security: A framework for action» and it has been officially defined by the UN as follows : «Water security is defined as the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.» (UN-Water, 2013) UN recognition of water in its global development strategies highlights the intrinsic relationship that exists between this natural resources and peace (see Benn, 2004; Krampe, 2016). Water security as an international legal norm, has evolved through the 1966 Helsinki Rules on the Uses of the Waters of International Rivers, the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the 1973 London International Convention for the Prevention of Pollution from Ships, the 1982 United Nations Convention on Law of the Sea, the 1997 United Nations Convention on the Law of Non-Navigational Uses of International Watercourses, the 2004 Berlin Rules on Water Resources and the 2010 Human Right to Water and Sanitation.

Like the broader human and environmental security paradigms, water security is a norm that is broadly accepted on a moral or ethical level, but it has been problematic to operationalize and implement. As Lankford, Bakker, Zeitoun, and Conway remind us, «Water security- in the sense of securing sufficient water for all users, all uses and at all times- is not achievable.» (Lankford, Bakker, Zeitoun, and Conway, 2013: 7). In other words, how can we pursue universal security in relation to the management of a limited resource? Unlike human security which is often viewed in positive sum terms, water security is difficult to achieve because the management of water is often a zero sum game. By providing more water to some communities, we often diminish the water supplies of others. This makes «universal peace» difficult to achieve and it promotes power politics and competition amongst actors. It also intrinsically links water security to water justice. This literature review will address both concepts.

One of the most comprehensive studies of water security is Lankford, Bakker, Zeitoun, and Conway's *Water Security: Principles, Perspectives and Practices* (2013) which is interesting because it examines the intersection between the normative, analytical and practical aspects of water security. The book recognizes that no universally accepted definition of this term can exist and even suggests that searching for one could become a futile academic endeavor. Nonetheless, the book does recognize three important characteristics of water security. First, it generally addresses *interconnectedness* as water resources

and their impacts on human beings are conceptualized relationally. In other words, water security is not a term that simply measures water stress or water scarcity but its value lies in its focus on the relationship between water resources, human well-being and development processes. This makes the concept relevant for peace studies because it frames the issues as security for people rather than states or water itself. Second, the authors contend that water security focuses on *comprehensiveness* because it promotes global approaches to water management that include socio-economic, ecological and political processes. Third, water security is about *harmonization* of water governance at the local, national, regional and global levels. It recognizes multilevel governance as a defining characteristic of water security and, while the book does not use this terminology, it also identifies policy coherence for sustainable development (defined as measures that prevent non-development policies from undermining sustainable development strategies) as a necessary element of policies aimed at promoting human well-being.

Other authors have taken a different approach to the conceptualization of «water security» attempting instead to break down this broad concept and achieve analytical precision through narrower conceptual approaches. For example, Peter Gleick (2006) analyzed this term within the framework of violent conflicts. His approach fits closely to initial discussions of «environmental security» where authors such as Homer-Dixon (1994) have stated that «environmental scarcities» could precipitate violent conflict resulting in both civil wars and international disputes. This approach spawned numerous empirical studies on the role of water in conflict areas, such as the Middle East (Conde, 2010; Amery, 2002), Africa (Derman, Odgaard, and Sjaastad, 2007) and Central Asia (Sievers, 2001-2002).

Another variant of this literature discusses the «securitization» of environmental resources, including water. Authors such as Fischhendler (2015), Turton (2003), and Al-louche, Nicol and Mehta (2011) analyze the discursive impacts of security references in water governance, the institutional mechanisms of «securitization» of water resources and the financial spending on water-focused projects in the military, amongst other issues. White (2014) summarizes the combination of these factors in an innovative way by discussing the emergence of a «fortress mentality» in the field of environmental security, including water, in which actors' commitments to security are inherently self-serving. A sub-theme of this literature has discussed water security in relation to crime due to incomplete and often ineffective legal responses to transnational environmental crimes. Scholars, such as Elliott (2007) and Ayling (2013) discuss the need to improve policy responses to this increasingly relevant phenomenon.

Of course, not every analysis of water security has been defined by its focus on conflict. Various studies have re-conceptualized the term through different approaches. For example, many authors have noted that unlike other «new» security paradigms, such as food security or energy security, water security cannot simply be defined in terms of scarcity. Grey and Sadoff (2007) recognized that water can be both destructive and constructive as too much water or mismanaged water can lead to threats to human well-being in terms of floods or other water-related disasters. This literature is important because it acknowl-

edges that water security must also consider water's destructive force, thus underlining an interesting aspect of the relationship between water and peace: balance is vital because too much or too little water can act as a threat to peace. This approach is also present in the literature on water security and climate change. While many authors, such as Arnell (2004), Le Houérou (1996), and Berry (2009) focus on drought, other scholars discuss water security in terms of flooding, rising sea levels and climate change displacement (see McAdam, 2011 and Reuveny, 2007).

Another important literature that has evolved on water security focuses on the methodologies that the academic community utilizes to examine this concept. Cook and Bakker (2011) present the most complete analyses of this paradigm as they take stock of the different disciplinary definitions and operationalizations of the water security paradigm. This inventory displays the varying methodological approaches adopted by a diverse set of academics and practitioners working in this field. Other works are more precise in their contributions. Lautze and Manthritilake (2012) argue that the conceptualization of water security is unclear and quantification is rare. For this reason, they developed an index for evaluating water security at country level that is comprised of indicators in five fields considered to be critical to the concept: (1) basic needs; (2) agricultural production; (3) the environment; (4) risk management; and (5) independence. This approach to the study of water security cannot be overlooked. In their seminal work *Mismeasuring our Lives* (2010), the Nobel Prize Winners Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi explain how what we as a society choose to measure reflects our aspirations. Our measurement of water security does not just indicate empirical considerations but it also reflects normative choices and affects policy decisions. These discussions are normative as much as they are methodological.

In recognition of this normative weight of water security debates, a distinct body of literature has emerged on water rights, water responsibilities and above all water justice (the second key component to «water peace» recognized in this analysis). The most prominent theme in this approach relates to the Human Right to Water and Sanitation. This right, which, as noted above, was passed by the UN Human Rights Council in 2010, resulted from a political movement that included important academic contributions. Most notably, Riccardo Petrella published *The Water Manifesto: Arguments for a World Water Contract* (2001). In this book, Petrella «asks for a world water contract to enshrine fresh water as an essential good to which all people have a right—controlled by communities in the public interest, and with international rules for its equitable management and distribution». Koff and Maganda (2016) have examined the need to implement this human right in development cooperation strategies (specifically in relation to the European Union). In another study, Maganda (2016) discusses the normative dimensions of this human right and argues that it needs to be applied in water rich regions and countries in order to have normative value.

Other authors have similarly focused on «water justice» as a key normative component of global water debates that includes the Human Right to Water and Sanitation but extends beyond this singular approach. This literature has often emerged under broader

headings such as «environmental justice» or «climate change justice.» An excellent overview of these debates has been provided by Kallhof (2014) who outlines four dimensions of «water justice» all of which are linked to broader categories: 1) distributive justice which focuses on obtaining fair shares of common goods and resources, 2) ecological justice which aims to protect the integrity of environmental resources, such as water, 3) cultural justice which addresses values attached to environmental resources and 4) procedural justice which outlines procedures for negotiating water conflicts (Kallhof, 2014: 367).

Kallhof explicitly illustrates the links between water justice and broader environmental justice literatures through this analysis. For example, distributive justice is often viewed in terms of costs and benefits/rights and responsibilities and it has been linked in development debates to overarching discussions on climate justice (see Adger, 2001; Shockley, 2011). Ecological justice is a foundation of the literature on conservation and discussions over the «Tragedy of the Commons» (see Feeny, Berkes, McCay and Acheson, 1990). Cultural justice relates to meanings of water in different cultures and religions. This literature (see Whiteford and Melville, 2002) examines the social or religious functions of water, often tied to myths and sacredness. Finally, procedural justice relates to the mechanisms of democratic systems and the perceived fairness of these systems. As politics is often defined as «who gets what, when and how» political legitimacy is determined by distribution procedures as much as outcomes. Important themes include public information (Maganda, 2008 and 2013), transparent institutions (Mumme, Ibañez and Till, 2012), and participation (Kauffer and Medina, 2014). All of these fields touch upon central tenants of peace studies (see Dresse, Nielsen and Zikos, 2016).

While water justice discussions have emerged in broader contexts, recent works have begun to focus on the specificities of water issues. For example, Doorn (2013) has championed the need for political philosophers and applied ethicists to enter water governance debates, highlighting their relevance to «ethics» and «social justice.» This article contends that the empirical literature on water focuses too narrowly on efficiency and efficacy while the legal literature does not adequately define «equity» and «reasonableness», the two benchmarks of water justice. Doorn contends that «water ethics» must emerge because «Water represents a multitude of meanings or values, which cannot be reduced to one overarching value» (Doorn, 2013: 105).

This point is an underlying tenant of the water justice literature focusing on local exclusion. Authors such as McLean (2007) and Laurie, Andolina, and Radcliffe (2002) have examined how water has been used as a mechanism to marginalize ethnic groups in different parts of the world (see Conde's contribution to this special issue). Similarly, Caruso, Sevilimedu, Chun-Hai Fung, Patkar, Baker (2015) amongst others have analyzed the relationship between gender disparities and access to water.

In response to these inequalities, different water justice approaches have been proposed. At the macro level, Gerlak, Varady and Haverland (2009) have documented the concept of «hydrosolidarity» in reference to the infusion of equity and ethics into international water governance. At the local level, scholars such as Trawick (2001) and Jackson

(2005) discuss alternative, non-market based approaches to water governance that are grounded in traditional management norms practiced by local ethnic groups in different parts of the world. Of course these local decision-making mechanisms are marginalized in many cross-border water debates because of prevailing power relationships in these regions. In fact, unlike international discussions of water security and water justice, «power» is often viewed as the defining characteristic of transnational water politics. This is the focus of the following section.

3. Local Power Structures and Transnational Water Governance

The literature on cross-border water management has recently become focused on the notion of transboundary water management (TWM). This paradigm has been recognized and promoted as a governance tool relevant to the principles of cooperation and basin-wide sociopolitical interaction which impact international relations and levels of cross-border cooperation and development. In fact, cross-border water management is a policy arena where domestic politics and international relations intersect. Many authors focus on legal frameworks and the intersection of governance, rights and economic interests (such as Daibes-Murad 2005; Gopalakrishnan, Tortajada and Biswas 2005). Others focus on local power relationships and the roles local authorities play, both formally and informally in negotiating water distribution (see Maganda, 2005; Walsh, 2008). Finally, numerous studies discuss regional water management with a focus on regional institutional frameworks and supranational agreements in the field of water management (see Mumme, 2003; Ingram, Laney and Gillilan, 1995).

While the TWM-related literature has become increasingly popular in the study of cross-border water governance, it does not necessarily focus specifically on either water security or water justice, thus hindering its relevance for broader discussions on peace. Most regional water programs in borderlands (i.e. UNESCO's International Hydrological Programme's so called Internationally Shared (transboundary) Aquifer Resource Management (ISARM) Programme in Latin America, or the Water Framework Directive (WFD) in Europe) examine water management through specific terms such as pollution across borders, water and agriculture, water and economic development, etc. They also discuss decision-making mechanisms such as public information and social participation in water management. However, these programs rarely make reference to normative frameworks that are important for peace such as those highlighted in the international literature presented in section two. For example, Earle, Jägerskog and Öjendal (2010) emphasize specific characteristics of contemporary border areas such as juridical fragmentation, complexity of cross-sectorial issues, the size of a basin-wide approach, and interest vested in the basin states as challenges to TWM.

For these reasons, the theme which dominates the literatures on transnational water governance is «power». Scholars from different world regions discuss power-sharing and competition for transboundary water resources within the framework of governance

structures that are shifting due to the proliferation of regional integration. For example, the scholarship on cross-border waters in Europe (see Maganda, 2013) discuss the implementation of the European Water Framework Directive and how it has not effectively addressed cross-border power issues because it does not sufficiently link the governance of water resources to institutions that govern other policy arenas, such as economic cooperation/competition, demographic trends, or the management of political conflict. Works on EU water governance acknowledge that the WFD is an institutional mechanism that has improved specific water management problems in cross-border basins in Europe. Nonetheless, it does not necessarily address the relational nature of water security within the framework of peace nor the normative elements of water justice. It is, for example, indicative that the EU has not introduced «a human right to water» approach in the WFD.

The literatures on cross-border water governance in other parts of the world are even more power-focused. Even though scholars of water security have criticized the WFD, at least the EU has established an institutional mechanism for cross-border water governance. This is not the case in other parts of the world. The literature on water politics in North America, for example, has noted that water management of resources shared by the United States and Mexico is still governed by a treaty that was signed in 1944 linking the governance of the Colorado River to the governance of the Rio Grande river, thus creating difficulties for stakeholders within these watersheds as the outdated treaty does not account for contemporary developments in US-Mexico relations nor does it foster transnational peace or cooperation. For example, Carmen Maganda (2005) has shown how Mexican stakeholders were hurt when local leaders in California paved the All-American Canal which cut off an important source of groundwater from the Colorado River, thus impacting soil quality across the border and agricultural production. Scholars such as Mumme, Ibañez and Till (2012), Walsh (2013) and Sabet (2008) have all documented similar situations characterized by power inequalities. These inequalities, according to this scholarship have been magnified by the North American Free Trade Agreement (NAFTA) which has de-regulated economic relations between the member states, thus magnifying power inequalities between countries and lessening the capacity of local officials to protect cross-border communities from globalizing markets that affect the use and distribution of water resources. In fact, a similar body of literature has emerged on water governance along Mexico's Southern borders with Guatemala and Belize where authors such as Koff and Maganda (2015), Kauffer (2014) and Medina (2014) have documented the absence of cross-border water management institutions and the self-interested behavior of local stakeholders, in part due to the lack of a regional peace-building institutional framework.

The literature on cross-border water governance in South America presents similar trends albeit with a different normative context because a regional governance framework is in place. Amongst the different regional organizations that exist in the world, the Andean Community of Nations (CAN) has one of the most developed commitments to regional human and environmental security. The CAN's normative frameworks include specific programs focusing on water security, climate change, food security and energy

security.² However, the institutions of the CAN remain relatively weak due to the importance of populist political systems in the region that are characterized by strong presidents and influential nation-states. This often creates situations in which local leaders participating in cross-border CAN initiatives must contend with the closing of national borders for reasons related to national security (i.e. the cross-border movement of FARC rebels) or economic disputes (i.e. toll disputes on the Simon Bolivar highway). For these reasons, scholars have noted that little progress has been made in the establishment of an effective system of cross-border governance of shared water basins. Miguel Sanchez (2004) has documented the need to improve water management in the Colombian-Venezuelan Guajira, an area where climatic conditions often alternate flooding with drought. Medina de Perez (2006) analyzes the international treaties that Colombia and Venezuela have signed regarding the management of water resources from the Catatumbo River, noting that these treaties, negotiated in association with international organizations, such as the Organization of American States, have not been implemented. Carmen Maganda's study of the Cucuta-San Antonio basin (2008), located in Colombia and Venezuela has indicated that each country administers their side of the basin as it sees fit with little bilateral cooperation. More generally, Boelens (2009) has contended that the nation-states of the Andean Community have utilized different strategies to «control and subject» local populations through the co-opting of local and indigenous water rights systems into national frameworks, thus centralizing decision-making.

Similar power-focused literatures have emerged on Africa (see Swatuk, 2002; Ashton, 2003; Turton, 1999; Leff, 2009) Asia (see Kassim, 2011; Luong Bach, 2012; Douglass, 2011) and the Middle East (see Amery, 2002; Conde 2010; Zeitoun and Warner, 2006). While the particularities of different cases vary from context to context, these literatures are consistent in their focus on stakeholders and actor-driven approaches (unlike the international approach described above that discusses systems and norms). The most prominent theoretical work in this field by Zeitoun and Warner (2006) has introduced the concept of «Hydro-hegemony.» According to these authors, hydro-hegemony refers to the importance of power asymmetries in transboundary water basin governance and systems of control utilized by stakeholders to maximize their comparative advantages within water management systems. The approach is relevant to broader discussions of water security because it recognizes the weakness of international water governance institutions and it accounts for the relevance of political processes outside the water sector that contribute to political domination. Conceptually, this approach adequately explains the realist nature of transnational water governance described above. However, this approach, and the literature on transboundary water management in general, remains separated from the norm-driven approach that characterizes the international dimensions of water security and water justice. Can we assume that these different levels of governance never intersect? If so, what does this mean for our understanding of «peace» in relation to water resources? These questions are the focus of the following section.

2. <http://www.comunidadandina.org/>

4. Cross-border Peace in Relation to Water Security and Water Justice

The aforementioned literature review has outlined the main characteristics of scholarship on water security and water justice at the international and transnational levels of analysis. It has above all suggested that the international arena has been characterized by the emergence of water justice as a norm in global affairs while implementation of this norm at the transnational level remains problematic because nation-states have reinforced their sovereignty in localized, cross-border water governance systems. In most cases, this important dichotomy has been identified in the water governance literature as a point of contention. Boelens and Doornbos (2001) have examined the paradoxes that exist between water norms, property rights and social organization. Mehta and Mirosa Canal (2004) study water financing and they contend that the combination of public private partnerships at the global level with local cross-border administrative, socio-economic and political realities in developing states often leads to situations in which the poor sectors of communities bear the costs of changes in water financing. Similarly Jepson (2014) analyzes water financing in poor neighborhoods (*colonias*) located in US-Mexico border cities, classifying these situations as «no-win waterscapes». Klaphake and Scheumann (2006) identify transaction costs, among other variables, as obstacles to the definition of cross-border water governance agreements and the enforcement of their provisions.

Unlike this literature, this article inquires whether the lack of implementation of international water security and water justice norms at the transnational level has less to do with cross-border politics and more to do with regional security regimes. Some scholars have indicated that regional frameworks have been underanalyzed in the fields of water security and water justice. Hoekstra (2011) has contended that most of the literature on transnational water justice focuses at basin level governance models. He contends that this unit of analysis may be faulty and he suggests that other water distribution norms, such as efficiency, equity, sustainability and security would be better served through continental or globalized mechanisms. Maganda (2010) focuses more specifically on the gap that exists between international and national water governance systems and she contends that «regions» represent a missing link in this decision-making chain.

Such arguments seem to be plausible because water management does not occur in a vacuum. While water security and water justice norms have emerged internationally, they are not universally adopted with a single meaning. Jurgen Ruland (2010) has indicated that norm diffusion is problematic because regional organizations often adapt the definition of norms to suit their own needs. Also, the regional institutional structures in which norms are implemented vary significantly in terms of structural development and power-sharing. This is demonstrated in table one which presents water security frameworks in seventeen regional organizations according to: policy-focus, activities, regional structures and decision-making procedures. The table, which is not meant to be universal (it does not include South Asia or the Middle East) selects representative organizations in different continents, and indicates that only five of the organizations included in this study are characterized by well-defined and institutionally structured water security re-

gimes (cases highlighted in italics). Most of the other organizations are characterized by opaque definitions and/or informal decision-making. Consequently, this table indicates variance in terms of the clarity of regional definitions of water security norms and the structure of regional water security implementation approaches.

Table One. A Comparison of Seventeen Regional Water Security Frameworks

<i>Regional Organization</i>	<i>Regional Water Security Action Areas</i>	<i>Regional Activities</i>	<i>Regional Water Security Institutions</i>	<i>Decision-making Procedures</i>
<i>African Union (AU)</i>	<i>political leadership, policy direction and advocacy in the provision, use and management of water resources for sustainable social and economic development and maintenance of African ecosystems.</i>	<i>Promotion of sub-regional and bilateral cooperation; continuous review of Africa's water resources; review financing of water management; promotion of compliance with international agreements</i>	<i>African Ministers' Council on Water (AMCOW)</i>	<i>Members states make decisions through a Governing Council; Secretariat for Execution of Decisions</i>
Common Market for Eastern and Southern Africa (COMESA)	Sustainable water and land management	Monitoring and evaluation through engagement of consultants	Cooperation with NEPAD; water security included in Comprehensive Africa Agriculture Development Programme (CAADP) framework	International cooperation; no specific institutional organ focusing on water
East African Community (EAC)	Sustainable use of natural resource for economic development	EAC Water Vision; EAC Water Policy; EAC Comprehensive Integrated Water Resources Management (IWRM) Strategy	Consultative EAC Water Knowledge Network; Proposal East Africa Water Institute; No Institutional Organ	Informal cooperation amongst states
Economic Community of Central African States (ECCAS)	Water and meteorological services	Proposed Regional Solidarity Fund for Water	Partnership with GWP (Global Water Partnership)	International cooperation; support for transboundary water management (TWM) structures; no specific institutional organ focusing on water
Economic Community of West African States (ECOWAS)	Conflict prevention surrounding water; water and agricultural development; water and sustainable energy	ECOWAS Agricultural Policy (ECOWAP)- focus on food security	The ECOWAS Department of Agriculture, Environment and Water Resources; ECOWAS Centre for Renewable Energy and Energy Efficiency (ECRE); Regional Agency for Agriculture and Food (RAAF)	No specific institutional organ focusing on water; informal cooperation amongst states

<i>Regional Organization</i>	<i>Regional Water Security Action Areas</i>	<i>Regional Activities</i>	<i>Regional Water Security Institutions</i>	<i>Decision-making Procedures</i>
<i>Southern Africa Development Community (SADC)</i>	<i>Access to water; food security; energy; ecosystem diversity; poverty reduction; TWM</i>	<i>SADC Regional Water Policy</i>	<i>SADC Secretariat Directorate of Infrastructure and Services' Water Division; Shared Watercourse institutions at the regional and national levels</i>	<i>Developed institutional response to water security implemented by SADC Secretariat and Shared Watercourse Institutions</i>
Mercado del Sur (MERCOSUR)	Protection of Guaraní Basin; trade and environmental regulations	Harmonization of national policies	«Environment» Sub-working Group	No specific institutional organ focusing on water; cooperation between nation-states
<i>Andean Community of Nations (CAN)</i>	<i>Equitable, effective and sustainable water management; participative governance; recognition of role of women; protection of ethnic groups; protection of biodiversity; climate change; TWM</i>	<i>Andean Strategy of Integrated Water Resources Management</i>	<i>Andean Information System on Water Resources; Fondo para la Protección del Agua (FONAG), Andean Committee of Environmental Affairs</i>	<i>Cooperation between member states; cooperation between municipalities through establishment of border integration zones</i>
Union of South American Nations (UNASUR)	Protection of biodiversity, water resources and ecosystems; disaster prevention; climate change.	Data collection	Partnership with UNDP	No specific institutional organ focusing on water: forum for exchange between member states
Sistema de la integración centroamericana (SICA)	Water governance; institutional, technical and financial capacities; TWM	Data collection; Regional Strategy on Climate Change	Central American Commission for Environment and Development – CCAD	Exchange with nation-states and municipalities; partnerships with international donors
North American Free Trade Agreement (NAFTA)	TWM; pollution	Data collection	Commission for Environmental Cooperation	Member state negotiation
Organization of American States (OAS)	IWRM; climate change	support management, conservation, and sustainable use of water resources; promotion of water governance, the assistance of integrated water resources management	Department of Sustainable Development	Partnerships with international organizations, such as the United Nations and the World Bank
Caribbean Community (CARICOM)	Climate change and drought	IWRM	Partnership with UN	No specific institutional organ focusing on water
<i>Association of Southeast Asian Nations (ASEAN)</i>	<i>Water supply and distribution; health; food security; economic development</i>	<i>ASEAN Strategic Plan of Action on Water Resources Management</i>	<i>ASEAN Working Group on Water Resources Management; River Basin Organizations (RBOs)</i>	<i>Developed institutional response; partnerships with RBOs and international actors such as Asian development Bank</i>

<i>Regional Organization</i>	<i>Regional Water Security Action Areas</i>	<i>Regional Activities</i>	<i>Regional Water Security Institutions</i>	<i>Decision-making Procedures</i>
Pacific Island Forum	Climate change; food security; disaster response; pollution	Human Security Framework	Pacific Islands Forum Secretariat	No specific institutional organ focusing on water
<i>European Union (EU)</i>	<i>IWRM; TWMM; climate change; drought; pollution; social participation; economic development; biodiversity; health; food security; harmonization of national legislation; pricing</i>	<i>EU Water Framework Directive; Cotonou Agreement</i>	<i>EU Commission: Directorate General (DG) for Environment; DG for International Cooperation and Development</i>	<i>Developed institutional responses: both internal and external dimensions</i>
Arctic Council	Climate change; food security; rights of indigenous populations	Data collection	Different ad hoc expert groups	No specific institutional organ focusing on water

Source: Table compiled by author based on policy documents from listed regional organizations.

Given the significant variance that is illustrated in table one, it is relevant to ask: what explains regional approaches to water security and water justice and how does this translate to the transnational level? In response to the former question, this article frames regional water governance for peace as an outcome of the combination of regional commitments to equitable development (related to justice) and the levels of institutionalization of regional organizations (related to security). For example, both the African Union and the European Union have been identified as organizations that have established institutionalized regional water security regimes. In this regard, they share a normative commitment to water security. However, these organizations are dissimilar in terms of the both the effectiveness and legitimacy of their regional governance structures. Therefore, if regions are supposed to act as «agents of water peace» then they must be characterized by institutional frameworks for justice that are well-positioned for implementation purposes (see Ansorg, Haas and Strasheim, 2013). This is illustrated in table two which classifies the regional organizations from table one according to the criteria described here. The table shows that even though the European Union, the African Union and the Andean Community of Nations, the Southern African Development Community and the Association of Southeast Asian Nations all demonstrate a normative commitment to water security in their policy discourse, only the EU and ASEAN have been able to institutionalize this discourse into the application of regional policies that are implemented at the local level through institutionalized systems that include equitable development objectives. Most regional organizations represent cases where neither an institutionalized commitment to water security nor effective/legitimate regulative structures exist. This explains why cross-border water conflict/injustice and water security problems persist in many parts of the world (see literature cited above).

Table Two. Regional Water Peace as a Function of Institutionalized Commitments to Equity and Levels of Legitimate Institutionalization

	<i>Legitimate Governance Capabilities</i>	<i>Lacking Legitimate Governance Capabilities</i>
<i>Institutional Commitment to Equity</i>	EU, ASEAN	AU, SADC, CAN,
<i>Lacking Institutional Commitment to Equity</i>		Arctic Council, Pacific Island Forum, CARICOM, NAFTA, COMESA, EAC, ECCAS, ECOWAS, MERCOSUR, OAS, SICA, UNASUR,

Source: Table compiled by author based on policy documents from listed regional organizations.

Of course, regional organizations alone cannot explain water security regimes at the local, cross-border level. Otherwise, cross-border water conflicts would not occur in Europe, which is not the case. Cross-border power relationships do matter as noted in the hydro-hegemony-based literature. As Zeitoun and Warner, amongst others, have noted, power is based on different variables, such as upstream versus downstream geographic positions, economic wealth, presence/absence of infrastructure, demographic density, and climatic conditions, etc. Local elites utilize their comparative power advantages to maximize their claims in local cross-border water negotiations.

However, this article contends that power struggles must be viewed in relation to the normative systems in which they occur. Table three illustrates this point. It summarizes research on water security that was carried out as part of the aforementioned HUMANITY research project which examined human and environmental security in seven cross-border cases in Europe and the Americas.

Table Three. Cross-border Water Peace as a Function of Institutionalized Regional Norms and Local Power Symmetries

	<i>Local Power Symmetries</i>	<i>Local Power Asymmetries</i>
<i>Institutional Commitment to Water Security</i>	Norte de Santander, Colombia-Tachira, Venezuela I; Eurométropole	Luxembourg's Greater Region;
<i>Lacking Institutional Commitment to Water Security</i>	Chetumal, Mexico-Corozal, Belize; Norte de Santander, Colombia-Tachira, Venezuela II	Melilla, Spain-Nador, Morocco; San Diego, US-Tijuana, Mexico

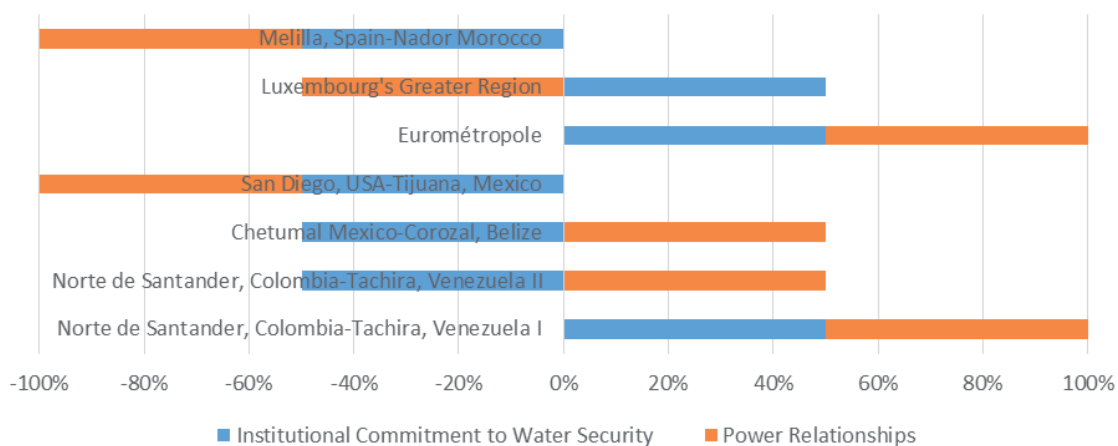
Source: Table compiled by author based on policy documents from relevant regional organizations.

The categories presented in this table inform figure one which is based on Jon Elster's (1993) conceptualization of «local justice» through an analysis of the distribution of costs and benefits. This figure represents «cross-border peace» as a function of regional justice norms and power symmetries that affect security. The value «1» has been assigned to each case for community benefits and «-1» for community costs. In areas where regions have

not institutionalized an equitable commitment to water distribution («-1»), then peace is penalized whether local power relations are symmetrical («1») or asymmetrical («-1»). This is the case in the Americas where the lack of a regional water security/justice framework has negatively affected local water governance at the US-Mexico border (San Diego-Tijuana), the Mexico-Belize border (Chetumal-Corozal) and the Colombia-Venezuela border since the latter state left the CAN as well the EU's external borders (Melilla-Nador) where the divide between regions can be considered to be what Foucher defined as «areas of fracture» separating socio-economic realities. In the case of Melilla and Nador, the former city represents a walled frontier of Europe but it is dependent on Morocco for its water supply, thus establishing a situation characterized by populist power politics on both sides.

Similarly, when power relationships are significantly asymmetrical («-1»), cross-border water justice is difficult to achieve, even in regions with institutionalized water security/justice frameworks. In Luxembourg's Greater Region, participation in cross-border basin councils and implementation of the European Water Framework Directive has lagged significantly, in part due to the fact that Luxembourgish national water authorities negotiate with sub-national officials from neighboring states in cross-border management structures, providing them with an influential position in decision-making bodies. Moreover, because Luxembourg is the economic motor of the Greater Region and because more than 120,000 commuters cross the country's borders daily, it exerts significant power in all areas of cross-border governance, including water management. This has resulted in a situation in which Luxembourg has been late in implementing the WFD and it has not actively participated in cross-border water governance. Interestingly, this behavior reflects that of Belize, despite the latter's poorer economic situation and the lack of regional water governance structures encompassing its borders with Mexico. In both cases, state officials have governed water resources through informal mechanisms instead of participating in formal power-sharing institutions aimed at establishing cross-border water security.

Figure 1. Cross-border Water Security as a Function of Institutionalized Regional Norms and Cross-border Power Relationships



Source: Figure is compiled by author based on categories presented in Table three.

The final two cases examined in the HUMENITY research project are very different in nature but they also are interesting due to the positive outcomes that they produced. The Eurométropole (Lille, France-Tournai and Kortrijk, Belgium) is one of the oldest and most developed cross-border regions in the European Union as it is located between major cities of Paris, Brussels, London and Amsterdam. The cross-border management frameworks that have evolved in this region include economic development, territorial planning and cultural exchange. There is also a long history of local cross-border cooperation in both the cultural and economic arenas which established the bases for symmetrical power dialogues despite the fact that Lille, the capital of the Eurométropole, is wealthier than its Belgian counterparts. Moreover, local leaders in Lille have pursued the Eurométropole in order to raise the city's visibility in national and European affairs, thus creating mutual need within the region. For this reason, cross-border water security has been positively affected by integration as cross-border cooperation supports EU regional frameworks in the field. Similarly, Norte de Santander and Tachira have also enjoyed cultural and economic exchanges that date back to the establishment of the Gran Colombia by Simon Bolivar in 1819. In many ways, these regions have more in common that they do with their respective national governments. When Venezuela was part of the CAN, these relationships were activated in officially recognized Andean Border Integration Zones (BIZ). The focus of the BIZ were to harmonize territorial planning, economic development, security, and cultural policies. Three specific goals of the BIZ related to water security: 1) to increase and reinforce the supply of basic and or/social services for common use, such as aqueducts and electrification, communications, road infrastructure, health, education, and sports and tourist recreation services; 2) to investigate and use the contiguous renewable natural resources in a sustainable manner and to promote mechanisms for their appropriate conservation; 3) to contribute to the conservation and sustainable use of natural resources, with particular attention to biological diversity.³

Until 2006 when Venezuela withdrew from the CAN, the BIZ encompassing Norte de Sandander and Tachira was one of the most active in the Andean Community and cross-border water security (as well as human security and environmental security in general) benefitted significantly. Since 2006, however, the focus of cross-border politics has shifted to hard security issues related to the spillover of Colombia's civil war and drug trafficking. Both countries close the border periodically over security or highway toll disputes. This has increased informality in the region tremendously, negatively affecting human and environmental security, including water security. Because of the historical ties that exist in the region, local officials and NGOs continue to cooperate in many ways but water agreements between Colombia and Venezuela are not being implemented because the regional institutional framework for cooperation is no longer valid. This explains why Norte de Santander-Tachira is represented as two cases in table three. It also provides a very important control case that indicates that local power symmetries are not enough for cross-border environmental peace to emerge without institutionalized regional water

3. <http://www.comunidadandina.org/Seccion.aspx?id=122&tipo=TE&title=zonas-de-integracion-fronteriza-zif>

security norms. In fact, this case is emblematic of a broader breakdown of cross-border peace in the region. This is discussed further in the conclusion below.

5. Conclusion

This article contends that peace surrounding cross-border environmental resources includes two elements: environmental security and environmental justice. The previous sections have addressed the dual natures of these concepts. They have indicated that environmental security and environmental justice norms have emerged at the international level but transnationally, implementation has been challenged because states often reinforce their political borders, thus undermining cross-border cooperation and normative transformation in local systems. Moreover the article has contended that normative regional environmental security commitments act as necessary bridges between international norms and localized cross-border environmental justice debates. For this reason, the article contends that cross-border environmental peace should be viewed through the interaction between institutionalized regional environmental norms and local power relationships.

These two key foci are fundamental elements of a transformative sustainable development agenda which peace studies often label «sustainable peace». Unfortunately, local power relationships dominate cross-border environmental governance debates which usually focus on issues related to efficiency, efficacy, sustainability of resources, conservation etc. «Justice» receives less attention in these discussions. For this reason, peace has not played a central role in the analysis of cross-border environmental governance.

This article suggests that one reason for this omission could be that there is a dearth of institutional mechanisms through which international norms can be downloaded into cross-border political/socio-economic systems. The analysis presented above has shown that most regional organizations in the world lack either an institutionalized commitment to equitable development, an effective system of governance or both. This explains the lack of normative impacts on local cross-border environmental debates. Whereas power relations reflect horizontal cross-border relationships, the normative infusion of «environmental peace» into cross-border systems needs to be vertically derived from international principles of environmental security and environmental justice. This can be accomplished through the institutionalization of environmental security/justice norms at the regional level. Otherwise, this analysis suggests that cross-border environmental governance will remain power-based and actor-driven with negative general consequences for sustainable peace in cross-border regions.

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