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The Circle of Hydro-Hegemony Between Riparian States, Development Policies and Borderlands: Evidence From the Talas Waterscape (Kyrgyzstan-Kazakhstan)

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Abstract

Since the 1990s, transboundary water management has come to play a key role both in global environmental politics debates and in the shaping of international development policies, specifically in the Global South. As a consequence, a growing body of literature in the framework of critical hydropolitics has emerged reflecting on the role that power, discourses, and strategies play in shaping transboundary water policies and in influencing riparian relations. The focus on a state-centric perspective, however, often has led to neglect of the role of international development actors in shaping these policies. Through a critical application of the Circle of Hydro-Hegemony (CHH) and ethnographic qualitative field research in borderlands, this contribution aims to analyse how the establishment of a development initiative known as the Chu-Talas Commission, supported by the United Nations Economic Commission for Europe (UNECE) and other donors, has influenced and shaped transboundary water politics in the Talas waterscape, which is shared by Kyrgyzstan and Kazakhstan. The evidence shows that despite the international narration of the Chu-Talas Commission as a success story for water cooperation in Central Asia, Kazakhstan, through the deployment of both material and bargaining power strategies, has been able to shape UNECE development policies in its favour, impose its agenda on Kyrgyzstan, and emerge as the basin hydro-hegemon.

Keywords: Hydropolitics; Circle of Hydro-Hegemony; Development Initiatives; Talas Borderlands; Kazakhstan; Kyrgyzstan

Introduction

Over the last few decades, transboundary water management has gained a key role in international relations between riparian states. Several rivers – particularly in the Middle East and in Central and Southeast Asia – have assumed a transboundary nature due to the political and border reconfigurations linked to the dismantlement of the colonial order and the end of the Cold War. Transboundary water management processes have a complex political nature since they are subject to processes of negotiation, control, utilization, and allocation (Zeitoun and Mirumachi, 2008, 2013).

A growing body of literature recognises the importance of a critical approach to hydropolitics (among others, Sneddon and Fox, 2006; Warner and Zeitoun, 2008; Julien, 2012; Menga, 2016b) as a way to further our understanding of the role that power and discourses play in influencing international water relations and in shaping transboundary water policies. By taking power asymmetries into account, scholars have revealed the inequalities that often mark transboundary water relations, in spite of outward claims of cooperation (Zeitoun and Mirumachi, 2008; Zeitoun et al., 2011).

This seems to be the case with the Talas transboundary waterscape¹, a river basin shared by Kyrgyzstan and Kazakhstan that is generally singled out as a success story in transboundary cooperation (UNECE, 2011a; Libert, 2014) in the otherwise conflictual regional political setting in Central Asia (Wegerich, 2008). In particular, the establishment of the Chu-Talas Commission – a bilateral body created in 2006 to facilitate water resources allocation in the Chu and Talas waterscapes shared by Kazakhstan and Kyrgyzstan – has been hailed as the way forward in water cooperation in Central Asia (UNECE, 2011a; Libert and Lipponen, 2012). The aim of this paper is to critically examine water politics in the Talas waterscape and argue that, in spite of their significant efforts, the United Nations Economic Commission for Europe (UNECE) and other donors such as the Organisation for Security and Cooperation in Europe (OSCE), the United Nations Commission Economic and Social Commission for Asia and the Pacific (UNESCAP), and the Asian Development Bank (ADB) were unsuccessful in their objective of imposing an international development discourse based on the principle of benefit-sharing, as well as in their attempt to balance state power between Kazakhstan and Kyrgyzstan. The reasons for this, it will be argued, are to be found in the political strategies implemented by Kazakh water authorities at different scales, which effectively used their power to hamper the activities of UNECE, OSCE, UNESCAP and ADB and get Kazakhstan a more powerful position and a more favourable water allocation than the one to which the country is entitled based on existing bilateral agreements.

Transboundary water politics in the Talas transboundary waterscape will be analysed using the hydro-hegemonic approach proposed by Menga (2016a), the Circle of Hydro-Hegemony (hereinafter CHH), an analytical framework devised to understand how basin riparians use different forms of power to maintain, or counter, hegemony. The CHH has been chosen, among other reasons, for its emphasis on water politics as evolving political processes, something that enables the adoption of a broader perspective in the analysis of transboundary water interactions, one that,

¹The concept of waterscape has increasingly emerged over the last decade in research that discusses the interactions between water, power and socio-political dynamics (Swyngedouw, 1997; Loftus, 2009; Budds and Hinojosa, 2012).

as it will be argued, allows examining the layered nature of hegemonic struggles. This is relevant to the case of the Talas waterscape, where the nature of political negotiations has considerably evolved since the early 2000s, particularly because of the increasing role played by international development actors, and most prominently UNECE. The Talas waterscape was firstly regulated through a Soviet inter-republican agreement signed in 1983, almost a decade after the development of its main hydraulic infrastructures. These included the Kirov reservoir, its canals network and the pumping systems, which were set in place to face the inter-republican water issues emerged at the end of the 1970s. After the collapse of the Soviet Union and the increasing tensions over water between independent Kyrgyzstan and Kazakhstan, a new agreement was signed in 2000 (Wegerich, 2008a; Dukhovny and De Schutter, 2011). UNECE, OSCE, and UNESCAP promoted the establishment of the Chu-Talas Commission as part of a wave of international development initiatives to reform and restructure water politics in the Global South and post-socialist states that began in 2002 (Lipponen and Libert, 2012; Libert, 2014). The Commission, which was designed to support and strengthen Kyrgyz-Kazakh interstate water cooperation, was established in 2006, setting in place a new institutional structure formed by members of the Kazakh and Kyrgyz water authorities (Wegerich, 2008b; UNECE, 2011b). Through the application of the CHH to the Talas waterscape, this paper contributes to the literature exploring the role of power in transboundary water politics and the influence of international development initiatives in shaping these politics and riparian relations (see, among others, Zeitoun and Warner, 2006; Zeitoun, 2008; Cascao, 2008, 2009; Menga and Mirumachi, 2016; Zinzani, 2017).

This paper also responds to Furlong's (2008) incisive argument that most hydro-hegemony analyses suffer from a state-centric approach and do not really engage with issues of scale. As Sneddon and Fox (2012) observed, "a variety of agents associated with spatial scales and organizational levels ranging from the global to the local" may shape transboundary waterscapes. The hydro-hegemony scholarship has generally ignored these agents. Therefore, and with the aim of critically contributing to this scholarship, the present study will also draw on critical water geography to avoid the territorial trap and illustrate how scalar differences can bring constraints and limitations to the use of power. Despite considerable efforts aimed at promoting cooperation between riparian states in different transboundary waterscapes, such as for instance in the Nile (Nile Basin Initiative), in the Mekong (Mekong River Commission), and in the Indus (Indus Water Treaty), little research has focused on the analysis of international development policies and on borderlands hydropolitics (Sneddon and Fox, 2006; Mustafa, 2007; Cascao, 2009; Suhardiman et al., 2012). Thus, by taking on the concepts of waterscape and borderlands, the use of a multi-scalar approach within the CHH and a critical reflection on international development initiatives, the present study aims to provide a novel and innovative contribution to critical hydropolitics, moving forward the hydro-hegemony literature. In addition to broadening this focus, this paper seeks to extend our understanding of the political processes around water sharing in Central Asia, a topic that has received scant attention in the research literature. Numerous studies have examined water politics in the region, but have focused predominantly on issues related to the desiccation of the Aral Sea (Spor, 1998; Vinogradov, 2001; Micklin, 2007), the inability of the Central Asian republics to find a solution to regional water problems (Klotzli, 1997; Micklin, 2002; Heltzer, 2003; Wegerich, 2008), the role of water and climate change in triggering interstate conflicts (Smith, 1995; Krutov and Spor, 2003; Bernauer and Siegfried, 2012), the coexistence of conflict and cooperation (Elhance, 1997;

Weinthal, 2006; Allouche, 2007), and the implementation politics of international development initiatives (Sehring, 2009; Bichsel, 2009; Zinzani, 2015).

With all the above in mind, this paper sets out to provide a novel analysis of water politics in Central Asia while providing a constructive critique to the hydro-hegemony scholarship. This is done by placing the spotlight on Kazakhstan, a country that discussions of regional water politics have generally overlooked in favour of attention to Uzbekistan (arguably the region's hydro-hegemon) and to Tajikistan's and Kyrgyzstan's ambitious hydropower development plans (Menga, 2014). The paper illustrates that the image of Kazakhstan as a mediating force in regional water politics, along with that of President Nursultan Nazarbayev as a benevolent regional leader who managed to bring its country to the chairmanship of the OSCE in 2010 (Isaacs, 2010), does not necessarily illuminate its bilateral water relations with Kyrgyzstan. The paper also reflects on the role of initiatives promoted by non-state actors, such as UNECE, UNESCAP, OSCE, and ADB, to assess the extent to which development actors can actually influence transboundary water politics in the Global South. The next section gives a brief overview of the CHH and of the relevance of the concepts of power and hegemony to understanding transboundary water politics and international development policies. The third section discusses international development initiatives in Central Asia and introduces the Talas waterscape and its institutional background, while the fourth section applies the CHH to the case-study and discusses the findings that emerged from this analysis. Finally, the fifth section concludes the paper, identifying suggestions for future research.

1. Critical Hydropolitics, the CHH and Water Development Policies

This study builds on the body of literature that emphasises the role of power, power asymmetries, and discourses to advance the notion of a 'critical hydropolitics' (Sneddon and Fox, 2006). Zeitoun and Warner's (2006) Framework of Hydro-Hegemony (FHH) was the first structured contribution to hydropolitics that focused on how power shapes transboundary water relations. The FHH draws on Lukes's (1974) dimensions of power and on the Gramscian notion of hegemony to provide an analytical framework based on three pillars – riparian position, power, and exploitation potential – which serve as an explanation for power asymmetries in a river basin. In a critical hydropolitical approach that examines the influence of power on transboundary water relations, discursive framings can play an important role in determining the outcome of interstate negotiations. Menga and Mirumachi (2016: 373), have for instance illustrated that the “analysis of the discursive and ideological dimensions of power, or 'soft' power, in particular, enables insights to strategies of water control under conditions of power asymmetries between basin states”.

The FHH has been recently reconceptualised by Menga (2016a: 410), who argued that the “FHH offers extremely useful insights to the understanding of interstate relations, but does not explicitly show that hegemony and not power is its central element”. According to Menga, the concept of hydro-hegemony – which he defined as “the success of a basin riparian in imposing a discourse, preserving its interests and impeding changes to a convenient status-quo” – and not that of power should be central if we are to understand the struggle for hegemony in an international river basin. Menga (2016a) therefore placed the concept of hydro-hegemony at the centre of an analytical

structure to illustrate how various forms of power interact and are connective in the function of hegemony (Figure 1).

The CHH is structured around three forms of power: i) material power, which includes a riparian's position, the size of its territory and population, and its economic means, military might, and structural capacities (such as the ability to realise a large scale hydraulic infrastructure); ii) bargaining power, which denotes a riparian's ability to influence negotiations and offer incentives to comply with its will and set a political agenda by deciding which issues should be discussed and (perhaps more importantly) which ones should be ignored; and iii) ideational (or discursive) power, which refers to the ability to impose on others a sanctioned discourse² and an ideology. Both bargaining and ideational power are part of the broader category of 'soft' power, while material power corresponds to 'hard' power, with the former being covert and more sophisticated, and the latter being more visible and concrete.

While we are, in general, espousing a hydro-hegemony perspective, we decided to specifically adopt the CHH for its central emphasis on a neo-Gramscian approach to water politics. Gramsci's (1975) understanding of politics in terms of becoming (*divenire*) is analytically relevant to the study of the forces and the continuous processes behind transboundary water politics and to the examination of the layered nature of hegemonic struggles. Furthermore, the CHH hints at a fluid understanding of power, setting the basis for a different perspective on the complex relationship of forces operating in a transboundary waterscape. However, even though this implies that the way power is used can theoretically vary according to the setting, time, and level under scrutiny, it is less clear how it varies in the real world. Moreover, the ways in which scales can influence the use of power has received little attention within the hydro-hegemony scholarship. This is a compelling absence, as attending to scalar differences, we argue, can add analytical depth to analysis of hydro-hegemony. In this we follow research from the hydropolitics literature such as Warner (2008; 2011), which looked at hegemony as a layered phenomenon and illustrated the influence of different stakeholders at different levels of water-related interactions. Menga (2017) advanced the notion of the 'hydropolis' to illustrate how ruling elites politically construct a large dam as a foreign policy matter, thus shifting its related discourses from the local to the global. Zeitoun et al. (2013) focused on multiple spatial scales of hegemony in the Jordan River, while Mirumachi (2015) looked at how agency functions across scales in transboundary water politics.

In parallel, critical water geographers have extensively explored the role of scale in water politics and governance. Akhter (2015; 2016) has for instance observed how large-scale water infrastructures and the reliability of water measurements strongly influenced the work of water technocrats in the Indus Basin. Harris and Alatout (2010) illustrated the key role of scalar negotiations and constructions of freshwater in the national consolidation of Israel and Turkey, while Sneddon and Fox (2012) shed light on multi-scalar water governance policies and discourses in the Mekong River. Mustafa (2007) analysed water and conflict dynamics at the sub-national scale in the Indus Basin, and Cohen and Bakker (2014) developed the concept of the 'eco-scalar fix' to

² Anthony Turton defines a 'sanctioned' discourse within hydropolitics as 'the prevailing or dominant discourse that has been legitimised by the discursive élite within the water sector at any one moment in time. It represents what may be said, who may say it and how it may be interpreted, thereby leading to the creation of a dominant belief system or paradigm' (Turton, 2002).

understand the interplay between the scalar politics of environmental governance and social constructions of ecological scales. Recent work by Norman et al. (2015) has also revealed that the introduction of scalar debates into discussions on water governance significantly advances both governance studies and scalar theory. With its emphasis on scale, power, and ideology, this critical water geography literature enables us to move the CHH forward, with the underlying assumption that deliberations (and policies) on water are essentially deliberations (and challenges) of the politics of scale. Such an approach opens up new avenues to the study of how actors across scales might use different forms of power differently, thus shaping transboundary water relations as well as the strategies the hydro-hegemon adopts.

Therefore, in this paper we will contribute to both the hydro-hegemony and water geography scholarship by offering original insights about how countries wield power in a transboundary waterscape through a multi-layered analysis that pays attention to scalar differences. The concepts of waterscape and borderlands will increase the hydro-hegemony scholarship, bringing in new dimensions of theoretical innovations by examining the role and practices of borderlands state institutions and communities in shaping power interactions and related complex dynamics. Within this perspective, an application of the CHH to the Talas waterscape will allow us to understand the hidden mechanisms and the discursive strategies Kazakhstan employed to hamper the efforts of international organisations such as UNECE, OSCE, UNESCAP, and ADB, and emerge as the basin hydro-hegemon.

An ethnographic qualitative approach is well-suited to this study's goals. Data were collected in the Kazakh and Kyrgyz Talas waterscape borderlands (Dzhambul province, Kazakhstan and Talas province, Kyrgyzstan), in August and September 2015. We conducted semi-structured interviews, open discussions, and semi-formal and informal talks with members of the Chu-Talas Commission; members of state, province, and district water authorities; national and international experts; heads and members of water users associations (WUAs); and farmers. Data collection focused on the role of the Commission and on Kazakh and Kyrgyz water authorities, their interactions at both interstate and borderlands levels, and their discourses, as well as on management and practices of borderlands transboundary infrastructures. This analysis allowed us to combine a joint top-down – bottom-up perspective to disentangle development initiatives and riparian states power interactions, specifically the role of Kazakhstan in influencing the Chu-Talas Commission. The focus on borderlands also enabled us to extricate Kyrgyz-Kazakh water relations, practices, issues and tensions. This brought to surface the strategies that the Kazakh hydraulic bureaucracy deployed to influence negotiations, undermine Kyrgyz demands, and emerge as the hydro-hegemon at the inter-state level³.

Over the last three decades, global environmental politics and water policies sponsored by international development actors have been influenced by the global discourse on sustainable development, good governance, and participatory approaches in decision-making processes. However, these politics and policies have also focused on water resources commodification, liberalization, and state withdrawal, influenced by a neoliberal approach (Ferguson, 1990;

³ For this case study, borderlands consist of an area measuring approximately 15 kilometres from north to south, and 20 kilometres from west to east. This area is divided by the border (which lies west-east) and is characterised by cross-border small canals, streams and natural springs.

Swyngedouw, 1997; Bakker, 2003; Cornwall and Brook, 2005; Molle, 2008; Molle et al., 2009; Budds and Sultana, 2013).

According to this global discourse and linked processes of water resources management reconfiguration, since the mid-1990s several international development organisations have started to support this approach in the countries of the Global South through the formulation of development initiatives and projects. These initiatives, driven by the World Bank, United Nations agencies, the United States Agency for International Development, and the Asian Development Bank, among others, have had a multi-perspective nature, aimed at supporting and orienting water sector national reforms, institutional changes, international water policies implementation (Irrigation Management Transfer [IMT] and Integrated Water Resources Management [IWRM]), and the design of interstate treaties in transboundary waterscapes (Allan, 2003; UNESCAP, OSCE and UNECE, 2006; Biswas, 2008; Molle, 2008; UNECE, 2011a; Budds and Sultana, 2013; Zinzani, 2015, 2017).

However, the impact of these development initiatives has been questioned by several scholars, who argued the depoliticised nature of these measures, and claimed that they have supported and transformed national institutional structures, hydrosocial relations, and linked power reconfigurations at multiple levels in the Global South (Loftus, 2009; Swyngedouw, 2009; Budds and Sultana, 2013). Others point to how narratives and discourses constructed around a global and broad consensus over the concept of sustainable development and buzzwords such as empowerment, accountability, and resources security have framed these initiatives as a way of hiding their power dimension (Ferguson, 1998; Cornwall and Brook, 2005).

Reflecting on these dynamics and on the influence of international development organisations in supporting initiatives and promoting cooperation agreements in transboundary waterscapes in the Global South, it emerges that neither the FHH nor the CHH have considered the potential role of development actors (together with their policies and narratives) in influencing power dynamics in transboundary water politics. Debating the concept of hegemony, several scholars (Agnew and Corbridge, 1995; Bakker, 1999; Goldman, 2004; Furlong, 2006) have argued that the ideology and discursive power of development initiatives have gained a hegemonic role in water politics replacing states and their national powers. This suggests an international discourse on transboundary water management could strongly influence riparian states and prevail on national interests. Furthermore, the CHH has exclusively focused on a national and state-centric perspective without considering the potential role of borderlands state institutions and communities in shaping power interactions and related complex dynamics. Thus, it is significant to use the CHH to also analyse how both borderlands state and non-state actors can influence multi-dimensional power interactions among riparian states.

2. Development Initiatives in Central Asia and the Talas transboundary waterscape

The collapse of the Soviet Union deeply reconfigured the regional context of water resources management in Central Asia. It created five independent states – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan – all of which share the Aral Sea basin water resources.

At the beginning of the 1990s, the institutional water framework inherited from the Soviet Union was at risk and various international development organisations identified the region as an area of potential crisis because of water resources division (Wegerich, 2006; Dukhovny and De Schutter, 2011). But the governments of the Central Asian republics agreed to maintain the Soviet inter-republican water framework for the two transboundary main rivers, Syr-Darja and Amu-Darja, formalised in the 1980s, soon after gaining independence in 1991. The interstate basin agencies, BVO Syr-Darja and BVO Amu-Darja, continued their operations (Spoor and Krutov, 2003). All five Central Asian states signed an agreement to ensure cooperation in joint management, use, and protection of interstate water resources and established the Interstate Commission for Water Coordination (ICWC) as a joint authority, strengthening the international framework in 1992 (Wegerich, 2006; Dukhovny and De Schutter, 2011). However, lack of institutional coordination, power asymmetries, and conflicting water demand between upstream and downstream states led to the rise of regional tensions.

In parallel, Central Asian states also conducted water sector reforms at the national level, in relation to the decollectivisation of state agriculture, characterised by different paths and approaches, more or less oriented towards decentralisation and liberalisation (Wegerich, 2006; Sehring, 2009; Zinzani, 2015). In the mid-1990s, development organisations such as the WB, ADB, USAID, UNDP, and the Swiss Development Cooperation (SDC), began promoting development initiatives based on IWRM and IMT concepts (Dukhovny and De Schutter, 2011; Zinzani, 2015). Their objective was to influence national water resources politics and balance and guide heterogeneous reform paths. These measures resembled in other regions of the Global South, including the Middle East, Southwest, and Southeast Asia. In the context of transboundary water management, international development initiatives, based on the UN Watercourse Convention (1997) and on the UNECE Water Convention (1992-2013) and sponsored since the 2000s, have also embodied principles of IWRM (UNECE, 2011a).

However, as several scholars have argued, these development policies in Central Asia also had the objective of a structural adjustment of the institutional, economic, and political context through the support of market deregulation, liberalization, resources commodification, and privatization, leading to a rollback of the state, ruling hydraulic bureaucracies, and linked powers (Molle et al., 2009; Bichsel, 2009; Sehring, 2009; Zinzani, 2015). A focus on development policies and related bargaining and discursive powers linked to the CHH framework is relevant to critically disentangle international development organisations' influence in Central Asian transboundary water politics.

2.1 An Overview of the Talas Waterscape

The concept of waterscape has emerged over the last decade in research that discusses the interactions between water, power, socio-political dynamics and technology (Swyngedouw, 1997, 2004; Bakker, 2003; Budds, 2009). The waterscape is not merely a territory within which water flows. It is also a produced socio-natural entity in which water's material flow determines and shapes social power (Swyngedouw, 2004; Loftus, 2009; Budds and Hinojosa, 2012). It represents a socio-spatial product, a materialized entity characterised by power, socio-political interactions, and physical-environmental dynamics. In addition, waterscapes comprise the assemblage of a wide

range of water flows, water infrastructure, internal and external institutions and authorities, everyday formal and informal practices, political discourses, and narratives which produce, and are produced by, power dynamics (Swyngedouw, 2009; Budds, 2009). Therefore, according to our analysis, the concept of waterscape seems appropriate in order to shed light on interactions between different forms of power and interstate management of water resources and infrastructures. In Central Asia, climatic and environmental conditions have led to the development of waterscapes since ancient times by different empires and political orders through the construction of hydraulic infrastructures such as irrigation schemes and reservoirs. In modern times the material reification of waterscapes has occurred during the Soviet hydraulic mission from the 1950s to the end of the 1980s to design new irrigated areas for monoculture cotton production (Wittfogel, 1957; Molle et al., 2009; Bichsel, 2009; Zinzani, 2015).

As part of this process, the development of the Talas transboundary waterscape began in the 1970s during the Soviet hydraulic mission. The socialist ideal of adapting steppes and deserts to the development of the Soviet society drove a belief in the human conquest and transformation of nature that inspired this socio-political and technical process. Shared by Kyrgyzstan upstream and Kazakhstan downstream, the Talas River (661 kilometres) originates in the Kyrgyz central Tian-Shan Mountains, flows towards Kazakhstan, and vanishes, due to water diversion and irrigation uses, in the Moinkum steppe in the Dzhambul province of Kazakhstan. The reification of the waterscape, specifically the central and downstream part, occurred during 1973-1975 through the construction of the Kirov reservoir, situated in Kyrgyzstan approximately 15 kilometres upstream of the Kazakh border. Commissioned by Soviet water authorities, the reservoir was built to control and regulate the flow of the Talas River to supply the Kyrgyz and Kazakh central and downstream parts of the waterscape (Krutov and Spoor, 2006; Wegerich, 2008). Since the mid-1970s, other canals, connected to the reservoir and the river, have been designed to enlarge the waterscape and allow the development of state and collective farms and new irrigated areas. After the collapse of the Soviet Union, an international border divided the Talas waterscape; decollectivisation processes and the implementation of diverse national and local land and water reform politics supported by Kyrgyz and Kazakh governments transformed and reconfigured it (Figure 2). Furthermore, the establishment of water users associations (WUAs), in particular in Kyrgyzstan, led to relevant changes regarding hydraulic infrastructures operation and maintenance (hereinafter O&M). The appearance of informal practices and arrangements between farmers on the sides of the border transformed the management of small transboundary canals and streams. These heterogeneous institutional, political, and social changes led to relevant transformations of the Talas waterscape.

2.2 Talas Transboundary Interstate Relations and the Establishment of the Chu-Talas Commission

During Soviet rule, in the framework of inter-republican agreements, a regulation protocol was signed in 1983 between Kyrgyz and Kazakh SSRs. It focused on sharing and regulation of water resources and hydraulic infrastructure between the two republics. This protocol was the first agreement regulating the Talas waterscape. According to the protocol, the Talas water flow was equally divided, 50% to each republic (Wegerich, 2008; Dukhovny and De Schutter, 2011; personal communication with the Chu-Talas Basin Agency, August 2015).

After the collapse of the Soviet Union and the rise of different agricultural and economic plans between the two independent states, issues and tensions regarding water flow division and hydraulic infrastructure O&M emerged. In order to solve these disputes and develop mutually beneficial cooperation, an agreement, ‘On the Use and Management of Water Facilities in the Chu and Talas River Basins’, was signed in 2000. The Kyrgyz and Kazakh governments agreed to confirm the water amount division set during the Soviet Union, and also stipulated that both riparian states have to share O&M of water infrastructures that have intergovernmental status, a reference to the Kirov reservoir. The measures ratified through the agreement came into force in 2002.

However, on the wave of the rising role of development organisations in Central Asian water management, starting in 2002 UNECE, UNESCAP and OSCE have decided to be actively involved in supporting and strengthening transboundary water cooperation between Kyrgyzstan and Kazakhstan in the Talas and Chu waterscapes (UNESCAP, OSCE, UNECE, 2006). These organisations initiated, in partnership with Kyrgyz and Kazakh water authorities, the project ‘Support for the Creation of a Commission on the Chu and Talas Rivers’ between Kazakhstan and Kyrgyzstan, aimed at establishing an interstate basin commission and defining its procedures and costs for the exploitation and maintenance of water management infrastructure (Libert, 2014). Although water sharing agreements and procedures for water infrastructure O&M were already in place, ratified, and implemented, donors found the opportunity to sponsor transboundary water cooperation through a fruitful collaboration with riparian states authorities. In parallel, they saw a need for an active engagement in the interstate political and economic context. Therefore, new actors, most prominently UNECE, have become involved in order to influence and balance transboundary interstate power dynamics.

In 2006, the project was successfully implemented, as Lipponen and Libert (2012) underlined, and the permanent bilateral Chu-Talas Commission was established. According to UNECE (2011a), the main activities of the Chu-Talas Commission focus on the approval of water resources allocation in the Chu and Talas waterscapes, the determination of measures to maintain water facilities for interstate use and provide for their capital repair, and the approval of a financing plan for the above measures. Since 2005, the ADB has also become directly involved in transboundary cooperation, particularly through the functions of the Secretariat and the creation of the Commission’s working groups (ADB, 2013). Reflecting on its involvement, and legitimising its engagement, the ADB highlighted the need to face different challenges regarding Central Asian waters, such as a weak knowledge base for water management, a lack of coordination on irrigation distribution, and an incomplete institutional framework for transboundary coordination (Panella, 2008).

Furthermore, since 2008, with the aim of strengthening borderlands cooperation and supporting empowerment and participatory approaches in the Commission’s decision-making processes, UNECE and OSCE have renewed their involvement through the establishment of a new project, ‘Developing Cooperation on the Chu and Talas River Basins’ (UNECE, 2011b, Lipponen and Libert, 2012). This initiative, developed in collaboration with the ADB and the SDC, aimed to include small canals in the agreement and to introduce IWRM principles in the framework of the Commission. Building upon their initial involvement in establishing WUAs in the 2000s, ADB and SDC later decided to support Talas waterscape development initiatives, due to the complementarity of their sponsored projects. In order to promote IWRM and formalise this approach, international

organisations decided to support the establishment of a transboundary basin council aimed at including, apart from state actors, NGOs and water users according to a participatory approach (UNECE, 2011a). However, the riparian states prevented the implementation of this initiative, which would have aligned with the donors' international support to IWRM in Central Asia. In 2011 a Donor Consultative Group was established to strengthen the support to the Commission (Libert, 2014), as evidence of donor organisations' maintenance of a shared vision on long-term development strategies. The next section discusses interstate power dynamics between riparian states, and the strategies, mostly deployed by Kazakh water authorities, that have hampered international development policies and their rationale (Figure 3).

3. Power in the Talas waterscape

International development organisations have the ability to exclusively use soft power (bargaining and discursive) due to the absence of a physical-territorial entity and linked material power. In order to understand the aims of UNECE and of the other donors in the establishment of the Chu-Talas Commission, it is relevant to point out that an interstate agreement between Kazakhstan and Kyrgyzstan has been in place since the 2000s, regulating the water flow and management of the main infrastructures. UNECE and the other donors, through the establishment of the Commission, the transboundary water council initiative, the inclusion of small water infrastructures in the framework, and other programs promoted over the last decade, have attempted to strengthen interstate relations between riparian states, as a way of creating a success story of (water) cooperation in Central Asia. These initiatives, developed in close collaboration with Kazakh and Kyrgyz water authorities at the national level, have been supported by a discourse oriented towards interstate cooperation, good governance, and IWRM pillars such as institutional integration, stakeholders empowerment, and participatory approaches in the decision-making processes, as well as sustainable development and economic valorisation of water resources. Therefore, it emerges that donors, through their initiatives and this set of development buzzwords, have combined the strategies of bargaining and discursive powers aimed at influencing policies and discourses in the framework of the Commission, and at the Kazakh and Kyrgyz national levels. It appears that these different strategies, undertaken by the donors, have also been deployed to hegemonise the Talas waterscape through the configuration of a homogenous institutional structure, characterised by balanced riparian state power, and dominated by the depoliticised international development rationale and discourse.

However, the events of the last decade, and particularly over the last five years, reveal that complex dynamics have shaped the Talas waterscape institutional structure and the role of the Commission. Kazakhstan has dominated power relations between the riparian states. Kyrgyzstan has been oriented towards a decentralization of water management, reducing state control roles, and the establishment of WUAs supported by the WB since 2000, while Kazakhstan has recently moved towards a recentralization of its water sector (Sehring, 2009; Bichsel, 2009; Zinzani, 2014).

Since 2012 the (water) 'Republican State Enterprises' (*Kazvodkhoz*, based at the provincial level and directly controlled by the Committee of Water Resources under the Ministry of Agriculture) have embodied the Kazakh district water departments (*Kommunalnivodkhoz*). The property regime

of infrastructures has been shifted from districts directly under the control of the state. And several WUAs have lost governmental support and subsequently failed, despite their formalization in 2004 (personal communication with members of the Taraz Republican State Enterprise and the former Dzhambul District Water Department, September 2015). Following the dismantling of the Dzhambul *Kommunalnivodkhoz*, state water authorities are in charge of directly allocating water to users. As an employee of Grodikovo municipality and a farmer of Besagash stated, two WUAs operated in the district until 2012, when they filed for bankruptcy, and two other planned WUAs were not established due to administrative and bureaucratic issues. They also added that *Kommunalnivodkhoz* bureaucrats hampered this process, due to the unwillingness to lease infrastructures and to place a private intermediary entity between the authority and farmers. National discourses accompanied this process based on the strategic role of water and infrastructure, and the need of a more powerful role of the state in their management (Zinzani, 2017). Regarding the dismantling of the *Kommunalnivodkhoz* and the hydraulic infrastructural property regime change, members of the Taraz *Kazvodkhoz* argued that canals and water supply processes are strategic objectives that the state should manage exclusively. In addition, they pointed out that the decentralization of secondary canals control failed, both financially and technically. When asked about this matter, farmers in Grodikovo explained that decentralization did not lead to any benefits, and that the approach of creating WUAs failed. Other water users in Besagash and a former water master (also known as *miraab*) of *Kommunalnivodkhoz* agreed that state authorities should manage hydraulic infrastructures and that allocation, directly controlled by these institutions without any intermediaries, would be more efficient.

The role of national hydraulic bureaucracies and their bargaining and discursive powers have also influenced contrasting processes between riparian states. Whereas those of Kazakhstan took advantage of the recentralisation, the instability and the various political reconfigurations that have occurred at the national level since 2005 have had a negative impact on the Kyrgyz hydraulic bureaucracies, which have lost bargaining power in riparian relations and negotiations. Kyrgyzstan seems to be the only state in Central Asia where state authorities, including members of hydraulic bureaucracies, have supported a policy of decentralization, despite the reduction of their bargaining power. Indeed, the director of the Manas District Water Department and two more members argued that, while the state should maintain the main infrastructures, WUAs should maintain secondary canals and small waterlines, as they belong to the people. They also added that the principle of decentralization and the idea that state and private institutions should operate together without conflicts of interests inspired the creation of the Saiza-Baisu WUAs Federation. However, these contrasting political reconfiguration processes between riparian states strengthened the asymmetrical relations, negotiations, and power. The following strategies and issues enable the understanding of the asymmetrical riparian relations between Kyrgyzstan and Kazakhstan, and the ability of Kazakh authorities to hegemonise transboundary water politics.

Kazakh water authorities have successfully deployed their material and bargaining power to hamper and block the establishment of the Talas transboundary basin council, which donors have supported since 2011. Whereas members of the Kyrgyz Manas District Water Department underlined different challenges regarding the implied institutional change, but expressed their interest, the Kazakh members of the Commission stated – thus confirming the institutional challenge – that the council

was not established because it would have not led to any benefits for Kazakh water users or authorities (personal communication with the Kazakh secretariat of the Chu-Talas Commission, August 2015). The interviewed head of the Kazakh Chu-Talas Basin Water Organization also stressed that strengthening joint O&M of water facilities rather than focusing on IWRM principles and participatory approaches is a priority. Farmers interviewed in both Kyrgyz and Kazakh villages stated that they have never been informed about this initiative. Reflecting on the process, Kazakh members of the Commission and state water authorities influenced the non-establishment of the transboundary basin council, following their national path of supporting a centralised approach and limiting the role and powers of local and non-state stakeholders.

Evidence from the borderlands identifies other processes that the joint Commission should have regulated in which Kazakh authorities profited from their material and bargaining power in negotiations with Kyrgyzstan. For example, the Talas river flow has been equally divided (50% - 50%) between riparian states since 1983, and the agreement was renewed in the framework of the Commission. However, due to the location of some natural springs a few kilometres upstream of the Kyrgyz-Kazakh border, Kazakhstan receives additional water which flows downstream through three natural streams (Besagash, Mergalik, Kairma). In an interview, Kyrgyz WUAs heads and members of the Manas District Water Department complained that Kazakh authorities should pay for the additional water that flows in their territory; furthermore, they argued, the Commission should regulate this issue. Kyrgyz WUA members also argued that Kazakh authorities should financially contribute to remediate flooding issues along the Kozh canal and in parts of Maiska village.

The head of Manas-C WUA argued that even if Kazakhstan receives water for free, its authorities immediately complain if the flow decreases. Moreover, the deputy of Maiska (who is also the former head of the Dikhan WUA), stated that he contacted the Talas River Basin Authority to put pressure on the Ministry and solve these issues in the framework of the Chu-Talas Commission. However, no answer was provided. Therefore, it appears that Kyrgyz members could not impose their position and negotiate the issue with their Kazakh counterparts, who argued that this water is priceless since it flows to their territory directly from springs and through natural streams. This situation enables us to understand the capacity of Kazakh water authorities to deploy their material and bargaining power to hamper and block Kyrgyz claims and avoid a riparian discussion at the interstate level.

An analysis of borderlands transboundary infrastructures issues enables us to deeply understand how Kazakh water authorities have been able to deploy both material and bargaining power. Since the Kazakh water recentralization process, initiated in 2012, small transboundary canals have a double and conflicting property regime. They are managed by the state in Kazakhstan and by WUAs in Kyrgyzstan, which implies power and negotiation asymmetries between the riparian states. Specifically, the Maksat-A WUA owns and maintains the Kozh canal in the Kyrgyz area, upstream, while the Taraz *Kazvodkhoz* owns and manages it in the downstream Kazakh area (personal communications with members of the Taraz *Kazvodkhoz* and the head of the Maksat-A WUA, September 2015). Due to flooding in the Kyrgyz borderlands and riparian disputes for Kozh canal maintenance and renovations in the border part, Kyrgyz WUAs heads argued for the addition

of borderlands transboundary canals disputes resolution mechanisms to the framework of the Commission.

A water master of the Taraz *Kazvodkhoz*, who operates on the canal, explained that technical maintenance and water allocation issues are frequently and that water masters are in contact with the director of Maksat-A WUA. However, an international agreement to resolve these issues is not possible because the canal is both private and state owned. The director of Maksat-A WUA stated that since the end of the Kyrgyz part of Kozh canal provides irrigation exclusively for Kazakh lands, Kazakhstan should have responsibility for this section. Nevertheless, Kazakh authorities argued that this part of the canal lies in the Kyrgyz territory, and this notwithstanding they are already financially supporting joined infrastructures in the framework of the Commission. According to a 2011 joint report by UNECE, ADB, and the Commission, the Kozh canal should have been included in the interstate strategic infrastructures, but had not, despite the Kyrgyz WUAs heads' repeated requests. Key informants, when asked about this issue, argued that on the one hand Kyrgyz members of the Commission may have ignored these demands in order not to question the existing status quo set by Kazakhstan, while on the other hand they do not have enough bargaining power to influence riparian politics and set the agenda, although their country lies upstream in the waterscape. Informants added that Kazakh water authorities have the capability and bargaining power to influence and control riparian debates, policies, and measures, despite the official symmetric institutional structure of the Chu-Talas Commission (Figure 4).

Reflecting on the borderlands evidence, it is clear that the Kazakh water authorities (in the framework of the Commission and within the Taraz *Kazvodkhoz*), particularly over the last five years, have been able to deploy different heterogeneous strategies to influence or hamper policies, practices, and measures, exercising different forms of power to hegemonise hydropolitics both inside and outside the framework of the Commission. The Kazakh hegemonic strategy involved the deployment of mostly bargaining and material power, limiting the role of ideational power. Through its material power, characterised by its economic means, centralized state and political structure, and strengthened hydraulic bureaucracies, Kazakhstan deployed bargaining power. The capacity of influencing negotiations (unpaid stream water exceeding the 50% agreement), hampering initiatives (establishment of the transboundary basin council), and setting a political agenda by deciding which issues should be discussed and which ones should be ignored (transboundary infrastructures, specifically the Kozh canal) demonstrated this.

Conclusions

This paper critically examined transboundary water relations in the Talas waterscape, using the framework of the CHH and borderlands field-research to illustrate how Kazakh water authorities obtained a more favourable water allocation than existing water agreements with Kyrgyzstan would have given them. The current study found that Kazakhstan uses more than 50% of the water amount sharing allowed in the framework of the Chu-Talas Commission. Evidence from borderlands has shown that the country was able to hamper development initiatives and to set and influence the agenda regarding the management of small transboundary infrastructures. They have built this hydro-hegemony through a range of strategies. Kazakh water authorities, and their hydraulic

bureaucracies, have indeed used material and bargaining power to hegemonise hydropolitics in the Talas waterscape and to assert and consolidate their interests, limiting the power and initiatives of the international organisations and primarily UNECE, while also eroding interests, power, and needs of their direct counterpart, Kyrgyzstan. Interestingly, Kazakh water authorities were also able to concurrently support a sustainability-driven and integrated vision in relation with donors, while maintaining a nationalistic, state-centred, and powerful vision towards Kazakh people and Kyrgyzstan.

Significantly, and in contrast with studies emphasising the role ideational power played in shaping transboundary water relations (Zeitoun et al., 2011; Menga, 2016a), we found that forms of material and bargaining power matter the most in the Talas transboundary waterscape. Arguably this reflects the rather local dimension of the debate as it was influenced by the Kazakhs, which managed to exert a capillary control of water negotiations throughout their officials, thus hampering broader initiatives UNECE had carried out and demands from Kyrgyzstan.

This research considered water politics in the Talas waterscape as processes; further research could continue tracing the evolution of power symmetries (and asymmetries) in the region. Recent institutional developments, such as the ratification of the UNECE Water Convention and the related inclusion of several states, could play a greater role in the future, and their impact deserves further study. Despite our critical attitude towards the claims of success international development actors have made, we recognise that they may strengthen transboundary cooperation. However, while international organisations' tend to portray the establishment of the Chu-Talas Commission as a success story, our research, through qualitative ethnographic field research at the borderlands level, illustrated local strategies, demands, claims, and power relations which question the narrated success story by international organisations. Furthermore, our evidence from the borderlands shows that the idea of creating a homogeneous and symmetric cooperation failed, and that Kazakhstan has been able, over the last five years, to build up its role as hydro-hegemon.

A multi-scalar approach furthered our understanding of hydropolitics in the Talas waterscape, shedding light on the processes behind Kazakhstan's emergence as hydro-hegemon, but also providing a novel theoretical contribution to the hydro-hegemony and water geography scholarships. Indeed, our adoption of the CHH together with a multi-scalar approach, showed that transboundary waterscapes are shaped, on the one hand, by a range of different scalar practices and strategies (which in certain cases are deployed by the same actor), and on the other hand they are also influenced by a variety of actors related to different spatial scales. This complex setting highlights the necessity, for both the hydro-hegemony and water geography literature, to pay more attention to the understanding of evolving political processes and spatial strategies of actors ranging from the international level, - e.g. development organisations - to the local one, including borderlands communities. The multi-scalar use of diverse power strategies emerged from our findings enables us to advance the analysis and the understanding of the multi layered nature of hydro-hegemony.

Further research could also explore how, in different settings and at different levels, heterogeneous forms of power might be used by the Kazakh authorities to influence transboundary water negotiations. While we recognised that ideational power plays only a marginal role in the Talas

waterscape, this could not be the case in the larger Syr-Darja River basin, which Kazakhstan shares with Kyrgyzstan, Tajikistan, and Uzbekistan. Transboundary water issues in this basin are widely contested and politicised, and Kazakhstan apparently keeps a lower profile (at least concerning water politics), but further studies need to be carried out to dig beneath the surface of transboundary water relations. Multiple levels of analysis, not only of Central Asian waterscapes, need to be carefully considered, and their interrelation with the use of power still deserves to be explored.

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Figure 1. The Circle of Hydro-Hegemony.

Figure 2. GIS elaboration of a satellite image (Nasa-Modis 1999) representing the transboundary Talas waterscape.

Figure 3. GIS elaboration of a satellite image (Google Earth TM) representing the Talas waterscape, and specifically its borderlands where ethnographic field research was conducted.

Figure 4. Wielding Power: The Five Tactics Forming the Kazakh Hegemonic Strategy in the Talas waterscape in the Period 2011-2015.

REFERENCES

- Agnew, J. C., and Corbridge, S., 1995. *Mastering space: Hegemony, territory and international political economy*. London and New York: Routledge.
- Akhter, M., 2015. Infrastructure nation: state space, hegemony, and hydraulic regionalism in Pakistan. *Antipode* 47, 849–870.
- Akhter, M., 2016. Desiring the data state in the Indus Basin. *Transactions of the Institute of British Geographers* (online first).
- Allan, T., 2003. IWRM/IWRAM: A new sanctioned discourse?. Occasional paper 50, SOAS/King's College University, London, 1-27.
- Allouche, J., 2007. The governance of Central Asian waters: national interests versus regional cooperation. *Disarmament Forum* 4, 46–55.
- Asian Development Bank, 2013. *Regional Technical Assistance: Improved Management of Water Resources in Central Asia – under activity 3: Support of Chu-Talas Commission*. Technical Assistant's Consultant Reports.
- Bakker, K., 1999. The politics of hydropower: developing the Mekong. *Political Geography* 18 (2), 209-232.
- Bakker, K. 2003. A Political Ecology of Water Privatization. *Studies in Political Economy* 70, 35-58
- Bernauer, T., Siegfried, T., 2012. Climate change and international water conflict in Central Asia. *Journal of Peace Research* 49 (1), 227–239.
- Bichsel, C., 2009. *Conflicts Transformation in Central Asia: Irrigation Disputes in the Fergana Valley*. Routledge, London and New York.
- Biswas, A., 2008. Integrated Water Resources Management: Is it working?. *Water Resources Development* 24 (1), 5-22.
- Budds, J., 2009. Contested H2O: Science, Policy and Politics in water resources management in Chile. *Geoforum* 40, 418-430.
- Budds, J., and Sultana F. 2013. Editorial: Exploring Political Ecologies of Water and Development. *Environment & Planning D* 31, 275-279.

- Cascao, A.E., 2008. Ethiopia – Challenges to Egyptian Hegemony on the Nile Basin. *Water Policy* 10 (2), 13-28.
- Cascao, A.E., 2009. Changing Power Relations in the Nile River Basin: Unilateralism vs. Cooperation? *Water Alternatives* 2 (2), 245-268.
- Cohen A., Bakker K., 2014. The eco-scalar fix: rescaling environmental governance and the politics of ecological boundaries in Alberta, Canada. *Environment and Planning D* 32, 128 146.
- Cornwall, A., Brock, K., 2005. What do buzzwords do for development policy? A critical look at “participation”, “empowerment” and “poverty reduction”. *Third World Quarterly* 26 (7), 1053-1060.
- Dukhovny, V. and De Schutter, J., 2011. *Water in Central Asia: Past, Present and Future*. CRC press.
- Elhance, A.P., 1997. Conflict and cooperation over water in the Aral Sea basin. *Studies in Conflict & Terrorism* 20 (2), 207–218.
- Ferguson, J., 1990, *The Anti-Politics Machine: “Development”, depoliticization and bureaucratic power in Lesotho*. Cambridge University Press, Cambridge.
- Furlong, K., 2006. Hidden theories, troubled waters: International relations, the “territorial trap”, and the Southern African Development Community’s transboundary waters. *Political Geography* 25, 438-458.
- Furlong, K., 2008. Hidden theories, troubled waters: Response to critics. *Political Geography* 27(7), 811-814
- Gleditsch, N.P., 1997. *Conflict and the Environment*. Dordrecht, Springer Netherlands.
- Goldman, M., 2004. Eco-governmentality and other transnational practices of a “Green” World Bank. In: R. Peet, and M. Watts (Eds.) *Liberation ecologies: Environment, development, social movements*, 2nd ed. London: Taylor and Francis, pp. 162-192
- Gramsci, A., 1975. *Quaderni del carcere: edizione critica dell' Istituto Gramsci*. Einaudi, Torino.
- Harris, L.M., and Alatout, S., 2010. Negotiating hydro-scales, forging states: Comparison of the upper Tigris/Euphrates and Jordan River basins. *Political Geography* 29 (3), 148-156.
- Heltzer, G.E., 2003. Stalemate in the Aral Sea Basin: Will Kyrgyzstan's new water law bring the downstream nations back to the multilateral bargaining table? *Georgetown international environmental law review* 291, 1-15.

- Isaacs, R., 2010. 'Papa'- Nursultan Nazarbayev and the Discourse of Charismatic Leadership and Nation-Building in Post-Soviet Kazakhstan. *Studies in Ethnicity and Nationalism* 10 (3), 435–452.
- Julien, F., 2012. Hydropolitics is what societies make of it (or why we need a constructivist approach to the geopolitics of water). *International Journal of Sustainable Society*, 4 (1-2), 45-71.
- Klötzli, S., 1997. The 'Aral Sea Syndrome' and Regional Cooperation in Central Asia: Opportunity or Obstacle?. In: N.P. Gleditsch, (Eds.) *Conflict and the Environment*. Dordrecht, Springer Netherlands, pp. 417–434.
- Krutov, A., Spoor, M., 2003. The 'Power of Water' in a Divided Central Asia. *Perspectives on Global Development and Technology* 2 (3), 593–614.
- Libert, B., 2014. The UNECE Water Convention and the development of transboundary water cooperation in the Chu-Talas, Kura, Drin and Dniester River Basins. *Water International* 40 (1), 168-182.
- Libert, B. and Lipponen, A., 2012. Challenges and Opportunities for Transboundary Water Cooperation in Central Asia: Findings from UNECE's Regional Assessment and Project Work. *International Journal of Water Resources Development* 28 (3), 565-573.
- Loftus, A., 2009. Rethinking Political Ecology of Water. *Third World Quarterly* 30 (5), 953-968.
- Lukes, S., 1974. *Power: A radical view*. Macmillan, London and New York.
- Menga, F., 2014. *Power and dams in Central Asia*. Doctoral dissertation. Università degli Studi di Cagliari.
- Menga, F., 2016a. Reconceptualizing hegemony: the circle of hydro-hegemony. *Water Policy* 18 (2), 401-418.
- Menga, F., 2016b. Domestic and international dimensions of transboundary water politics. *Water Alternatives*, 9(3), 704-723.
- Menga, F., 2017. Hydropolis: reinterpreting the polis in water politics. *Political Geography*, 60, 100-109.
- Menga, F., Mirumachi, N., 2016. Fostering Tajik Hydraulic Development: Examining the Role of Soft Power in the Case of the Rogun Dam. *Water Alternatives* 9 (2), 373-388.
- Micklin, P., 2002. Water in the Aral Sea Basin of Central Asia: Cause of Conflict or Cooperation? *Eurasian Geography and Economics* 43 (7), 505–528.

- Micklin, P., 2007. The Aral Sea Disaster. *Annual Review of Earth and Planetary Sciences* 35 (1), 47–72.
- Mirumachi, N., 2013. Securitising shared waters: an analysis of the hydropolitical context of the Tanakpur Barrage project between Nepal and India. *The Geographical Journal*, 179 (4), 309-319.
- Mirumachi, N., 2015. *Transboundary water politics in the developing world*. Routledge, London.
- Molle, F., 2008. Nirvana Concept, Narratives and Policy Models: Insights from the Water Sector. *Water Alternatives* 1 (1), 131-156.
- Molle, F. et al., 2009. Hydraulic Bureaucracies and the Hydraulic Mission: Flows of Water, Flows of Power. *Water Alternatives* 2 (3), 328-349.
- Mustafa, D., 2007. Social Construction of Hydropolitics: the geographical scale of water and security in the Indus basin. *Geographical Review* 97 (4), 484-501.
- Norman, E.S., Cook, C., Cohen, A., 2015. *Negotiating Water Governance. Why the Politics of Scale Matter*. Routledge, London.
- Panella, T., 2008. *Transboundary Water Management in the Chu and Talas Basins and Regional Cooperation for Water Resources in Central Asia*. Paper presented at the CAREC Senior Officials Meeting, Baku, Azerbaijan.
- Sehring, J., 2009. Path Dependencies and Institutional Bricolage in Post-Soviet Water Governance. *Water Alternatives* 2 (1), 61-81.
- Smith, R.D., 1995. Environmental Security and Shared Water Resources in Post-Soviet Central Asia. *Post-Soviet Geography* 36 (6), 351–370.
- Sneddon, C., Fox, C., 2006. Rethinking Transboundary waters: A Critical Hydropolitics of the Mekong Basin. *Political Geography* 26 (2), 181-202.
- Sneddon, C., Fox, C., 2012. Water, geopolitics, and economic development in the conceptualization of a region. *Eurasian Geography and Economics* 53 (1), 143-160.
- Sojamo, S., 2008. Illustrating Co-existing Conflict and Cooperation in the Aral Sea Basin with TWINS Approach. In: M.M. Rahaman and O. Varis, (Eds.) *Central Asian waters: Social, economic, environmental and governance puzzle*. Espoo, Helsinki University of Technology, pp. 75-88.
- Spoor, M., 1998. The Aral Sea Basin Crisis: Transition and Environment in Former Soviet Central Asia. *Development and Change* 29 (3), 409–435.
- Suhardiman, D., Giordano, M., Molle, F. 2012. Scalar Disconnect: the Logic of Transboundary Water Governance in the Mekong Delta. *Society and Natural Resources journal* 25 (6), 572-586.

- Swyngedouw, E., 1997. Exploring Human Geography- A Reader. Transactions of the Institute of British Geographers 22 (4), 533-534
- Swyngedouw, E., 2004. Social Power and the Urbanization of Water. Oxford University Press, Oxford.
- Swyngedouw, E., 2009. The Political Economy and the Political Ecology of the Hydro-social Cycle. Journal of Contemporary Water Research & Education 131, 56-60.
- Turton, A., 2002. Hydropolitics in the developing world: A Southern African perspective. African Water Issues Research Unit, Centre for International Political Studies, University of Pretoria, Pretoria.
- UNESCAP, OSCE, UNECE, 2006. Support for the Creation of a Transboundary Water Commission on the Chu and Talas Rivers between Kazakhstan and Kyrgyzstan. Final Project Report, 1-10.
- UNECE, 2011a. Strengthening Water Management and Transboundary Water Cooperation in Central Asia. The Role of UNECE Environmental Conventions. Working paper 3, 1-81.
- UNECE, 2011b. Development of Cooperation in the Chu-Talas rivers (Chu-Talas II). Project report, 1-9.
- Vinogradov, S., Langford, V.P., 2001. Managing transboundary water resources in the Aral Sea Basin: in search of a solution. International Journal of Global Environmental Issues 13 (4), 345-362.
- Warner, J.F. and Zeitoun, M., 2008. International relations theory and water do mix: A response to Furlong's troubled waters, hydro-hegemony and international water relations. Political Geography 27 (7), 802-810.
- Warner, J.F., 2008. Contested hydro-hegemony: Hydraulic control and security in Turkey. Water Alternatives 1(2), 271-288.
- Warner, J.F., 2011. Flood Planning. The Politics of Water Security. I.B. Tauris publisher
- Wegerich, K., 2006. "Handing over the sunset"- External factors influencing the establishment of Water Users Associations in Uzbekistan: Evidences from Khorezm Province. Unpublished Ph.D. thesis. Humboldt University of Berlin, Berlin.
- Wegerich, K., 2008a. Hydro-hegemony in the Amu Darya Basin. Water Policy 10 (S2), 71-82.

- Wegerich, K., 2008b. Passing Over the Conflict: the Chu Talas Basin Agreement as a Model for Central Asia. In Rahaman M.M. & Varis O. (Eds.), *Central Asian Waters*. Water & Development publications, Helsinki University of Technology, pp. 117-131.
- Weinthal, E., 2006. Water conflict and cooperation in Central Asia: Human Development Report Office (HDRO), United Nations Development Programme (UNDP). *The Central Asia-Caucasus Analyst*, 2013. Explaining Kazakhstan's Mediation Mission. *The Central Asia-Caucasus Analyst*
- Wittfogel, K., 1957. *Oriental Despotism: a Comparative Study of Total Power*. Yale University Press, New Haven.
- Zeitoun, M., 2008. Power and water in the Middle East: The hidden politics of the Palestinian-Israeli water conflict. IB Tauris.
- Zeitoun, M. and Warner, J., 2006. Hydro-hegemony—a framework for analysis of trans-boundary water conflicts. *Water policy*, 8 (5), 435-460.
- Zeitoun, M. and Mirumachi, N., 2008. Transboundary water interaction I: Reconsidering conflict and cooperation. *International Environmental Agreements: Politics, Law and Economics* 8 (4), 297-316.
- Zeitoun, M., Mirumachi, N. and Warner, J., 2011. Transboundary water interaction II: The influence of ‘soft’ power. *International Environmental Agreements: Politics, Law and Economics* 11 (2), 159-178.
- Zeitoun et al., 2013. Hydro-hegemony in the upper Jordan waterscape: Control and use of the flows. *Water Alternatives* 6(1), 86-106.
- Zinzani, A. 2015a. Irrigation Management Transfer and WUAs’ dynamics. Evidence from the South-Kazakhstan Province, *Environmental Earth Sciences* 73 (2), 765-777.
- Zinzani, A., 2015b. *The Logics of Water Policies in Central Asia: the IWRM Implementation in Uzbekistan and Kazakhstan*. LIT Verlag - Series Geographie, Zurich, Berlin.
- Zinzani, A., 2017. Beyond Transboundary Water Cooperation: Rescaling Processes and the Hydrosocial Cycle in the Talas Waterscape (Kyrgyzstan-Kazakhstan). *FMSH-Working Papers series* 123, 1-24.