Challenge B: Dams

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Policy and Impacts of Dams in the Euphrates and Tigris Basin

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This paper gives a framework for the analysis of the ecological, social and cultural impacts of dams and other water infrastructure and its political implications for the Mesopotamia Region. It will discuss alternatives based on acknowledging rights of people living in the whole basin, as well as the impact on wildlife.

In the Middle East, the intensive construction of dams and other larger water infrastructures such as irrigation canals in the basin of the Euphrates and Tigris rivers - also known as Mesopotamia - has profound impacts on river ecology, the territorial and temporal occurrence of water bodies, water quality, the livelihoods of people and their access to water. Due to lack of consideration for the region's cultural and natural heritage, social structures, relevant international conventions, declarations[1] and principles of democratic decision-making processes, grave social, cultural and ecological impacts have taken place in the basin.

After World War II, all four states in the Tigris and Euphrates basin developed plans for the construction of large dams with the main purpose of producing electricity and irrigating land, with a secondary objective of supplying drinking water. Dam construction commenced in the 1950s and 1960s in Syria and Iraq, followed by Turkey and Iran in the following decades.

Impacts of dam building

Hundred thousands of people have been forcibly displaced as a result of dam construction, causing poverty, as well as serious psychological, cultural and political problems[2]. The most intensive area of dam- construction in Turkey is the predominately Kurdish Southeast, where the Euphrates and Tigris Rivers originate. Since the 1980s Turkey has been developing the controversial South-eastern Anatolia Project (GAP), which entails the construction of 22 large dams and 19 hydroelectric power plants for electricity and irrigation systems for a projected 1.8 million hectares. While the large dams on the Euphrates were completed in the 1990s, construction of the largest dam on the Tigris, the Ilisu Dam and Hydroelectric Power Project, is yet to reach completion. If finished the Dam will be filling its reservoir within a period of six months to two years, depending on the river flow[2]. Ilisu Dam has faced a long history of local and international criticism and protest. Since 2000, dam construction throughout Iran has accelerated. While in the period before 1979 only 14 large dams were built in Iran, 541 dams have been completed in recent years, both large and small[3] while the construction of another 340 are under consideration[4]. One intensive area of dam construction is along the tributaries of the Tigris River in Western Iran. The two most recent examples are the completion of the Daryan Dam on the Sirwan River and the Sardasht Dam on the Lesser Zab River. Both flow to the Kurdistan region of Iraq. Further down south Iran has built a large embankment dam in the Hawiza Marshes on the Iraqi border in Khuzestan province, effectively splitting this marsh area in two. Due to dam construction along the rivers flowing to the Hawiza Marshes, vast areas of these wetlands have been completely desiccated on the Iranian side, causing dust storms which have impacted Iraq as well.

1 These includes mainly the United Nations Convention on the Non-Navigational Use of International Watercourses from 1997; the United Nations Declaration on the Rights of Indigenous People (UNDRIP), and United Nations Convention to Combat Desertification (UNCCD)

2 Environmental Impacts Assessment (EIA) Report submitted by the Ilisu Consortium to the export credit guarantee organizations of the government of Germany, Austria and Switzerland in 2005.

3 AYBOGA, E. and AKGUN, I., 'Iran's dam policy and the case of Lake Urmia', 2012, www.ekopotamya.net/index.php/2012/07/irans-dam-policy-and-the-case-of-the-lake-urmia/

4 MADANI, K., 'Water management in Iran: what is causing the looming crisis?' in Journal of Environmental Studies and Sciences, 4(4), 315-28, 2014.

The true extent of the damage inflicted upon riverine and riparian biodiversity cannot be quantified, due to a lack of available data on pre-dam biodiversity composition and dam construction accompanying documentation. Nonetheless the ecological consequences on river ecosystems as a result of dam construction are grave. In addition, the Mesopotamian Region is suffering the consequences of environmental degradation in the form of desertification and soil erosion. Climate change has led to an increase in droughts, worsening the daily hardships of the local population. Agricultural land has been lost either due to flooding by dams or due to reduction of river water flows as a consequence of upstream dam construction. Water quality has deteriorated for those living in the vicinity of dam reservoirs and further downstream. This lead to outbreaks of waterborne diseases such as cholera was the case in dam areas on the Euphrates river in Turkish-Kurdistan. In short, dam construction is a serious threat to human health and the livelihoods of millions of people.

Further downstream, ecological and social impacts of dam construction and operations are similarly grave. Approximately 6,000 years ago people settled along the banks of the middle and downstream stretches of the Euphrates and Tigris in Syria and Iraq, which led to the expansion of irrigation systems in these areas. The two rivers originate in upper Mesopotamia (which is mountainous and has a high precipitation) and fead central and lower Mesopotamia which has only a small amount of precipitation, insufficient for agriculture. Agricultural, domestic and industrial water needs are almost entirely dependent on the Tigris and Euphrates Rivers and their tributaries. Water flow reductions or river diversions as a result of dam construction in Turkey and Iran have a dramatic impact on access to water in Syria and Iraq. The Atatürk dam, the largest dam of its kind on the Euphrates, has enabled extensive irrigation within Turkey, while people in Iraq and North-Eastern Syria suffer the consequences of the decline in water quantity and quality, whether for drinking or sanitary purposes.

The Mesopotamian region has a universally outstanding cultural heritage and human history dating back 12,000 years when in the upper regions the first human settlements were established. Around 4000-3500 BC the first big civilizations were founded by the Sumerians. 'Mega dams' were not built in the basin until the 1950s, and in Mesopotamia they have a lifespan of usually around 50-70 years. Hundreds of archaeological sites have already been flooded by a growing number of dams, but the number of potentially threatened archaeological sites is still unclear due to inadequate surveys of the river valley. The 12,000 year old settlement of Hasankeyf situated on the Tigris river in Southeast Turkey, which fulfils 9 out of 10 UNESCO criteria according to experts[5], is the internationally best known case of cultural heritage under threat in the basin. Aside from the destruction caused by armed conflicts in the region, dams are the single biggest threat to the cultural heritage of Mesopotamia.

The livelihoods and cultural identities of indigenous communities face cultural assimilation and annihilation by the dominant cultures of capitalist modernity, promoted by nation-states. The indigenous "Marsh Arabs" of the Mesopotamian Marshlands of Southern Iraq and the peoples of the high mountains of the Kurdistan regions of Iraq, Turkey and Iran, as well as smaller ethnic-religious minorities are particularly vulnerable. The development of large-scale water infrastructure tends to advantage state bureaucracies, large construction

5 'Outstanding Universal Value of Hasankeyf and Tıgris Valley', 2009, www.dogadernegi.org/wp-content/uploads/2015/10/Outstanding-universal-value-of-hasankeyf-and-the-tigris-valley.pdf.

and hydro-companies, industry and large landowners for irrigation schemes. Their interest for promoting large water infrastructure projects are socio-economic, but also political and geostrategic. As an expression of "capitalist modernity", the construction of intensive water infrastructure including networks of irrigation canals and electricity cables link small producers for local markets (such as peasants) to larger (inter)national markets, hereby connecting remote populations to a central administration[6]. Dams are more than prestige projects for governments; they have become a central element in the identity of nation states in the second half of the 20th century. Political powers dominate over nature - "nature is now completely in service of humans".

Dams as a tool for political hegemony

The reservoir storage capacities of dams allow control over large quantities of water, allowing state bureaucracies to dictate flows and water availability in downstream regions within a wider geopolitical strategy. The states of Turkey and Iran have been able to use large water infrastructures as a tool for achieving political hegemony over Syria and Iraq. This policy seriously intensifies the existing conflicts in the Middle East, currently the most conflictive region of the world.

After attempts at joint development plans in the Euphrates Basin failed in the 1960s[7], riparian countries embarked on unilateral projects. Since the construction of the first large dam on the Euphrates in 1974 Turkey has not participated in any comprehensive negotiations on shared rivers and groundwater that acknowledges the rights of Syria and Iraq. Negotiations have not lead to comprehensive data exchange, comprehensive projects or even decision-making[8]. Rather Turkey insisted on "its right to own the resources within its own territory" while Iraq and Syria claim their territorial integrity is breached. Turkey only offered bilateral agreements, such as the 1987 agreement between Turkey and Syria which allowed 500 cubic meters per second of Euphrates water to flow across the border[9]. As a result in 1990 Syria and Iraq agreed to allocate 42% of the Euphrates water measured at the Syrian-Turkish border to Syria and the remaining 58% to Iraq[10]. However, this agreement does not take into account crisis situations for downstream states. There is no binding international legal mechanism for Turkey, which has not signed the important "UN Convention on the Non-Navigational Use of International Watercourses" from 1997. In 1998, when Turkey threatened Syria with war because of its alleged "support for terrorism", it announced indirectly it would cut the Euphrates flow. Only after the leader of the Kurdistan Workers Party (PKK), Abdullah Öcalan, who led an armed rebellion against the Turkish state in Turkish-Kurdistan, left Syria, a war could be prevented. Since 2014 and

6 MOHAMUD, M and VERHOEVEN, H., 'Re-engineering the state, awakening the nation: Dams, islamist modernity and nationalist politics in Sudan' in Water Alternatives 9(2):182-202, 2016.
7 SCHEUMAN, W., 'Water in the Middle East. Potential for Conflicts and Prospects for Cooperation', 1998, 110.
8 Between 2007 and 2011 the most far-reaching talks took place between Turkey, Syria and Iraq. Common statements/memoranda have not been released. No additional talks took place since in 2011 the onging war in Syria started.
9 The 1987 Protocol on Economic cooperation is an interim agreement on water quantity which states that an annual 16 billion cubic meter (BCM) (considered is a calendar month with a flow of 500 m3/sec) is to be released at the Syrian-Turkish border.
10 http://waterinventory.org/sites/waterinventory.org/files/chapters/Chapter-01-Euphrates-River-Basin-web.pdf.

particularly since 2016, Turkey has significantly cut the flow of Euphrates water to the self-administrated "Democratic Federation of Northern Syria" where Kurds, in cooperation with Arabs, Assyrians and other groups developed a democratic alternative to the other political powers in Syria. This resulted in significantly decreased agricultural harvests and electricity supply.

The Turkish state's instrumentalization of dams as a political weapon does not only impact Iraq and Syria, but has implications within its own borders, and its effects stretch beyond the borders. In Southeastern Turkey, apart from different economic purposes, dams are also considered a means of control and displacement of the mainly Kurdish population from rural areas and a means to limit the mobility of the Kurdish PKK guerrillas. The counter-insurgency role of dams was obvious in 2008 when Turkey started the construction of 11 dams along the Iraqi border with the official aim of "border security"[11]. This is a globally unique policy which demonstrates how dams have not only become a matter of construction engineering as well as "social-demographic engineering".

Within a similar framework, Iran has been building dams, not only for economic reasons. The dams on the tributaries of the Tigris River in Western-Iran allow control of water flows and thus a competitive role with other regional and international powers over political and economic influence over Iraq.

Although Syria and Iraq are negatively affected by upstream dam construction, for decades their governments continued to build large dams and irrigation systems of their own, with the same modernist and centralized policy and mentality. They criticize dams constructed in Turkey and Iran that complicate their own existing and planned large water infrastructure facilities. However, the governments of Syria and Iraq have not given serious consideration to the fact that all people in the region should have access to water and all river ecosystems should be conserved, including those in their own countries.

The dams of the Turkish and Iranian states have indirectly affected Iraqi internal disputes on water. The Kurdistan Regional Government (KRG) of Iraq believes construction of its own dams is a valid response to Turkish and Iran dams on rivers upstream which flow to Iraqi Kurdistan. The KRG in recent years developed plans to build large dams on the tributaries of the Tigris in order to store water for its own agricultural purposes, but due to the economic crisis these plans have not been implemented significantly. It acted unilaterally without engaging with the Iraqi central government and downstream communities. On several occasions as a consequence of political disputes, the KRG threatened to cut off water supplies to Southern Iraq. Further downstream local administrations in Central and Southern have argued over local irrigation policies. A comprehensive internal discussion over water management within Iraq is lacking.

As a result of the recent conflicts in Syria and Iraq dams and other water infrastructure fell into the hands of non-state, armed and terrorist groups. These have disastrously been used as weapons, not only by cutting off the water flows, but also by flooding stretches of the riverbanks both upstream and downstream in order to affect local populations, other armed

11 DSI 2007 report, 142, http://www.dsi.gov.tr/docs/stratejik-plan/ds%C4%B1-2007-faal%C4%B1yet-raporu.pdf?sfvrsn=2 and JONGERDEN, J, ‚Dams and Politics in Turkey: Utilizing Water, Developing Conflict', 2010, https://mepc.org/dams-and-politics-turkey-utilizing-water-developing-conflict.

groups and state forces. This tactic was mostly used by the Daesh (The Islamic State/IS) between 2013 and 2017. For example, the Haditha Dam in Central Iraq was used by Daesh to flood the area around the dam reservoir in 2014 and 2015. While Turkey and Iran deny persistently using dams as a political weapon and claim that they respect the rights of downstream states, terrorist groups such as IS show no such effort.

In recent years Iraq saw a permanent reduction in water levels of the Euphrates River and reduced flows of the Tigris River due to Iranian dams. However, the decline of river flows as an effect of Turkish and Iranian dams is not the main cause of the extreme regional drought experienced in the spring and summer of 2018 as was often assumed in the local press. In Baghdad people were able to cross the Tigris on foot, which was unheard of in the past, while in Basra deteriorated water quality contributed to large scale social unrest. Nonetheless the main cause of the drought is climate change, in addition to Iraq's poor internal water management (which includes river pollution and outdated and water intensive irrigation methods). Climate change has been experienced throughout the Middle East. Since 1999 temperatures have risen while precipitation has been reduced by approximately 10%[12] in the entire basin. The impact of climate change will likely worsen according to all predictions, coupled with a continued decrease in water quality. Comprehensive and fair water, energy and agriculture policies are lacking in all four states, since planning is based on outdated estimations of water precipitation and availability, out of step with the current available water resources.

Framework for peaceful social-ecological solutions

Despite the current development in the Mesopotamian region, we believe that a different water politics is possible. All people of the Tigris-Euphrates basin should have access to clean water. Water has the potential to be a tool for peace and a catalyst for cooperation among all peoples, ethnicities, religions, social groups and countries of Mesopotamia. Activists have the potential to contribute to the roll back of nationalism, fundamentalism, patriarchy and other reactionary approaches in the greater region. Euphrates-Tigris basin-wide collaborative coordination includes affected populations (particularly vulnerable communities), independent civil society organizations, NGO's, professional organizations, unions, researchers and experts, municipalities and regional administrations.

Democratic decision-making on water policies can be based on the historical and traditional use of Euphrates and Tigris River water for agriculture on a small scale, as was common in both the upstream and downstream regions of Mesopotamia. This implies we have to recover historical collaborations of riverine communities. Throughout history, the Euphrates and Tigris have connected people from various areas until borders were instigated by the modern nation states. This region-wide collaboration could even challenge the UN Convention on the Non-Navigational Use of International Watercourses, which has not brought the expected result up until now.

We believe that a democratic decision-making structure in the region would favour small and some middle-sized solutions to fulfil water and energy needs, with significantly less grave social and ecological consequences. Dams – in particular large and middle-sized ones

12 'Inventory on Shared Water Resources in West Asia', Euphrates and Tigris River reports, https://waterinventory.org/sites/waterinventory.org/files/chapters/Chapter-03-Tigris_River-Basin-web_0.pdf.

– and large water infrastructures – in particular irrigation schemes - are usually simple solutions which harm populations as well as the flora and fauna of the region. The benefits they provide – energy, water storage and flood control - can be provided through other means, to be developed by wider society in a participative process. Currently these benefits are generally not shared by those most directly impacted, instead they tend to accrue to economic and political elites. We propose:

- The recovery of river ecosystems and a return to agricultural practices that are less water intensive. We need to come to terms with the fact that there will be a decline in the amount of available water; the focus on large export economies for agricultural goods as currently provided by Turkey and Iran should be reconsidered. This should be our strategic goal for the future.
- The continuity of rivers should not be interrupted by dams for small scale water storage purposes; rather adjacent, economically margin and ecologically less important areas could be used for water storage.
- Small-scale rainwater harvesting should be considered.
- Removal of dams and other water infrastructure. Dams don't last forever and expire one day. Larger dams are at a larger risk of failure, as the Dicle Dam in Turkey demonstrated in December 2018[13], or the instability of the Mosul Dam in Iraq.
- Hydroelectricity production should be limited significantly as it is not sustainable or renewable. With energy saving, hydropower energy would not be necessary in Mesopotamia.
- Supply of drinking water systems and of existing small-to-middle scale agriculture, as well as restoration of the ecosystems should be of the highest priority.

It is clear that the current water policies of the four states in Mesopotamia will likely end up in the complete destruction of the Tigris-Euphrates River ecosystems, the livelihoods of millions of people, while intensifying drought and political-armed conflicts. The region does not need additional dams and irrigation projects, instead we need democratic water management.

http://www.savethetigris.org/international-mesopotamian-water-forum

13 Statement of the Initiative to Keep Hasankeyf Alive, 19 December 2018, http://www.hasankeyfgirisimi.net/?p=761