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Turkey's Water Politics and Its Ramifications for Riparian States

Research brief by

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Executive Summary

This report examines Turkey’s water dominance and transboundary water management practices vis-à-vis its riparians, highlights related risks to Armenia’s water security, and offers a roadmap to mitigate emerging external and domestic water security challenges, including the inclusion of Araks River water use in the normalisation talks with Turkey.

- Faced with climate change and land aridification, Turkey has pursued transboundary river management through large-scale dam construction since the 1970s, altering water flows that affect downstream countries. State-run projects such as the Southeastern Anatolia Project (Güneydoğu Anadolu Projesi, GAP) on the Tigris and Euphrates Rivers have reduced water flows to Iraq and Syria.
- Turkey is expected to control over 80% of the Araks/Aras River basin as it expands its network of dams, causing water shortages for Armenia, Iran, and Azerbaijan.
- The construction of GAP and Araks River dams reflects Turkey’s transboundary river management and wider water security policy, often at the expense of its riparians.
- This report uses these two case studies to examine Turkey’s water politics and potential responses to it. GAP illustrates how Turkey frames its water capture as both a security measure and a domestic modernisation project, with severe downstream ramifications for Iraq and Syria and resulting diplomatic tensions.

- Secondly, Turkey's expanding water infrastructure in the Araks Basin threatens agriculture, irrigation, and groundwater recharge in Armenia's Ararat Valley. The insight into Turkey's transboundary river management suggests its preference for a unilateral dominance over water resources rather than a compromised solution with its neighbours, a challenge that Armenia is likely to face in the immediate future.
- Negotiations over Turkey's past transboundary disputes have failed to produce comprehensive water-sharing deals. While these precedents do not predetermine the outcome of future Armenia-Turkey talks over the Araks, still, the past experiences suggest that Turkey is unlikely to pursue win-win solutions.
- With UN agencies and the World Bank warning of an imminent imbalance between global water supply and demand, compounded by climate change and declining precipitation, Armenia must not underestimate the risks associated with the Araks River supply.
- Armenia currently lacks official estimates on the potential negative impact of the Araks River dam network expansion on its economy. Nor does the government have a clearly defined wider water security strategy.
- Domestically, Armenia needs to develop its own water security strategies, create relevant expertise, adopt practices aimed at water use efficiency, expand water storage capacity, and pursue wider public awareness. It needs to adopt sustainable groundwater management in the Ararat Valley and revise fishpond regulations, which have become unsustainable due to declining recharge rates.
- Regionally, Armenia should prioritise the management of the Araks River in its normalisation talks with Turkey. However, it must also recognise that even with a negotiated agreement on discharge rates, uncertainty regarding Turkey's adherence necessitates the development of parallel, internationally backed strategies to ensure external leverage.
- To this end, Armenia should pursue proactive diplomacy by ratifying the UN Watercourses Convention and positioning itself as a regional agent supporting the Convention's implementation. This could include initiating independent scientific studies and data collection to assist UN institutions in monitoring and promoting equitable water governance.
- Armenia should integrate customary international law and the principles of equitable and reasonable utilisation and no significant harm into its international partnerships, establishing a stronger legal foundation and protection against unilateral actions.

Turkey: Regional “Hydro-Hegemon”

Turkey is an upstream country of five transboundary rivers, with their basins originating within Turkey but their waters flowing into multiple neighbouring countries. These rivers are the Euphrates and Tigris, the Araks and Kura, and the Chorokh. This geography classifies Turkey as a “hydro-hegenom”.

Nonetheless, the country is semi-arid, with 88% of its land considered at high risk of desertification (UNCCD 2025). This places Turkey on a trajectory toward severe water scarcity by 2030. Therefore, Turkey’s top water security policy includes the management of water flows at the basin level through dam construction.

A notable example is the Southeastern Anatolia Project (GAP), which has benefited Turkey economically, illustrating how the country manages transboundary rivers and interacts with co-riparians (Kibaroğlu, 2022; Yuksel, 2015). As studies have shown, the patterns include the prioritisation of domestic security, limited consideration of downstream effects, and the absence of binding cooperative frameworks. While it is not certain that these patterns will recur in the Aras basin, they are useful for understanding the risks of Turkey’s ongoing dam construction there.

Case 1: Southeastern Anatolia Project

Launched in 1960, the Southeastern Anatolia Project (Güneydoğu Anadolu Projesi, GAP) remains Turkey’s largest and best-known water management initiative. It involved the construction of 22 major dams and 19 hydroelectric plants on the Tigris and Euphrates rivers for irrigation and energy production (Bilgen, 2018). At its inception, the government presented GAP as a human development and modernisation project to support Turkey’s poorest south-eastern regions—areas with high birth rates, low urbanisation, and low per capita contributions to GDP. These regions have been and remain predominantly Kurdish. Several experts have suggested that the infrastructure expansion increased ethnic tensions and violence between the Kurdish population and the state (Bezahler, 2024; Çarkoğlu & Eder, 2001). One notable example is the construction of the Ilisu dam, which resulted in the

displacement of around 80,000 Kurdish people and turned into a site of armed clashes between the Kurds and the Turkish state (World's Water, 2014).

For Iraq and Syria, the extension of Turkey's dams to transboundary rivers initially helped mitigate flooding in both countries, given the high seasonal variations in water flow and their dependence on these rivers. The Euphrates alone accounts for up to 86% of Syria's water supply, while nearly 89% of Iraq's water consumption comes from the Tigris and Euphrates combined (Issa et al., 2014). However, the expansion of GAP into hydropower production has led to hydrological droughts and water shortages. Some reports suggest that the construction of Turkish dams on the Tigris and Euphrates has reduced water supplies to Iraq and decreased water flows to Syria by an estimated 40% (Al Qutbah, 2024). This has resulted in significant socio-economic repercussions for the riparian states (Torabi Haghighi et al., 2023; Goor et al., 2007).

The scarcity of water resources in the Tigris–Euphrates basin has produced recurring cycles of tension and brief periods of cooperation among the riparian states (Kibaroglu & Scheumann, 2013; Çarkoğlu & Eder, 2001; Climate Diplomacy, n.d.). Between 1980 and 1990, tensions escalated following the completion of the Atatürk Dam, which reduced water flows to Syria and caused political tension. Damascus accused Ankara of using the Euphrates for political leverage, while Turkey countered by accusing Syria of supporting the Kurdistan Workers' Party (PKK). The 1998 Adana Agreement, in which Syria pledged to cease its support for the PKK, temporarily eased hostilities and fostered a short-lived thaw in water-related disputes (Al Qutbah, 2024). During this period, no formal water management agreements were established, as Turkey's proposals for bilateral negotiations and a tripartite "scientific" assessment of irrigable land, intended to determine water discharges, were rejected by both Iraq and Syria as infringements on sovereignty and water rights. In the 2000s, more meetings occurred between the sides. In 2009, Memorandums of Understanding (MoUs) on water management were signed between Iraq and Turkey and between Syria and Turkey (Kirschner & Tiroch, 2012), often attributed to Turkey's "zero problems with neighbours" policy (van Heukelingen & 2022). However, with the completion of the Ilisu Dam and Ankara's shift toward hard-power foreign policy, water management became increasingly unilateral. In 2024, Iraq and Turkey resumed negotiations linking security and water issues, with Baghdad agreeing to designate the PKK as a terrorist organisation. These talks paved the way for renewed cooperation, and reports in September 2025 suggested that

formal water agreements had begun to take shape (Fraser, 2025). These negotiation processes indicate that prolonged negotiations over water resources are often interrupted for political reasons, with Turkey using ethnic tensions to strengthen its bargaining position.

Case 2: Araks basin

In the Kura–Araks basin, Turkey has pursued a similar strategy of large-scale water infrastructure, though not under a single initiative like GAP. To date, nine dams with a combined capacity of 1,468 million cubic meters (MCM) are in operation, while seven others are under construction (1,874 MCM) to be followed by the construction of a further seven dams (401 MCM). If completed, these projects would give Turkey control over roughly 3,743 MCM of water—more than 83% of the basin's estimated annual flow within its territory (Nastarani Amoghin et al., 2023; figure 1). The scale of this expansion is evident in projects such as the Söylemez Dam, under construction near Erzurum, Eastern Anatolia, with a storage capacity of 1,400 MCM, and the Karakurt Dam (590 MCM), operational since 2018 (see figure 1).

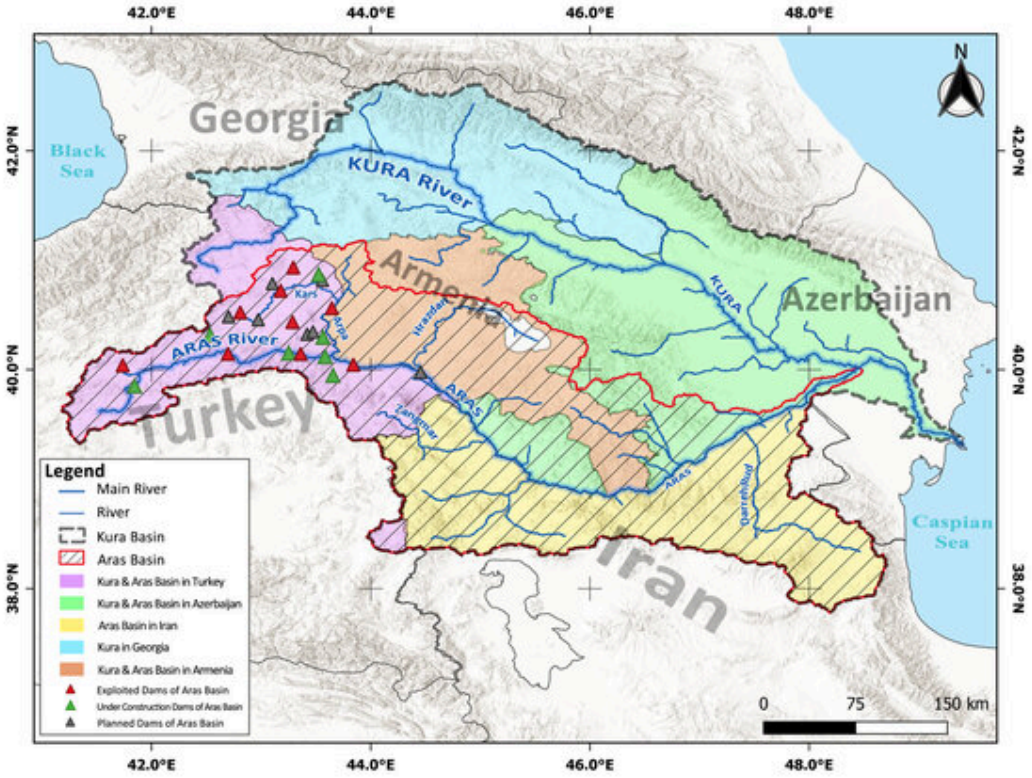

Figure 1: Turkey's Dams in the Aras River Basin (Nastarani Amoghin et al., 2024)

The impact of Turkey's control over water resources would be irreparable for Araks's downstream countries. Iran and, allegedly, Azerbaijan have already urged Turkey to reconsider the dam construction projects (van Dreven, 2025). In 2022, the Iranian Foreign Minister expressed concern over the dam construction on the Aras River and its potential impact on water flow to Iran (Middle East Monitor, 2022) and requested a bilateral agreement. Turkey chose not to follow through with this request.

Conversely, the Armenian government has thus far refrained from discussing Turkey's hydro-management projects with it and their impact on Armenia's water and food security. This is despite the fact that Turkey's dam expansion is most likely to cause drought in the Ararat Valley, Armenia's main agricultural and food production hub. Agricultural production in the valley depends on both surface water and groundwater for irrigation, with groundwater partially recharged by Araks flows (Schubert et al, 2021).

The rivers of Armenia's Ararat Valley belong to the Araks basin. However, the Araks River itself functions as a losing stream in the western part of the valley. This means that, along with rainfall and snowmelt, its waters seep into the valley's aquifer, which replenishes and sustains the groundwater resources. A decline in river flow would therefore undermine the reserves, threaten irrigation and food production, increase soil salinity and degrade soil quality, and jeopardise Armenia's long-term water security.

Table 1. The Turkish dams in the Aras Transboundary River Basin (Source: The Authors)

Row	Dam's Name	Dam's Capacity (MCM)	Dam's High (m)	Dam's Purpose		Dam's Situation	Dam's Location	River
				Agriculture (Ha)	Hydropower (MW)			
1	Cıldır	62	12	18,000	15.4	Operated since 1976	Kars City in Turkey	Kars
2	Akhuryan (Arpaçay)	525	59	70,530 ha in Turkey and 33,470 ha in Armenia	-	Operated since 1986	Turkey and Armenia border	Kars
3	Serdarabat - Talin Regulators	-	-	104,000 ha	-	Operated since 1986	Turkey and Armenia border	-
4	Demirdoven	34.5	67	8,293	-	Operated since 1995	Erzurum City in Turkey	Aras
5	Digor Sirinkoy Goleti	1.85	27	1,038	-	Operated since 2006	Kars City in Turkey	Kars
6	Sefakoy	21.5	55	for Iğdır Plain	33	Operated since 2011	Kars City in Turkey	Aras
7	Selim Bayburt	51	57	5,237	-	Operated since 2012	Kars City in Turkey	Kars
8	Karakurt	590	142	70,000 ha for Iğdır Plain	99.5	Operated since 2020	Kars City in Turkey	Aras
9	Kars	182	56	47,575	17	Operated since 2020	Kars City in Turkey	Kars
Total Operated Dams' capacity is 1,468 MCM				Total Under Consructed Land 221,000 ha				
10	Soylemez	1400	113	39,391	36	Under construction since 2018	Erzurum City in Turkey	Aras
11	Unlendi	164	78	10,000	-	Under construction since 2020	Iğdır City in Turkey	Aras
12	Tuzluca	265	45	15,000	20	Under construction since 2013	Iğdır City in Turkey	Aras
13	Kockoy Goleti	9.33	16	1,637	-	Under construction since 2016	Kars City in Turkey	Kars
14	Digor	11	-	1,330	-	Under construction since 2014	Kars City in Turkey	Kars
15	Kagızman	22	69	3,079	4.2	Under construction since 2017	Kars City in Turkey	Aras
16	Sarıkamıs 7 Kasım	3	42	-	-	Under construction since 2014	Kars City in Turkey	Kars
Total Under Consructed Dams' capacity is 1,874 MCM				Total Under Consructed Land 70,437 ha				
17	Katranlı	172	72	28,533	-	Planned	Kars City in Turkey	Kars
18	Alabalik	101	58	16,898	-	Planned	Kars City in Turkey	Kars
19	Susuz	23	78	9,115	-	Planned	Kars City in Turkey	Kars
20	Karahan	16	70	1,115	-	Planned	Kars City in Turkey	Kars
21	Varlı	9	-	4,608	-	Planned	Kars City in Turkey	Kars
22	Dolaylı	80	-	9,438	-	Planned	Kars City in Turkey	Kars
23	Surmalu	Un-knwon	-	For irritating Iğdır and Ararat Plains	-	Planned	Turkey and Armenia border	Aras
Total Planned Dams' capacity is 401 MCM Total dams' capasity is 3,743 MCM				Total Planned Irrigational Land 69,747 ha Total Irrigational Land is 361,184 ha				

Figure 2: The capacity of Turkish cams in the Aras basin (Nastarani Amoghin et al., 2023)

Transboundary River Management Styles and the Risks in the Region

Unlike domestic rivers, which fall solely under the jurisdiction of a single state, transboundary rivers require cooperative frameworks among riparian states for water allocation and basin management. Such is the case of the Danube River management agreement, which was achieved after nearly ten years of negotiations involving fourteen European riparian states (ICPDR, 2019). Remarkably, at the time of these negotiations and the formalisation of the Convention and its strategic action plan, some of the riparians were

actively engaged in the Yugoslav wars of the 1990s. Yet, the signing of the Danube River Protection Convention and its implementation plan demonstrates how states can compartmentalise political disputes and reach an outcome that institutionalises cooperation, instead of perpetuating the dependency of the more dependent riparians through coercion (Wolf & Newton, 2007).

Yet, when it comes to transboundary river management, there are far fewer examples of cooperative frameworks than cases in which riparian states instrumentalise water resources for political transactions, for instance, by controlling water flow to secure concessions in unrelated domains. This position, exemplified by Egypt on the Nile, Israel on the Jordan, and Turkey on the Tigris and Euphrates, usually emerges from asymmetric power relationships among riparian states (Zeitoun & Warner, 2006). This asymmetry also complicates negotiation efforts for the weaker parties, which often lack the means to exert pressure on the stronger side (Haile, 2018). Moreover, in more strained cases, the stronger side tends to frame water as an existential resource, thereby justifying upstream management measures in the name of national security (Zeitoun & Warner, 2006). When this approach is employed, any disagreement from other riparian states can be interpreted as a threat to domestic security, one that must be contained through coercion.

The case studies of GAP and Araks basin illustrate three consistent features of Turkey's tactics of securitisation, which also appear in the framework that Zeitoun and Warner (2006) draw in their study of river management cases across the world:

1. Domestic security first – in both GAP and the Araks/Aras basin, water management discourse focuses on domestic development, modernisation, and internal control. Regional cooperation and multilateral frameworks are subdued.
2. Minimal accommodation of riparian demands or silence around them – GAP also demonstrates that Turkey emphasises technical authority over shared governance, and does not take on the role of positive leadership, which limits opportunities for win-win solutions. In the Araks/Aras basin, Iranian and Azerbaijani officials have made statements regarding water management; however, none of these statements has led to actual negotiations. This may be partly explained by the lack of proactiveness from the riparian states. The pattern suggests that when initiating such projects, collaboration over water allocation is not initially embedded in the project implementation strategy and is considered only upon request, even when the project

itself produces negative downstream effects. This, in turn, indicates that Turkey is likely to use its power asymmetry to unilaterally control the Araks/Aras basin unless downstream countries actively counter its dominance.

3. Water and security are closely intertwined—experiences from the GAP project show that water tensions often coincide with, and sometimes trigger, ethnic and political disputes. Armenia has so far taken a non-confrontational approach with Turkey, not raising the issue in normalisation talks and taking steps toward constructive engagement. In principle, cooperative management of the Araks/Aras basin could serve as a confidence-building measure for achieving a quadripartite agreement between Armenia, Turkey, Iran and Azerbaijan, fostering trust and collaboration. However, our assessment shows that Turkey's projects are currently moving in a different direction. Turkey-induced water shortages are more likely to aggravate longstanding mistrust in the region and further politicise water disputes. If continued in the same direction, these projects are unlikely to remain confined to the domain of water. *However, there is hope that, if Turkey's riparians take a U-turn, the situation could change in the future.*

The Next Steps for Armenia

Turkey's preference for unilateral use of water resources in recent decades suggests there is a low likelihood for Armenia to achieve a water management deal. The possibility of a joint Armenia-Azerbaijan-Iran collective effort to leverage a cooperative framework with Turkey remains low. Therefore, Armenia needs to take several immediate steps to mitigate the negative impact of Turkish dams on the Araks River.

Armenia could consider expanding its water infrastructure, placing water preservation measures as a priority to mitigate the effects of climate variability. Armenia's annual precipitation levels are projected to show higher fluctuations, with an increased likelihood of droughts and flooding (International Monetary Fund, 2022). Reports have also indicated that building climate-resilient infrastructure generates USD 4 in benefits for every USD 1 invested (Hallegatte et al., 2019). The recent construction of the Vedi Dam illustrates a domestic attempt to alleviate water shortages. Armenia could explore further such projects, including the adoption of more efficient irrigation methods. Importantly, these projects must be designed to avoid undermining the water security of neighbouring states while maximising local benefits.

Another key priority for Armenia should be the sustainable use of artesian waters in the Ararat Valley and beyond. The valley's underground reserves are partially recharged by the Araks River; however, most recharge comes from rainfall and snowmelt. Studies suggest that ongoing groundwater overabstraction decreased average groundwater levels by 6–9 m between 1983 and 2013. Furthermore, the artesian zone within the valley has shrunk from approximately 619 km² to 291 km² between 1984 and 2016, and artesian well discharges have declined by up to 200 L/s (Yu et al., 2015; Valder et al., 2018, as cited in Schubert et al., 2021). This decline is partially due to unsustainable extraction for activities such as fishponds. Given the region's vulnerability to climate change and the relatively low economic contribution of the fish industry to Armenia, both its significance and the regulations governing it need to be reassessed. While existing studies do not include future risk analyses, any revised regulations must take into account that, once Turkey completes its planned dams, recharge rates are likely to decline even further.

Internationally, Armenia can strengthen its negotiating position by engaging with international bodies and legal frameworks. Both the UN Watercourses Convention (1997) and the UNECE Water Convention (1992) stipulate that shared waters must be used equitably and reasonably, and that states must take all appropriate measures to prevent significant harm to other riparians. A first step would be ratifying the UN Watercourses Convention, which entered into force in 2014 and has so far been ratified by only 39 countries. Some experts have argued that the convention is outdated and does not fully address modern threats to water security (Gupta, 2016). This creates an opportunity for Armenia to bring forward studies that generate alternative knowledge and promote their incorporation into the convention. This would help Armenia demonstrate greater proactiveness in international water governance and secure potential international partners.

However, Turkey has not ratified either convention, and the only formal allocation agreement for the Araks/Aras basin is a Soviet–Turkish accord from the 1960s. In practice, this means Armenia must rely on principles of customary international law, including equitable use and the obligation not to cause significant harm, and could invoke legal measures if necessary to safeguard its water rights.

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