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The ‘Water Relations in Central Asia Dataset’ (WRCAD) An Online Tool for Researchers, Practitioners and Students

Filippo Menga
(The University of Manchester, United Kingdom)

Abstract The aim of this paper is to present the Water Relations in Central Asia Dataset (WRCAD, <http://wrcad.info/>), a new, open-access dataset specifically conceived to analyse transboundary water relations among the countries of the Aral Sea basin in Central Asia in the period 1991-2013. Following a methodological section that explains how the empirical material was collected and categorised, the paper illustrates the evolution of interstate relations in the basin discussing some of the key issues and trends that emerge from the dataset.

Summary 1 Introduction. – 2 Background and Methodology. – 3 Data Collection. – 4 Structure of the Dataset and Data Coding. – 5 Results and Discussion. – 6 Opportunities for Future Research and Conclusion.

Keywords Central Asia. Water. Aral Sea. Methodology. Dataset.

1 Introduction

Over the last two decades a considerable amount of literature has been published on hydropolitics, a branch of International Relations that can be defined as «the systematic study of conflict and cooperation between states over water resources that transcend international borders» (Elhance 1999, 3). Due to this dichotomous approach to the discipline, water-related international interactions have often been examined as fundamentally cooperative (Deudney, Matthew 1999; Elhance 1999; Wolf, Hamner 2000; Allan 2001; Jägerskog 2003; Phillips 2006; Wolf et al. 2006; Dannreuther 2007; Hamner 2008; Dinar et al. 2011) or conflictive (Falkenmark 1992; Gleick 1993; Homer-Dixon 1994, 1999; Toset et al. 2000; Klare 2001) events.

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This has also led to the creation of numerous datasets classifying water-related cooperation and conflict among countries that share an international river basin, such as the International Water Events Database (IWED) of the Oregon State University (Wolf et al. n.d.), the International River Basin Conflict and Cooperation (IRCC) (Kahlbenn, Bernauer 2012), the Water-Related Intrastate Conflict and Cooperation (WARICC) database (Bernauer et al. 2012), and the Issue Correlates of War River Claims Data Set (Hensel et al. 2008).

Most of these datasets, as in the case of the IWED, are formed by instances of «media-reported conflict and co-operation that occur within an international river basin, involving nations riparian to that basin and concerning freshwater as a scarce or consumable resource» (De Stefano et al. 2009, 2). While these databases represent a valuable tool to analyse water-related interactions at the global level and for extended timespans (for instance, the IWED is a searchable database documenting over 6,400 events occurred around the world from 1948 to 2008), they are less effective at the basin level.

Such limitation emerged while collecting data on water relations in the Aral Sea Basin in Central Asia in the period 1991-2011, and specifically when triangulating events from the IWED and IRCC datasets - the two only available global datasets of interstate water relations for extended periods of time - with other reports of events found in published academic articles or in the LexisNexis Academic search engine. As an example, the IWED (that lists global interstate water relations for the period 1948-2008) reports 67 country interactions in the Aral Sea Basin in the period 1991-2008, and 39 in the period 1997-2007,¹ while the IRCC (that lists global interstate water relations for the period 1997-2007) reports only 15 events in the same basin in the period 1997-2007.² Likewise, in his chronology of water-related conflicts in the Aral Sea Basin, Jeremy Allouche (2005) identified 18 conflictive events in the period 1991-2000, while the IWED lists only 6 for the same period.

Due to these reasons, I have developed a new, thorough and reference-supported online dataset to address the lack of a tool specifically conceived for the Aral Sea Basin, and to better serve the needs of researchers, practitioners and students interested on water politics in Central Asia. In the remaining of this paper I will present this novel online platform, the Water Relations in Central Asia Dataset (WRCAD, accessible at <http://wrcad.info/>), further outlining why and how it was created, its main charac-

1 Data retrieved from <http://ocid.nacse.org/tfdd/internationalEvents.php> on 8 November 2014.

2 Data retrieved from the IRCC dataset on 4 March 2014. Replication data are available in 'csv' format at <http://www.ib.ethz.ch/research/data/IRCCreplication.csv>.

teristics and the methodology adopted to collect the data. Subsequently, the WRCAD will be used to analyse the evolution of hydrogeopolitics in the Aral Sea Basin, illustrating the three phases that have until now marked transboundary water relations in Central Asia.

2 Background and Methodology

The WRCAD has been created to address a shortcoming of existing global datasets that do not exhaustively illustrate international interactions in specific river basins. The overarching purpose behind this research project was to develop an online reference tool for future studies focusing on interstate water relations in Central Asia, one that could potentially be expanded to other international river basins worldwide. Central Asia provides indeed a good platform for a thorough analysis of its interstate relations, since all its countries gained independence relatively recently as a consequence of the collapse of the Soviet Union in 1991.

The basin of the Aral Sea includes the territories of the five former Central Asian Soviet Socialist Republics (SSRs), Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, the territory of Afghanistan and a small part of the territory of Iran.³ The basin is one of the 263 international river basins⁴ around the world that altogether comprise about 47 % of the land surface of the earth and include 40 % of the world's population (Wolf 2007). Due to the sheer number of international river basins, compiling an in-depth dataset of interstate water relations at the global level is a monumental task, and the result can have relevance primarily to large-N statistical research and only to a lesser extent to studies focusing on a particular river basin.

For instance, the IWED contains over 6,400 events for 143 international river basins for the time-period 1948-2008. While this is remarkable on the whole, at the basin level the IWED accounts on average for around 55 events per river basin during a period of 61 years. Similarly, the IRCC

³ Although they are indeed part of the basin, Afghanistan and Iran have not been included in the WRCAD, since both countries have traditionally not been part of regional water dialogue during the last two decades.

⁴ According to Article 2 of the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses, a watercourse can be defined as «a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus». Watercourses form river basins, which can be defined as «the area that contributes hydrologically (including both surface- and groundwater) to a first order stream, which, in turn, is defined by its outlet to the ocean or to a terminal (closed) lake or inland sea». When a perennial tributary of a basin crosses the political boundaries of two or more nations, such basin can be defined an international river basin.

dataset, that according to its authors «contains more than twice as many events for the time-period 1997-2007 than the IWED (Kalbhenn, Bernauer 2012), identifies 2,267 events occurred in 74 international river basins during the period 1997-2007. This accounts, on average, for around 31 events per river basin during a period of 11 years. Moving specifically to the Aral Sea Basin, the two datasets provide discording data, and for the same time-period (1997-2007) the events contained in the IRCC are actually less than half than those in the IWED (15 versus 39).

A difference in the number of events listed in the two datasets raises a question as to how these data were selected. Based on the assumption that both are formed by media-reported water-related events that took place between two or more countries in an international river basin, and also considering that both datasets are based on similar sources,⁵ the events they contain should also be somehow similar. Yet, this is not the case, and for instance while the IRCC identifies three events in the Aral Sea Basin in the period 2001-3, the IWED classifies none. Conversely, the IWED finds ten events for the year 1997 – which thus emerges as an eventful year – while the IRCC has none. Neither of the two datasets seems to adequately keep track of interstate interactions in the Aral Sea Basin.

3 Data Collection

The WRCAD seeks to address this shortcoming through a systematic screening of relevant media reports operating in and on the Central Asian region. Primarily, the WRCAD is based on the LexisNexis Academic search engine. LexisNexis is an internet-based news database that allows to access newspaper and magazine articles as well as transcripts and English translations of radio and TV programmes from a wide range of languages and countries, including Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The period under analysis begins in 1991, the year in which these countries gained independence and became responsible for their own international relations, while the cut-off date is 2013.

The research on LexisNexis has been carried out using as main source BBC Monitoring International Reports, which monitors local media as well as international news agencies such as the three largest news agencies in Russia, Interfax, ITAR-TASS and RIA Novosti, which follow with particular attention developments in the post-Soviet space. This source was screened

5 The IWED is based on the LexisNexis Academic search engine (De Stefano et al. 2009, 5), a global news aggregator, while the IRCC is based on BBC Monitoring (Kalbhenn, Bernauer 2012), a global news monitor that tracks mass media worldwide including transcriptions and translations of local news sources. Since LexisNexis provides access, among other things, to BBC Monitoring, using the former also implies a use of the latter.

using the following search terms: ‘water’, ‘river’, ‘reservoir’, ‘hydro’ and ‘energy’.⁶ Each term was searched isolating the Central Asian countries using LexisNexis’ ‘geographic region’ option⁷ as follows:

- Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan;
- Kazakhstan, Kyrgyzstan;
- Kazakhstan, Tajikistan;
- Kazakhstan, Turkmenistan;
- Kazakhstan, Uzbekistan;
- Kyrgyzstan, Tajikistan;
- Kyrgyzstan, Turkmenistan;
- Kyrgyzstan, Uzbekistan;
- Tajikistan, Turkmenistan;
- Tajikistan, Uzbekistan;
- Turkmenistan, Uzbekistan.

Such use of the ‘geographic region’ option allowed examining news media reports for the five Central Asian countries altogether and also for each of the ten regional country pairs. In addition, for each search term and each country group the timespan of the research was limited to a period of twelve months each time. This was done because LexisNexis automatically filters the results when they are more than 1,000 (which is often the case for periods longer than a year), and thus this was the only way to avoid a possible loss of information.⁸ Despite the use of the ‘geographic region’ option, a few external actors (predominantly Russia) appeared to have had a role in regional interactions. In that case, they have been included in the WRCAD under the category ‘External’, which designs the involvement of a non-Central Asian actor in a particular event.

The use of LexisNexis has been supplemented by the online archives of Eurasianet.org and Radio Free Europe (two specialised platforms on Central Asia). Furthermore, official sources such as the websites of the Interstate Commission for Water Coordination of Central Asia (ICWC) and

⁶ While the term ‘energy’ might appear as not directly related to water interactions, it indeed has a strong relevance in the highly interconnected Aral Sea basin. This is because the two upstream countries (Kyrgyzstan and Tajikistan) depend from the three energy-rich downstream countries (Kazakhstan, Turkmenistan and Uzbekistan) for their imports of natural gas and fossil fuels while the latter, in their turn, need upstream water releases for irrigated agriculture. This dynamic, known as the water-energy nexus, causes recurrent regional tensions resulting, among other things, in frequent energy cuts and energy crises.

⁷ In December 2013 LexisNexis Academic refreshed its interface and the ‘geographic region’ feature now appears under the name of ‘Look up Index Terms’ in the advanced search options.

⁸ The IWED does not appear to have limited the timespan of the research, and in an «Example of event search for the Aral Sea basin» the interval of the research is «between Jan, 1 2000 and Jun, 30 2008» (De Stefano et al. 2009, 3).

the United Nations Economic Commission for Europe (UNECE) have been used to keep track of bilateral and multilateral agreements in the field of water signed by the five Central Asian countries.

One clarification needs to be made concerning official forums and gatherings. During the last two decades the Central Asian Presidents and ministers have often openly argued on water issues at some important yearly global assemblies, such as the United Nations General Assembly (UNGA) (Menga 2014). While they are certainly significant, these confrontations have been deliberately left out of the WRCAD, limiting the scope of the analysis to events occurred and declarations released in the Central Asian region. Besides the difficulty of determining which international forum to include or exclude from the analysis, the main motivation behind this choice is that these kinds of events are so numerous that they could alone form a dataset. Furthermore, although the data collection was carried out as scrupulously and thoroughly as possible, it may occur that some events are not included in the WRCAD. This is because the dataset is based on news reports, official declaration and official documents. Rumours and unsubstantiated events, and more in general, matters that were not reported by the 'official' information channels, have not been included in the dataset.

The data collection process has taken around 10 months between 2011 and 2012, plus two additional months (December 2013 and January 2014) to include in the dataset also the years 2012 and 2013, that were not included in the initial research from which the dataset derives.

4 Structure of the Dataset and Data Coding

The WRCAD is made of speech acts, that following Nicholas Onuf's analysis are considered as acts that perform an action and establish a relationship (Onuf 1998). Onuf (1998) identified three categories of speech acts: 1) *assertive*, through which something is asserted, as in «our country is experiencing a difficult situation»; 2) *directive*, through which something is demanded, as in «we need more water»; and 3) *commissive*, through which something is promised, as in «I will pay my debts». In the WRCAD, speech acts are studied within Onuf's three categories, with the clarification that speech acts can be both verbal and nonverbal facts, as pointed out by Duffy and Frederking (2009) in their speech acts analysis of the end of the Cold War. A nonverbal speech act is a physical, concrete action that conveys a meaning, such as mobilizing troops at the border, which is an example of a directive speech act. In water relations, an assertive speech act can be for instance a public speech or an official statement through which sovereignty over water resources is stated. A directive speech act can be a cut in water resources to obtain, as in the case of

relations between Kyrgyzstan and Uzbekistan, a resumption of gas supplies. Finally, a commissive speech act can be the signing of a treaty or a joint declaration through which two countries express a commitment to engage in future actions.

Events in the dataset are categorised by:

- country involved: Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, and 'External';
- issue area⁹ (such as 'water quality', 'water quantity', 'water/energy', 'large hydraulic infrastructures');
- date of occurrence;
- type of event (such as 'agreement', 'joint statement/declaration', 'resource cut').

Users will be able to filter their queries by all the above mentioned categories, and this will offer a diverse range of opportunities for the analysis of transboundary water politics in the Aral Sea Basin. Once the user obtains the results of its query, a description of each event is also provided (as for example, «Uzbekistan cut off natural gas supplies to Kyrgyzstan for lack of timely payment, leaving residents in the Northern regions of Kyrgyzstan without natural gas for part of the winter»), along with the details of the source being cited.

Unlike the IWED and the IRCC, the WRCAD does not give a value to the level of cooperation or conflict associated with each event. This is because assigning a numeric value to assess the level of cooperation or conflict appears as a somehow arbitrary choice that does not necessarily get all the nuances of a specific event. As an example, the IWED marks the following event occurred on 8 July 2008 «Uzbekistan and Kazakhstan have reach an agreement on the sharing of waters of the Syr Darya River»,¹⁰ with a value of '6',¹¹ that corresponds to «International Freshwater Treaty; Major strategic alliance». Besides its vague description, categorising this event as the second-most cooperative interaction that can occur between two countries oversimplifies their relationship, as it does not take into account other issues specific to the region, such as the fact that the Central Asian countries tend to sign numerous agreements of this kind to avoid the seasonal tensions stemming from the water-energy nexus.

⁹ The issue areas were identified following an initial screening of the data collected, that led to their grouping in macro-categories.

¹⁰ Data retrieved from <http://ocid.nacse.org/tfdd/internationalEvents.php> on 4 November 2014.

¹¹ The IWED is based on the BAR intensity scale, which classifies events based on fifteen values ranging from the least cooperative, -7 («Formal Declaration of War»), to the most cooperative, 7 («Voluntary unification into one nation») (Yoffe et al. 2003).

5 Results and Discussion

Overall, the WRCAD is formed by 220 water-related international interactions occurred in the Aral Sea Basin in the period 1991-2013. If matched with other datasets for comparable periods of time (see Table 1), the WRCAD has two times more events than the IWED for the period 1991-2008 (133 versus 67), and about seven times more events than the IRCC for the period 1997-2007 (104 versus 15).

Table 1. Number of water-related interstate interactions identified in the Aral Sea Basin in different periods of time by the IWED, IRCC and WRCAD datasets

	IWED	IRCC	WRCAD
1991-2008	67	-	133
1997-2007	39	15	104
1991-2013	-	-	220

For what concerns the data contained in the WRCAD, cooperative events accounted for about half of the total (110 out of 220), and conflictive events for about one third (74 out of 220), with the remaining being formed by neutral events (i.e., events that do not immediately alter interstate relations) (see Table 2 for an overview of the events by country). Relations among the countries of the Aral Sea Basin have thus been marked by a coexistence of conflict and cooperation. Over the years, the numerous agreements and declarations of friendship issued by the Central Asian Presidents have been flanked by extremely conflictual events, such as cuts in gas and water supplies or even the deployment of troops at the border. In terms of speech acts analysis, commissive speech acts, through which the countries express a commitment to engage in future actions, are thus sided by directive ones, through which something is demanded.

Table 2. Overview by country of the events contained in the WRCAD

	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	External
Total number of events in which the country was involved	95	140	117	43	156	24
Conflictive (total 74)	19	38	40	5	65	3
Cooperative (total 110) ¹	63	78	61	31	73	6

1 This does not include neutral events.

This seems to be in line with the latest tendency in hydropolitics, which takes conflict and cooperation as two connected and coexisting phenomena (see, among others, Postel, Wolf 2001; Wolf et al. 2003; Mirumachi, Allan 2007; Zeitoun, Mirumachi 2008). Cooperation is not necessarily associated with agreements or treaties and not all cooperation is good, and on the same way, tensions may sometimes lead to reduction of conflict and not to its exacerbation.¹² The effectiveness of cooperation may be influenced by a particular political context where there is a cooperation of tokenism, or where cooperation is only happening at the technical level.¹³

And indeed, besides some key framework agreements (the 1992 Almaty Agreement, the 1993 Kyzyl-Orda Agreement and the 1998 Syr Darya Agreement), many more have been signed in these two decades. Most of them are annual operation agreements (AOAs), used by the regional governments to barter water for energy. The fact that the Central Asian countries resort to these short-term instruments is perhaps the best indicator of the mistrust that dominates interstate relations, and of the absence of a genuine political will to reach a compromise. Moreover, these AOAs have been often signed in the depths of winter and summer, as a response to an on-going crisis, and not to prevent its occurrence.

As an example, in 2004 five AOAs were signed between January and July. In January, representatives of Kazakhstan, Kyrgyzstan, and Uzbekistan met

¹² For instance, as Mark Zeitoun pointed out, in the Jordan River basin there is evidence of both conflict and cooperation happening simultaneously, or at least, where someone sees cooperation someone else may see conflict, what he calls the 'cooperation versus conflict paradox' (Zeitoun 2007).

¹³ This approach is clearly in contrast with the one of the United Nations Development Programme (UNDP), according to which «it makes sense to promote and support cooperation of any sort, no matter how slight» (United Nations Development Programme 2006).

in Shymkent¹⁴ to discuss measures to prevent flooding from the Chardara dam, a large water reservoir on the Syr Darya River in Kazakhstan, which forms part of the Kazakh-Uzbek border. The parties reached an agreement under which Kazakhstan committed to supply coal and fuel to Kyrgyzstan, while Kyrgyzstan decided to reduce its hydroelectric production and Uzbekistan agreed to use its nearby Arnasai Reservoir to lower the water level in the Chardara dam. A month later, also Tajikistan agreed to reduce its discharges from the Qayraqqum reservoir, to ease pressure on the Chardara and put an end (at least for the year) to the floods that were hitting several villages near the Kazakh-Uzbek border. Then, in July of the same year, when regions in Southern Kazakhstan badly needed water for their irrigated crops, Kyrgyzstan agreed to increase water discharges from the Toktogul reservoir, and in exchange Kazakhstan bought over 1 billion kWh of Kyrgyz hydroelectricity. Additionally, also Uzbekistan agreed to increase water releases from the Syr Darya River to the Chardara reservoir. Overall, 32 AOAs are reported in the WRCAD for the period 1991-2013 (around 15% of the total number of events reported).

In addition to these barter agreements, the Central Asian governments repeatedly reaffirmed their friendship, issuing joint communiqués and holding talks (mostly at the bilateral and trilateral level) to increase cooperation in the management and sharing of natural resources. It is however clear that an unfriendly approach prevails in the relations between the basin riparians and that these cooperative events are fundamentally ineffective, as they only solve the most pressing matters while leaving the underlying conflict unresolved. Frequently the AOAs were signed following situations of extreme tension, with Uzbekistan – the country with the largest military apparatus of Central Asia – that often threatened to use force, and the upstream countries that used water as a bargaining tool.

While over the last two decades cuts in water and gas supplies have been relatively common (21 events of this kind are reported in the WRCAD), in 1997 regional relations reached one of their lowest points. In January, Kyrgyzstan reduced the amount of flow leaving the Toktogul reservoir and entering into Uzbekistan. As a response, Uzbekistan cut off 70% of the water flowing in downstream Kazakhstan,¹⁵ threatening 100,000 hectares of irrigated corn and cotton crops and prompting a riot by Kazakh farmers. Moreover, in an attempt to intimidate the Kyrgyz government, Uzbekistan deployed 130,000 troops near its border with Kyrgyzstan in the Ferghana Valley. The crisis was eventually averted following negotiations among the countries, although later in 1997 Kyrgyzstan threatened to cut off electric-

14 A city located in Southern Kazakhstan, not far from Kyrgyzstan and Uzbekistan.

15 For what concerns the Toktogul reservoir, Kyrgyzstan is the furthest upstream country, Uzbekistan the midstream and Kazakhstan the furthest downstream.

ity and water supplies to Kazakhstan, which failed to honour agreed energy transfers and pay for previous deliveries. These events are emblematic of the profound intertwining of the water and energy sectors in Central Asia, where a coordinated approach to the management of shared natural resources is essential.

Similar tensions are also common in the Ferghana valley, a region shared by Kyrgyzstan, Tajikistan and Uzbekistan that includes myriad enclaves and exclaves, and that has the highest population density of Central Asia.¹⁶ Border negotiations in the Ferghana Valley are extremely complicated, and so is the allocation of water resources. In 2008, 150 Tajik residents of Isfara (in Tajikistan's Soghd province) crossed the border into Kyrgyz Batken Region to try to destroy a dam erected by the Kyrgyz authorities that cut them off from water sources. While the Tajiks complained that the dam was situated in an area where the border was still unsettled, Kyrgyz authorities countered that the structure was inside Kyrgyzstan, and they mobilised their border guards to prevent the demolition attempt. The potential bloodshed was eventually avoided thanks to a provisional agreement to open the dam and replenish the Tajik canals.

Another consideration that can be drawn from the data contained in the WRCAD is that, overall, regional relations in Central Asia have had three different and evolving phases:

1. the period 1991-6, marked by the signing of numerous multilateral agreements on water sharing;
2. the period 1997-2006, in which the Central Asian countries have started to negotiate bilateral and trilateral AOAs and adopted a more individualist attitude towards the management of shared water resources;
3. the period 2007-13, in which the revitalization of large-scale hydroelectric projects in the upstream countries (and especially the Rogun dam in Tajikistan and the Kambarata dam in Kyrgyzstan) led to the gradual deterioration of interstate relations, thus becoming the main source of regional tensions.

Nevertheless, the construction of large reservoirs can have significance also for the downstream countries, and especially for those that are mid-stream: Turkmenistan on the Amu Darya River basin, where the furthest downstream country is Uzbekistan and Uzbekistan on the Syr Darya River basin, where the furthest downstream country is Kazakhstan. Through the construction of large reservoirs, Turkmenistan and Uzbekistan can use water as a strategic tool increasing their bargaining power towards the

¹⁶ On average, population density in the Ferghana Valley is 360 persons per square kilometer (and in some areas it reaches 550), while the average density for the whole Central Asia is 14 persons per square kilometer. More than ten million people live in the Valley, a sixth of the entire population of Central Asia. For more information see Starr et al. 2011.

furthest downstream states, and more importantly, they can decrease their dependence from the upstream republics, since they can use the water stored in their reservoirs as a buffer whenever the water flow arriving from Tajikistan and Kyrgyzstan diminishes. Hence, both Turkmenistan and Uzbekistan went along with resource capture strategies, which are unilateral actions that occur «whereby a riparian, in the absence of formal understandings, moves ahead with projects that affect the flow or quality of the resource» (Waterbury 1997, 279).

As an example, the government of Turkmenistan has carried out resource capture strategies that have generated controversies and debates all over the region. It must be first noted that Turkmenistan has traditionally had an isolationist approach towards the management of transboundary waters and regional issues in general. Its foreign policy is based on the status of permanent positive neutrality (United Nations General Assembly 1995), which has been used by the Turkmen government as a tool to strengthen its authority and to establish a 'domestic-oriented' foreign policy (Anceschi 2009). As outlined in the dataset, Turkmenistan has not taken part in most of the regional meetings on the management of regional water resources, and only recently, following the establishment of the UN Regional Centre for Preventive Diplomacy for Central Asia¹⁷ (UNRCCA) in its capital Ashgabat, the country has become more involved – although this involvement seems mostly cosmetic – in the regional water dialogue. The Turkmen isolationist approach is well embodied by the decision to realise the Golden Age (*Altyn Asyr*) Lake, a giant reservoir in the middle of the Karakum desert whose construction was launched in the year 2000 by the then President of Turkmenistan Saparmurat Niyazov. This huge artificial lake, that is very likely to increase Turkmenistan's water intake from the Amu Darya, has been planned without consulting with the other riparian countries, becoming yet another source of regional tensions.

Unilateral actions such as the construction of the Golden Century Lake, which is being imposed by Turkmenistan on its neighbours without their consent, are emblematic of the individualist approach to regional water issues that has been gradually adopted by the Central Asian republics.¹⁸ In the same way, the construction of major dams in the upstream countries without the consent of the downstream riparians is an extremely controversial unilateral action that will impact heavily (and at different levels)

¹⁷ The UNRCCA – a special political mission of the United Nations – was inaugurated in 2008, following a request presented by the five Central Asian governments to the UN Security Council.

¹⁸ Further confirming this attitude, in June 2000 Turkmenistan and Uzbekistan rejected the multilateral approach to regional water issues proposed by the then head of the Organization for Security and Co-operation in Europe (OSCE) Benita Ferrero-Waldner, advocating instead for a bilateral approach to solve such issues.

on all countries in the region. For this reason, the almost simultaneous revitalisation of the Rogun and Kambarata dams in 2007 acted as a game changer in regional hydropolitics. For the first time, the poorer and politically weaker upstream countries have challenged the status-quo in water politics, thus marking the beginning of a new phase in regional relations. This is also outlined in the WRCAD, where the issue of «Large hydraulic infrastructures» emerges as the most discussed over the last years, showing how these two major dams quickly gained prominence monopolizing the attention of the Central Asian governments and strongly influencing (and straining) their relations.

6 Opportunities for Future Research and Conclusion

This paper has presented the WRCAD, a novel dataset specifically conceived to analyse water-related international interactions among the countries of the Aral Sea Basin in Central Asia. If compared with other global datasets, the WRCAD emerges as the richest reference-supported tool of this kind for the Central Asian region. This is primarily due to its regional focus and to the fact that its scope has been limited to a single international river basin and not to dozens, if not hundreds, of different ones. For the sake of fairness, it is worth noting that such a systematic screening as the one carried out for the WRCAD would not have been possible for larger numbers of international river basins, at least not with the resources and time employed for this study.

The primary purpose of the WRCAD is to serve as an open-access instrument for researchers, practitioners, students and to all those interested on water politics in Central Asia. Based on this underlying goal, the dataset will be made available at an online platform that has been expressly created to host it and make it accessible. Users will be able to filter data by category and retrieve them for a diverse range of applications. Ideally, the dataset will be updated on a biennial basis, thus continuing to keep track of water-related international interactions in Central Asia and becoming an increasingly useful resource to analyse and understand the evolution of regional interstate relations. Furthermore, the flexibility of an online platform could allow, in the future, the expansion of the dataset to other areas and geographical issues, to facilitate further comparative research on conflict and cooperation over natural resources.

It is also worth noting that the generalisability of these results is subject to certain limitations, primarily the narrow geographical scope of the WRCAD, which therefore is both a strength and a weakness of this study. Clearly, the Central Asian regional setting has some specific features that make it unique and differentiate it from others. Issues such as the extent to which the policies carried out by the Soviet Union are still having an im-

pact on interstate relations, the nature of political regimes in Central Asia, and the role played by foreign actors all need to be taken in consideration to understand recent developments in the Aral Sea Basin, but might not be relevant elsewhere. Some readers might also argue that taking the region as a level of analysis can already be considered as an analytical simplification that inevitably takes us away from the domestic and the local level. Tackling the broader question of what level of analysis should be adopted to study water politics would have been beyond the scope of this paper. Nevertheless, this is indeed one of the most intriguing and potentially fruitful areas where future work in the field could and should be carried out.

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