



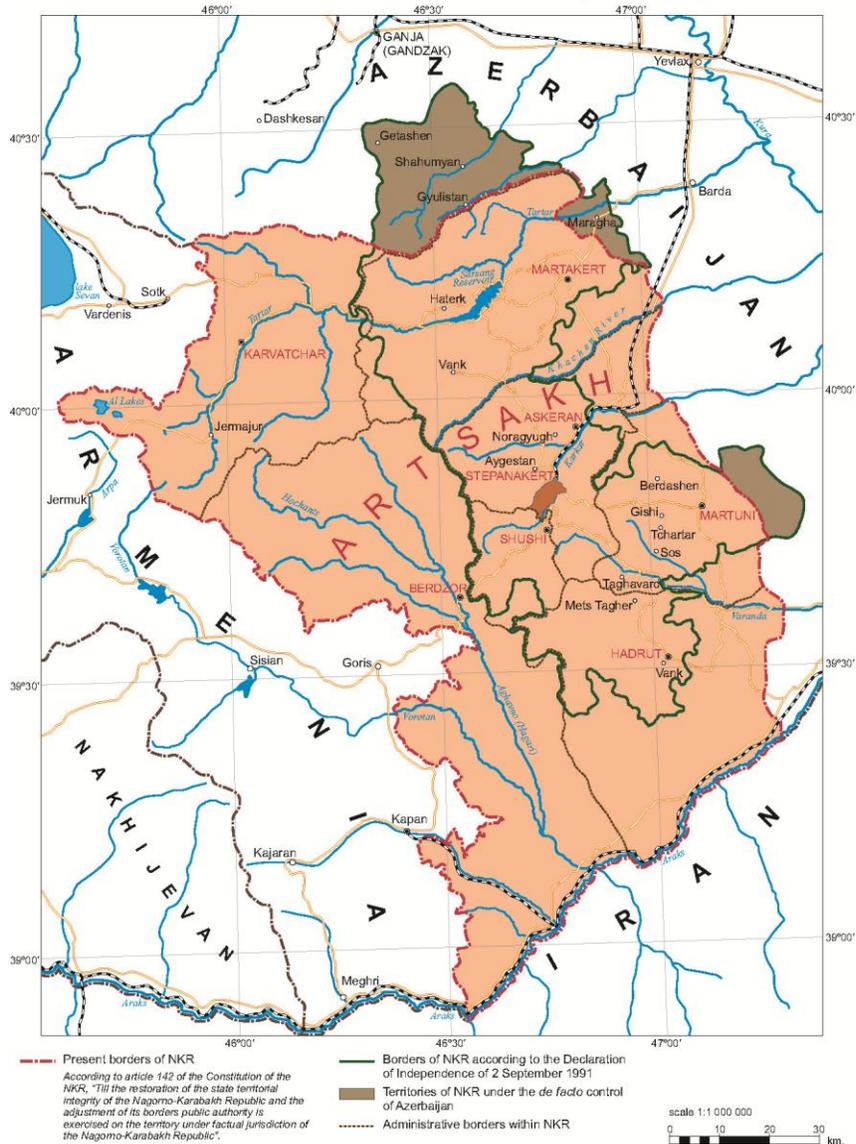
Whose Hands on the Spigot? Water Security and the Nagorno Karabakh Conflict

By Mark Dietzen*

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**Mark Dietzen is an international affairs analyst and consultant specializing in European and Eurasian Affairs. He holds an MA in International Relations from Yale University, where he formerly served as Executive Director of the Yale Journal of International Affairs. Dietzen is Executive Director of the Washington, D.C.-based non-profit, Americans for Artsakh, which supports development in Nagorno Karabakh.*

NAGORNO-KARABAKH REPUBLIC (ARTSAKH)



("Nagorno-Karabakh Republic (Artsakh) Map," 2012)

Abstract

Nagorno Karabakh's water resources play a critical role in the Nagorno Karabakh conflict. Yet, most discussion of natural resources in the dispute overlooks this fact by narrowly focusing on Azerbaijan's oil and natural gas supplies. This article demonstrates that the control and use of Karabakh's "clear gold" has the potential for either cooperation or conflict, and significant implications for any final resolution to the Karabakh problem (Alterman & Dziuban, 2010). Further, it reveals that Karabakh's hydro resources are not only important for the parties to the conflict, but also other international actors.

Karabakh's Water Security in Geographic Context

Nagorno Karabakh (hereafter Karabakh) is claimed by both Azerbaijan and the Nagorno Karabakh Republic (NKR), which is represented by Armenia in official negotiations under the auspices of the Organization for Security and Cooperation in Europe's (OSCE) Minsk Group. The role that water security plays in the Karabakh conflict must be understood as part of the larger strategic significance of the NKR's Shahumian and Kashatagh administrative divisions, where the main sources of Karabakh's water are located. They are shown below as numbers 1 and 7, respectively.



Map 1: The seven districts of the Nagorno Karabakh Republic. ("Provinces of the Nagorno-Karabakh Republic," 2008.)



Map 2: The former borders of the Soviet NKAO and the current borders of the NKR. Most of the NKAO's water resources came from Soviet Azerbaijan's Kelbajar region, outside of NKAO borders. These water resources are now within the NKR's Shahumian district. ("Map of Nagorno-Karabakh and Surrounding Seven Districts," 2007, p. 21)

The 7 Districts of the Nagorno Karabakh Republic (NKR)

1. Shahumian
2. Martakert
3. Askeran
4. Martuni
5. Hadrut
6. Shushi
7. Kashatagh

Map 1: All solid-colored areas signify territory which was within the Soviet Nagorno-Karabakh Autonomous Oblast (NKAO) and is claimed and controlled by the NKR.

All vertically-striped areas signify territory claimed and controlled by the NKR, but not part of the Soviet NKAO.

All horizontally-striped areas, with the exception of the Soviet Shahumian district (included in the NKR's Shahumian region, number 1), signify territory within the Soviet NKAO, which is claimed by the NKR but under Azerbaijani control

Despite its majority ethnic Armenian population, the Soviet Shahumian district was excluded from the Soviet NKAO.

The NKR's capital, Stepanakert, is not shown.

Viewing Karabakh in a Different Way

As is often depicted, the borders of the former Soviet Nagorno Karabakh Autonomous Oblast (NKAO) are distinct from the borders of the current NKR. With the exceptions noted in the table above, the NKR has control over most of the regions that make up pre- and post-Soviet Karabakh. These regions overlap and differ in significant ways.

However, the signature peace plan set forth by the Minsk Group, which is charged with facilitating a peaceful resolution to the Karabakh conflict, does not adequately appreciate the strategic connections between the regions outside of the former NKAO, and those within it. Presented to the presidents of Armenia and Azerbaijan in 2007 as a basis for further negotiations, and revised in 2009, the Madrid Document (also called the Madrid Principles) underestimates how security in these regions is interrelated.

In previous work, I have pointed out that the Madrid Document is a non-starter, since it calls for almost all Armenian controlled territory surrounding the former NKAO to be ceded to Azerbaijan, in return for only a vague promise for the “future determination” of Karabakh’s final legal status – the conflict’s core issue (Dietzen, 2011).

In this article, I draw attention to another matter that has become more apparent since the Madrid Document was first proposed: water security. This issue undermines the Madrid Document even further, as it is not only land which is strategic, but also the water that runs through it. The strategic water resources in the NKR’s Shahumian and Kashatagh regions further add to the argument that the Madrid Document is untenable. Karabakh’s map must now be looked at in a different way.

Add Water and Stir: An Aquatic Dimension to the NKR’s Security Dilemma

Traditional conceptions of the Shahumian and Kashatagh Regions’ strategic value consist of their relationship to the NKR’s military security, transportation networks, and economic viability. However, these regions’ are also strategically linked to the NKR’s water security. The NKR is not rich in oil or gas, but it is rich in water, controlling a renewable resource whose strategic value will only increase in the future. Thus, water security is just as important to a final resolution to the Karabakh conflict.

This view is shared by a 2012 U.S. Intelligence Community Assessment led by the Defense Intelligence Agency, which reports that “as water shortages become more acute beyond the next 10 years, water in shared basins will increasingly be used as leverage; the use of water as a weapon or to further terrorist objectives also will become more likely beyond 10 years” (U.S. Intelligence Community Assessment, 2012, p. iii). Considering the continued tension over Karabakh, a more thorough analysis of its water resources is in order.

Shahumian: Karabakh’s Oasis

During Soviet times, most of the NKAO’s water resources came from the Soviet Azerbaijani region of Kelbajar (or Karvachar), which was outside of NKAO borders. However, this territory and its lakes, rivers and streams are now part of the NKR’s Shahumian district controlled by the Karabakhi Armenians. Dr. David Babayan, a scholar of Nagorno Karabakh’s water security, explains how Karabakh’s water security is staked in this district:

The territory of Karabakh within the administrative border of the Autonomous Region is extremely vulnerable from the point of view of securing its water resources. The lion's share of water resources in the former Autonomous Region has its origin outside of its administrative limits. The rivers Terter and Khachen, which start within the Karvachar region, bring in 83.4 per cent of the yearly average of Karabakh's main water supply. [...] Today, Nagorny Karabakh is in a position to almost entirely provide for its own environmental security and its water resources, and in this context the Karvachar region plays a key role... Therefore, if we lose this region the water security of Karabakh would be under serious threat (Ohanyan, 2010).

Because the Shahumian region provides the great majority of the NKR's water resources for the former NKAO — areas which now represent the most populous core of the NKR — Azerbaijan's demand that the region be returned to its control as part of a future peace deal is the source of great unease for the Armenian side, especially Karabakhi Armenians (Babayan, 2010).

The Sarsang Reservoir

The Tartar River, which begins in the Shahumian region, fills the Sarsang Reservoir – the primary water reservoir in Karabakh. The Sarsang Reservoir was constructed in 1976 on the Tartar River in Karabakh's Martakert region, then a part of the Soviet NKAO. It has a basin 12 km long and 0.6 km wide, and a capacity of 575 million cubic meters of water (NSS, 2010). With a total area of 14.2 km² and a height at the reservoir of 125 meters, Sarsang is the tallest dam in Karabakh (Aslanov, 2013).

This reservoir also hosts the NKR's largest source of energy: the 50 megawatt capacity Sarsang Hydroelectric Power Plant, which generates 90-140 million kilowatt-hours of energy annually (Office of the Nagorno Karabakh Republic, n.d; "Artsakh Hydroelectric," 2009). Owned and operated by Artsakh HEK (OJSC), it is a crucial energy producer for the NKR, providing from 40% to 60% of its electricity demand.

In addition to the Sarsang Hydroelectric Power Plant, Artsakh HEK has also built three smaller hydroelectric plants on the Tartar River in the Martakert region- Madaghis 1, Madaghis 2, and Trghi 1- which, together with the Sarsang plant, provide for 85% of the NKR's electricity demand ("Artsakh HEK, 2010"; "Artsakh Hydroelectric, 2009"). Though the Tartar is sourced outside of what was the Soviet NKAO, the NKR's control of this present-day Shahumian region means that the security of a main water artery, upon which most of the NKR's electricity production relies, is now in Armenian — not Azerbaijani — hands.



The Sarsang Reservoir (“Sarsang reservoir, Nagorno-Karabakh,” 2006)

Kashatagh: Water Donor

While the Shahumian region’s hydro resources are already being harnessed for current projects, the water resources in the Kashatagh region — principally the Hagari River — make it an important water donor for the future development of the NKR’s heartland. The river flows from the northernmost part of the region to the southernmost part, where it eventually drains into the Araks River. Due to its geographic proximity to the capital city, Stepanakert, and central parts of the NKR, the Hagari River is an ideal water supplier for these areas, most of which were part of the former NKAO. According to Babayan, differences in regional elevation would make water pumping stations largely unnecessary, allowing for the Hagari’s waters to be inexpensively transferred. The Hagari and Aghavno Rivers also have great potential for producing electricity via hydroelectric plants (personal communication, August 10, 2014).

Armenia’s Reliance on Karabakh’s Rivers

Sustaining Lake Sevan

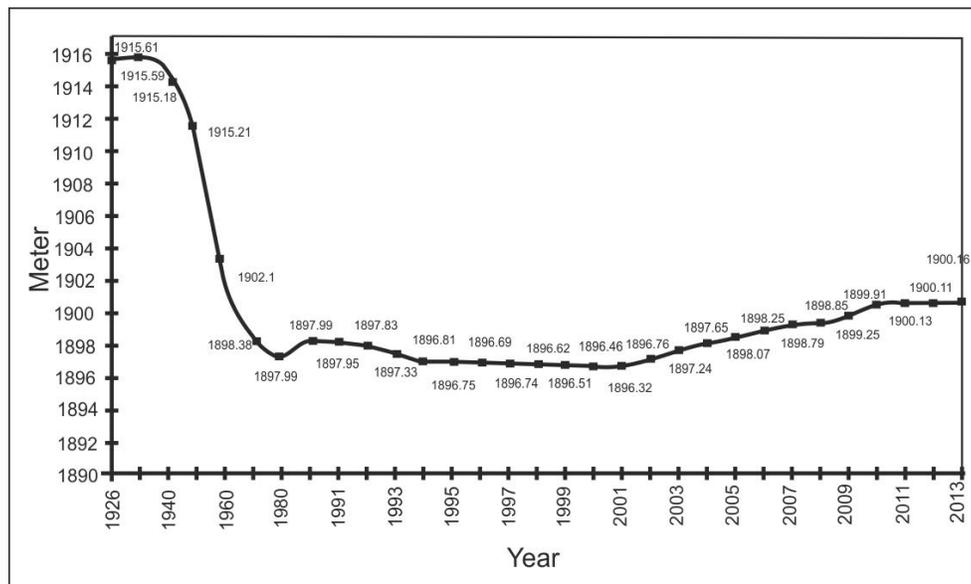
The strategic importance of Karabakh’s water resources is not only critical to the NKR’s water security, but also to that of its neighbor and ethnic ally, Armenia. The Arpa River, whose sources include branches which originate in the NKR’s Shahumian region, as well as the Vorotan River, also sourced in Shahumian, supply water to Armenia’s Arpa-Vorotan Channel — an underground tunnel built to replenish Lake Sevan. Sevan is the largest freshwater lake in the South Caucasus and the source of 80% of Armenia’s water resources (“Will Azerbaijani pollute,” 2010).

Due to ill-advised Soviet irrigation and hydroelectric projects from the early 1930s through the 1960s, Lake Sevan was heavily damaged by severe draining (Agababyan et al., 2003). A 2002 report prepared by Armenia’s Ministry of Nature Protection in cooperation with the U.N. Economic Commission for Europe, depicts the tremendous amount of water lost: “As a result of this brutal use of water, the level of the lake has fallen by 19.6 meters, its volume of water from 58.5 billion cubic meters to 33.0 billion cubic meters, and its area from 1416.2 km² to 1238.1 km². During the years of most intensive water use (1949-1962), the water level fell 13 meters (1m per year)” (Agababyan et al., 2003, p. 99).

Once the extent of the lake's ecological deterioration was realized, efforts were introduced to reverse the damage by both increasing inflows to the lake, and decreasing outflows from it via the Hrazdan River (Agababyan et al., 2003, p. 100-101). In 1963, construction began on the 48.3 km Arpa-Sevan Tunnel, in order to stabilize Sevan's water level by diverting water to the lake from the Arpa River ("Lake Sevan," n.d.). Completed in 1981, the tunnel helped to stabilize the lake's water level, but its inflows were not enough to raise it back to previous levels. Thus, work began that same year on another tunnel connecting the Vorotan River to the project. After insufficient funding put the project on hold from 1992-1997, the Vorotan tunnel was finally completed in 2004 (Makaryan, 2004; "Vorotan-Arpa Tunnel," 2003).

The Lake has risen significantly since then, rising about 2.5 meters from 1897.65 meters in 2004 to 1900.16 meters in 2013 ("Lake Sevan 1926-2013," 2014). Though challenges related to Sevan's water level remain — such as continued debates over irrigation outflows and the fate of lakeside property in the path of rising water — the past decade has shown that the Arpa-Vorotan Channel has led to a significant increase in Lake Sevan's water level, and has the potential to continue this trend over the next decade.

The Water Level of Lake Sevan: 1926-2013



(Adapted from "Lake Sevan 1926-2013," 2014)

Clearly, the impact of the water resources originating in, or sourced by, the Shahumian and Kashatagh regions cannot be underestimated, as they have strategic significance for the water security of both the NKR and Armenia. For the NKR, the Tartar and Khachen Rivers are vital sources of water upon which the Karabakhi Armenians depend. For Armenia, the Arpa and Vorotan Rivers are essential water suppliers which allow the Arpa-Vorotan Channel to achieve its two critical purposes: to reverse Lake Sevan's ecological damage from years of Soviet draining, and carry enough water into the lake, that surplus water can then flow out of it for the irrigation of farmland and hydroelectric power. A healthy Lake Sevan is necessary to provide for the great majority of Armenia's water needs, including sustaining the parts of the economy which rely on the lake.

Yet, the Madrid Document fails to recognize the fact that Karabakh's most strategically important rivers begin outside of former Soviet NKAO borders — the Tartar, Vorotan, and Arpa Rivers are all sourced in Shahumian, and the Hagari River in Kashatagh — territories claimed and controlled by the NKR. In the current status-quo, Azerbaijan cannot exercise control over these rivers, which is a key component of Armenian water security. Nonetheless, by strictly adhering to the Soviet NKAO borders, the Madrid Document makes no adjustment for this fact. With the exception of its precept that a corridor link Armenia to Karabakh, the Madrid Document largely ignores the strategic connections between the regions outside of the former NKAO, and those within it.

Water for Conflict?

Given the importance of Karabakh's water resources to the NKR and Armenia, both have cause for concern about their water security as it pertains to any final resolution of the Karabakh conflict. Such concerns are especially acute among the Karabakhi Armenians, whose water supplies were poisoned by Azerbaijanis during the Karabakh War. At one point, this left about two-thirds of those in the capital, Stepanakert, without water (Babayan, 2010). With memories of the war still fresh, they equate Azerbaijani control over their water resources as an existential threat to their very existence in Karabakh.

Therefore, the NKR, having emerged from its war of independence from Azerbaijan in control of Karabakh's precious water resources, is loath to relinquish them to Baku. The following passage represents the conviction of many local residents in Karabakh:

Azerbaijan insists on regaining control of the territory it lost but local residents like Marianna Hovsepyan, who moved to the town from Sumgait, the scene of three days of anti-Armenian riots in 1988 that marked the start of major bloodshed between the two ethnic communities, are adamant they would never allow that to happen. "How could you even consider it... We with difficulty built here a second house, got our lives together, and now it's not clear what's waiting for us. This will never happen. Even when Karabakh president Bako Sahakyan came to Karvachar, he said, 'As long as Karabakh exists and I want to assure you all that it will always exist, Karvachar will be part of it'" (Ohanyan, 2010).

Controlling Karabakh's rivers means not only controlling their water quality, but also their flow. This is an especially important point as it pertains to the Tartar and Vorotan Rivers. These rivers both begin in the Shahumian region, outside of the Soviet NKAO, which Azerbaijan demands be returned to its control. If Azerbaijan were to construct dams there, the consequences could be disastrous for the water security of both Armenia and the NKR. A new dam on the Tartar River, which begins in western Shahumian and flows through the center of the province prior to reaching the Martakert region, could dry up the NKR's Sarsang Reservoir. And a dam on the Vorotan River in Shahumian could likewise severely disrupt inflows to the Arpa-Vorotan Channel. According to Babayan, the waters of the Vorotan flow about 15 km in Shahumian prior to entering Armenia (personal communication, August 10, 2014).

Water for Cooperation?

Still, there is potential for water to be used to foster peace between Armenians and Azerbaijanis. While the NKR is water-rich, the Azerbaijani regions surrounding it are largely water-poor. Karabakh's water resources thus represent a unique opportunity for confidence-building. During the Soviet period, most of the water from the Sarsang Reservoir — which was within the NKAO — was used to irrigate land outside of it.

In fact, of the 128,000 hectares of land irrigated by the Sarsang, 118,000 hectares, or 92%, were in Soviet Azerbaijani territory outside of the oblast (“Azerbaijan rejects,” 2013). But the war ended cooperation on the use of water resources from the Sarsang, whose control was subsumed by the NKR. As a result, much of the land within the six regions of Soviet Azerbaijan that were dependent on the Sarsang no longer has a reliable source of water for irrigation (Ahmedbeyli, 2010). This has led to serious water shortages for Azeri farmers who live along Azerbaijan’s border with the NKR. Yakub Mammadov, the chief advisor for one such Azerbaijani border region - Goranboy - which includes the contested Shahumian district, explained in 2010 that “of the 33,000 hectares, we are only using 22,000 ha for the yearly harvest. The rest of the land is not being used because of the lack of water (Ahmedbeyli, 2010).”

While Baku blames the NKR government for restricting the flow of water to its western regions, Stepanakert argues that Azerbaijan has only itself to blame. In 2013, the NKR government put forth a proposal to Azerbaijan for the joint use of water from the Sarsang Reservoir and the Tartar River (“Karabakh extends hand,” 2013). In spite of the NKR’s gesture to use water as a confidence-building measure, Azerbaijan’s foreign ministry flatly rejected the proposal on the grounds that Baku refuses to negotiate with Stepanakert (Ahmedbeyli, 2010).

If Azerbaijan changes its outright refusal to negotiate with the NKR, Baku and Stepanakert could consider a water-for-oil or water-for-gas agreement, in which the NKR sells water to Azerbaijan, and in return, Azerbaijan sells oil or natural gas to the NKR, all at commercial prices (“Azerbaijan rejects,” 2013). This confidence building measure would disincentivize either side from reneging. A common resource security agreement on water and oil could also lay the groundwork for further cooperation in other spheres.

International Interests at Stake

The issue of Karabakh’s water resources is not only confined to the NKR, Azerbaijan and Armenia. There are wider interests at play, including those of the U.S. and Iran. On January 31, 2014, ContourGlobal made the largest single U.S. private investment in Armenia when it penned a \$250 million deal with the Armenian government for the Vorotan Hydro Cascade, a network of three hydroelectric power plants which generate a total of 405 megawatts- roughly 15% of Armenia’s power capacity (“U.S. company buys,” 2014). While the Vorotan Hydro plants are located in the southern Armenian region of Syunik, as previously mentioned, the Vorotan River begins further north in the NKR’s Shahumian region. Therefore, disruption of the Vorotan River’s flow upstream could threaten the viability of the Vorotan Hydro plants downstream.

Furthermore, although Iran currently does not officially recognize the NKR, with which it shares a closed northern border of 120km along the Araks River, its water shortages may prompt it to eventually consider purchasing water from the NKR, with Armenia as a possible conduit. In January, 2014, the *New York Times* reported that “Iran is facing a water shortage potentially so serious that officials are making contingency plans for rationing in the greater Tehran area, home to 22 million, and other major cities around the country. President Hassan Rouhani has identified water as a national security issue... (Erdbrink, 2014).”

According to Babayan, the NKR has 1.5 billion cubic meters of fresh water export potential, not including water resources from the Araks River. So if the NKR were to supply 1 billion cubic meters of water to Iran annually, that would translate to providing about 150 liters of water per day for 18 million Iranians (personal communication, March 25, 2014).

Since Iran has already built a pipeline to supply Armenia with natural gas in exchange for electricity (“Armenia and Azerbaijan,” 2013, p. 5, fn. 11) and plans are underway for a 470-kilometer Armenia-Iran railway (“Chinese Investors,” 2014), a water pipeline would be only the latest infrastructure project between the Armenians and Iranians.

In the future, there is also potential for cooperation on the joint management of the Araks River, which demarcates the NKR-Iran border. A valuable resource for both states, the Araks hosts the Khoda Afarin Dam, which bestrides the river between Iran’s East Azerbaijan Province and the NKR’s Hadrut Province. In May, a group of Iranian parliamentarians and energy experts went to China to discuss securing one billion dollars of Chinese financing for the Khoda Afarin Dam irrigation project, which Iran considers an important development venture. The Khoda Afarin Dam’s power station has a 102 megawatt capacity and will irrigate 75,000 hectares of farmland (“MP: China Planning to Finance,” 2014).

Considering the problematic relationship between Iran and Azerbaijan, Baku’s protestations would be unlikely to persuade Tehran not to pursue projects which could ameliorate Iran’s severe water problems. As the NKR’s eastern neighbor continues to forgo cooperation over water resources, its southern neighbor is likely to become more and more interested.

Conclusion: Whose Hand on the Spigot?

Water is an essential element to the Karabakh conflict. In a region where water is increasingly limited, the NKR’s abundant supply and control of this critical resource makes water security a key component of its national security strategy. These water resources are directly linked to the viability of the NKR’s statehood and have major effects on Armenia’s water security as well.

As history has shown in both the Karabakh War and other conflicts, water can be used as the nastiest of weapons. In this regard, the danger of “poisoning the well” is a real concern with the potential for life-or-death consequences, especially for the Armenians who are dependent on Karabakh’s water. Likewise, in the event of renewed conflict, the Sarsang Reservoir has the potential to unleash devastating floods onto western Azerbaijani regions, whether accidentally or intentionally.

But water can be just as constructive as deconstructive. To encourage the former over the latter, more efforts are needed to utilize water as an instrument for peacebuilding now, before the window of opportunity for such confidence building measures closes. The fact that the Palestinians in the West Bank obtain a significant amount of their water from Israel’s national water utility shows that water cooperation can overcome political conflict even amidst the most difficult circumstances (Siegel, 2014). If Baku continues to refuse to cooperate with Stepanakert on the use of water resources, however, the NKR is likely to move forward with plans to further develop them exclusively to fit its own development needs, such as for new hydroelectricity, irrigation, and potable water projects, and even eventual export.

In 2013, the NKR’s Vice-Prime Minister, Arthur Aghabekyan, said as much when he warned that “if Azerbaijan rejects the dialogue offer, the Nagorno-Karabakh Republic will make large-scale investments to create pumping stations to re-direct border-area water resources to only serve Artsakh [the historic Armenian name for Nagorno Karabakh] proper (“Karabakh extends hand,” 2013).”

The control and use of water must be taken into greater account as the diplomatic process to manage and resolve the Karabakh conflict continues. The Minsk Group should not proceed along the lines of the Madrid Document, which aside from its flawed land-for-promise logic, fails to account for the Shahumian and Kashatagh regions' vital importance to Armenian water security. This must change going forward. Under the heavy influence of Joseph Stalin, Soviet borders were often drawn with nefarious and manipulative motives — including those of the NKAO — which were deliberately made to be indefensible. In Karabakh's case, diplomatic negotiators should no longer strictly confine themselves to Soviet oblast borders drawn during Stalin's time.

Instead, the Minsk Group must view the map of Karabakh in a different way. The issue of Karabakh's water security has become more important since the original drafting of the Madrid Document. It must be addressed in a new document which takes better account of the security realities of 2014, not 1923. Doing so is necessary for a lasting peace. Karabakh's water resources are, and will continue to be, an important facet of the conflict and a significant factor in regional development. The question of whose hands control the spigot in Karabakh will remain one fraught with security implications, as those who control this essential ingredient for life yield great power, with great consequences.

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