

# HYDRAULIC MISSION ACCOMPLISHED? WATER INFRASTRUCTURE, POLICY AND SCARCITY IN TÜRKIYE

This is the summary of the online public event held on 10 February 2026.  
You can access the [video](#) or download the [podcast](#).

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On the 10<sup>th</sup> of February 2026, Contemporary Turkish Studies and the British Institute at Ankara (BIAA) hosted an in-person public event discussing how water infrastructure and policy have influenced state priorities, social relations, and environmental results over time to answer the question of whether a national "hydraulic mission" may be deemed complete. By placing water infrastructure and policy within larger initiatives of development, modernisation, and technopolitical administration, the panel re-examined the goals behind significant dams, irrigation projects, and urban water systems in Türkiye. The discussion drew attention to how past choices still affect current water issues by emphasising historical trajectories. Concerns about water scarcity, climate change, ecological degradation, and unequal access to water among Turkish regions and people, both in the present and future, were among the other issues the panel discussed.

The speakers were Dr **Arda Bilgen**, a Research Officer at the LSE Middle East Centre and Professor **Jim Crow**, who is a Professor Emeritus of Roman and Byzantine Archaeology at the University of Edinburgh and serves as Chair of the British Institute at Ankara (BIAA).

Professor **Yaprak Gürsoy**, Chair of Contemporary Turkish Studies at LSE, chaired the event.

In her introduction, Gürsoy welcomed the panellists and introduced them to the audience. She explained that the purpose of the event was to foster critical thinking and discussion with the

audience about how water issues should be rethought in the face of growing uncertainty, with lessons that go beyond the Turkish context, rather than offering predetermined conclusions. The panel was structured to create a conversational atmosphere, guided by a series of questions posed by Professor Yaprak Gürsoy to the speakers.

## **Question 1: What does "Hydraulic Mission" mean from a historical perspective?**

**Jim Crow:** The “Hydraulic Mission” is closely tied to the rise and functioning of major metropolises, with Rome serving as its earliest and most influential model. In the case of Constantinople, the focus lies on the Eastern Roman, or Byzantine, period following the city’s foundation. To sustain a population approaching half a million, Roman engineers had to recreate their water infrastructure on an unprecedented scale.

Unlike Rome, which was surrounded by abundant aquifers, Constantinople’s water sources were far beyond the immediate area. Meeting this challenge required the construction of a gravity-fed system stretching over 216 kilometres, one of the greatest engineering achievements of the ancient world. Yet the essence of the “mission” extended beyond construction: it centred on sustainability. While building infrastructure is a capital-intensive starting point, the remarkable accomplishment of the Constantinopolitan system was its maintenance over centuries, including through the Ottoman transition under Mehmed the Conqueror. The “mission” is therefore defined not only by the creation of such systems but also by the societal capacity to sustain them over time.

## **Question 2: How did the hydraulic missions in modern Türkiye take shape and what were their main goals?**

**Arda Bilgen:** The “hydraulic mission” refers to a modernist paradigm through which states seek to consolidate power, promote development, and reshape society and territory by means of large-scale water infrastructure. It represents a mode of governing water that prioritises supply-side solutions, engineering expertise, and national development objectives.

Although there is continuity between the late Ottoman period and the modern republic in terms of water management and development efforts, the hydraulic mission became more systematic after the establishment of the State Hydraulic Works (SHW) in 1953. This shift was further reinforced with the creation of the now-defunct State Planning Organization in 1960. Together, these two institutions embedded water infrastructure at the core of national development planning.

SHW emerged as the key institution responsible for constructing, operating, and planning water infrastructure across the country. During this period, Türkiye was divided into 26 hydrological basins, marking a transition from fragmented planning to a more holistic approach in which infrastructure projects became central elements of regional development strategies.

The underlying aim was not only to prevent water resources from “flowing in vain” but also to mobilise them in the service of broader national development goals, such as energy security, industrial expansion, and agricultural modernisation. Water infrastructure simultaneously played an important

role in state-making and nation-building. Large dams and irrigation systems increased the state's visibility and, in some cases, its legitimacy, particularly in historically marginalised regions of Türkiye.

The hydraulic mission evolved into something more than an economic plan; it became a social and political grand strategy designed to transform regions and populations and integrate them more closely into the national economy and polity. A major milestone in this process was the construction of the Keban Dam in the mid-1960s on the Euphrates River, which later formed the foundation for the much larger Southeastern Anatolia Project (GAP).

GAP stands as one of the most ambitious embodiments of the hydraulic mission, consisting of extensive dams, hydroelectric power plants, and irrigation networks. Similar to earlier models such as the Tennessee Valley Authority in the United States, its core aim was to use multiple dams for multiple purposes and to accelerate regional development through large-scale water infrastructure.

From the mid-2000s onwards, the hydraulic mission expanded further through a boom in small-scale water installations, particularly run-of-river hydropower plants (HES). This trend was driven by the neoliberal transformation of Türkiye's political economy and aimed to meet growing national energy demand by utilising previously "untapped" water resources.

Large inter-basin water transfer projects remain part of this mission. Some examples include the Greater Melen Project, which channels water from Düzce to Istanbul, approximately 170 kilometres away, and the 80-kilometre Peace Water pipeline transferring water from southern Türkiye to northern Cyprus. These projects illustrate the multipurpose nature of water infrastructure, which ranges from supporting urban growth to serving geopolitical interests.

Overall, Türkiye's hydraulic mission has been shaped by strong bureaucratic institutions, ambitious infrastructural projects, and shifting national development priorities, all embedded within broader domestic and geopolitical contexts. Ultimately, the mission has centred on the "taming of water," treating it as a strategic resource to advance economic growth, state power, and at times, national security.

### **Question 3: What are the impacts of these water infrastructure projects on societies and the environment, both historically and in the present?**

**Jim Crow:** In addressing the societal and environmental impacts of water infrastructure projects, it is important to consider how major developments have reshaped not only landscapes and communities but also archaeological practice in Türkiye. The development of the Keban Project in the 1960s marked a significant turning point in this regard. As plans unfolded, it became clear that the vast reservoir north of Elazığ would submerge a large number of archaeological sites. In response, Middle East Technical University (METU) coordinated a series of archaeological surveys, inviting both Turkish and international teams to carry out excavations ahead of the flooding. One such site was Aşvan, a village situated in a fertile plain that was destined to disappear beneath 40 to 50 metres of water. The project not only affected local communities but also played a crucial role in shaping the development of rescue archaeology in Türkiye.

This approach continued with subsequent large-scale water projects. For example, during the construction of the Atatürk Dam, which was initiated in the 1980s and completed in 1992, archaeological sites were once again identified, allocated, and excavated before inundation. These efforts reflected a growing awareness of the potential damage caused by major hydraulic infrastructure and the necessity of systematic archaeological rescue work.

More recently, the impact of such projects has been visible at prehistoric sites in the region. For instance, scouring along the margins of the Atatürk Dam near the location of the ancient city of Samsat removed approximately two metres of soil, unexpectedly revealing pre-Neolithic statues similar in date to those found at Göbekli Tepe. This illustrates that while large water projects can cause substantial cultural loss, they may also, in some instances, expose previously unknown archaeological material.

**Arda Bilgen:** There are significant costs associated with large-scale water infrastructure, particularly ecological and social ones. When many of these projects were designed and implemented in the 1960s and 1970s, concepts such as sustainability, ecological corridors, or environmental impact assessments were virtually absent from planning frameworks. Environmental protection was only formally recognised as a constitutional right with the 1982 Constitution, and the idea of sustainable development entered policy agendas in the mid-1990s. Additional attempts to strengthen environmental governance were made in the 2000s during the EU accession process.

In practice, however, development priorities consistently took precedence, while social and ecological concerns remained secondary to economic objectives. These trade-offs were often justified through discourses of “sacrificing for the greater good” and references to Türkiye’s challenging geography and climate. Three notable impacts of the hydraulic mission stand out:

**1. Displacement:** Large dams such as Keban, Atatürk, and Ilisu displaced thousands of people. Many affected communities struggled due to insufficient socioeconomic support or inadequate compensation schemes. In numerous cases, displacement led to migration towards major cities rather than fostering sustainable rural development.

**2. Environmental Degradation:** Rapid transitions to irrigation (such as in the GAP region in the mid-1990s) led to unintended consequences, including soil salinisation in the Harran Plain, largely because farmers were unprepared for the new systems. In Central Anatolia, unlicensed and excessive groundwater extraction has contributed to the formation of sinkholes, particularly in the Konya Basin.

**3. Irreversible Cultural and Ecological Losses:** Major dams have submerged culturally and historically significant sites, including Zeugma and Hasankeyf. Although some artefacts were relocated, a substantial portion of this heritage has been permanently lost. Smaller hydropower projects (HES) in the Black Sea region have had well-documented impacts on biodiversity. More recent planned megaprojects, such as Canal Istanbul, are projected to produce irreversible consequences, including forest destruction, increased saltwater intrusion, and risks to the Marmara Sea, such as heightened mucilage formation and pollution.



## Question 4: What is the connection between past projects and today's water issues?

**Jim Crow:** In considering the connection between past water projects and today's water issues, the history of Istanbul offers a revealing example. From the early to late nineteenth century, the city underwent a major shift from traditional Ottoman methods of water capture to modern systems centred on Terkos Lake. This transition required the introduction of electricity and steam-powered pumping technologies, which enabled the extraction of water from a much greater distance. As the new system expanded, older water sources were gradually neglected and fell into disuse.

The origins of Istanbul's water supply, however, stretch much further back. Many of the sources once utilised by the late Roman and Byzantine systems lie deep within Thrace. A series of small dams along the fringes of the Black Sea continue to capture water and feed it into the Terkos system. By diverting water on this scale, the availability of local resources in surrounding rural areas has been significantly diminished. This dynamic has contributed to a growing sense that Istanbul is effectively "consuming" Thrace, absorbing water that once sustained agricultural communities and natural ecosystems.

Today, the extraction of water for the megacity has substantial impacts on local populations, many of whom face declining water tables and reduced access to the resources they historically relied upon. This illustrates a clear continuity between past large-scale interventions and contemporary challenges: the redirection of water to support urban growth continues to reshape regional landscapes and intensify pressures on rural and ecological systems.

## Question 5: Why is water often treated as a security issue?

**Arda Bilgen:** Water is often treated as a security issue, not only in Türkiye but globally. Although this framing is widespread, research shows that cooperation has frequently prevailed, even in politically

sensitive regions such as the Middle East. Conflict and cooperation are not mutually exclusive; instead, they often coexist within complex water-sharing relationships.

In Türkiye's case, the securitisation of water is most pronounced at the transboundary level. The country shares five transboundary river basins, and while water becomes securitised in some of these basins, it remains largely desecuritised in others. For instance, despite the absence of formal diplomatic relations between Türkiye and Armenia, the two countries have jointly operated the Arpaçay Dam since 1985 without interruption. Similarly, despite longstanding border and security concerns with Iraq, Türkiye has established frameworks linking water with trade, energy, and broader forms of cooperation.

However, in more sensitive basins, the dynamics of “water nationalism” and zero-sum thinking can hinder collaboration. Beyond its formal diplomatic engagements (Track 1 diplomacy), Türkiye has also participated in Track 1.5 and Track 2 water diplomacy initiatives, the most notable being the Blue Peace initiative. The country has expanded its involvement beyond its immediate neighbourhood by exporting water-related expertise to the Middle East, the Balkans, Central Asia, and Africa. Institutions such as the Turkish Water Institute have played a significant role by training foreign experts in areas such as wastewater treatment and water governance.

Overall, water functions simultaneously as a development tool, a foreign policy instrument, and a means of positioning Türkiye as a regional “hydro-hub.” This multifaceted role helps explain why water issues frequently become securitised within national and regional political agendas.

## **Question 6: How does water policy differ in agricultural and urban settings? Are there any similarities?**

**Jim Crow:** In comparing water policy in agricultural and urban settings, several important distinctions emerge, alongside key similarities rooted in long-term management and infrastructural sustainability. Istanbul, again, provides a useful lens through which these dynamics can be examined. Its long history, from Byzantine and early Ottoman systems to contemporary infrastructures, illustrates how water management has continually adapted to changing demands and technologies.

Long-term documentation and studies across Türkiye reveal that water challenges today are shaped as much by usage patterns as by climate conditions. Research conducted on the Konya Plain, for instance, used computer simulations to compare historic water levels with contemporary extraction rates. The findings highlighted that excessive and improper use posed a greater threat to water availability than climate change itself. This highlights a persistent issue in agricultural regions, where groundwater extraction often exceeds natural recharge rates.

Urban settings face a different but related set of challenges. In Istanbul, historical systems of cisterns and rainwater harvesting once played a crucial role in urban supply. Recent projects, developed in collaboration with local institutions such as the Istanbul Water and Sewerage Administration (İSKİ) and municipalities like Kadıköy, have revisited these older practices to explore new approaches to rainwater management and decentralised storage. These efforts demonstrate a growing recognition that historical knowledge can inform contemporary strategies for sustainable urban water use.

Despite the different pressures in rural and urban contexts, a common thread lies in the importance of infrastructure and maintenance. Whether in agricultural basins or dense metropolitan areas, the long-term viability of water systems depends on careful planning, sustained stewardship, and the prevention of misuse or overextraction.

Another challenge shared across both settings is the pricing and perception of water. In Istanbul, the low cost of water has contributed to inefficient usage, contrasting with cities facing more acute scarcity, such as Ankara or Athens, where pricing policies reflect the critical nature of the resource. The notion of water as a commodity further complicates management: while essential for life, it is often treated as an economic asset from which profit can be extracted, shaping both urban consumption patterns and agricultural demand.

Urban infrastructure also contends with structural and regulatory issues. For example, high-rise residential developments in Istanbul routinely require water to be pumped to upper floors. In practice, operational costs associated with this vertical delivery often fall to the water authority rather than developers, placing additional strain on the system. This dynamic reflects broader tensions between urban growth, regulatory frameworks, and the sustainable financing of water services.

Overall, while agricultural and urban water policies differ in immediate priorities—irrigation and groundwater management on one side, municipal supply and infrastructure financing on the other—they share fundamental concerns regarding sustainability, efficient use, and the need for robust planning. These similarities point to a wider lesson: long-term resilience depends not only on building infrastructure, but on maintaining and governing it responsibly across both rural and urban environments.

## **Question 7: What other ways of thinking about water can guide our future policy facing the climate crisis?**

**Arda Bilgen:** In considering alternative ways of thinking about water that can guide future policy in the face of the climate crisis, it is clear that water governance in Türkiye remains predominantly technocratic. Supply-side solutions continue to be prioritised over demand management, and decision-making processes are still largely top-down. Although the right to water is formally recognised, it is not consistently practiced in everyday governance and service provision. Similar patterns can be seen in the selective or partial adoption of global water governance principles, such as the OECD Principles on Water Governance or the Integrated Water Resources Management, which are not fully implemented at national or local levels. As a result, existing institutional frameworks struggle to respond adequately to climate-induced risks.

Türkiye's climate crisis is, at the same time, a water crisis. Addressing it effectively requires a fundamental paradigm shift. Rather than conceptualising water solely as a resource to be engineered, extracted, or controlled, policy must move toward a holistic understanding that recognises its multiple dimensions. Water is not only a material input for economic development; it is also a social, political, ecological, archaeological, and cultural element that shapes communities and landscapes. Acknowledging this broader significance is essential for building governance models that are resilient, equitable, and adaptive to the accelerating pressures of climate change.

It was noted that the United Nations has recently described the world as entering a period of “global water bankruptcy,” signalling severe implications for many river basins, lakes, and surface waters that are rapidly losing their ability to return to historical normal levels. This assessment highlighted the urgent need for water governance approaches that are far more socially, politically, and ecologically sensitive. A fundamental redefinition of humanity’s relationship with water is required; without such a shift, it may no longer be possible to speak meaningfully about a sustainable water future.

The audience Q&A centred on large-scale water infrastructure developments in Türkiye. Participants raised concerns about the environmental risks posed by the Canal Istanbul project, the complexities of managing transboundary water sharing with Syria and Iraq, and the long-term implications of earthquakes and industrial mining for water security. These discussions reinforced the broader themes of the panel regarding interconnections between water governance, environmental change, and societal resilience.