

NADIA ASAAD

June 2026

The Upstream Paradox

Hydro-Politics and Ethnic Tension in the Euphrates Basin

Syria and Southeastern Anatolia



Assad's Address During His Chairing of the Council of Ministers Session, 16 April 2011



The Arab Spring was in full swing..

Appeasement on the menu:

Foreign conspiracy +

- Nationality for Kurdish population
- Agricultural reform package

The contested climate-conflict debate in Syria

Without Water, Revolution



By **Thomas L. Friedman**

May 18, 2013

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Much research has linked drought in Syria to the uprising, but not only has this been a contentious claim, but is inextricable from the still very much alive and contingent debate on the relationship between climate and conflict.

Governance failure as the drought multiplier

Liberalisation (post-2000)

Transferred water rights from small farmers to politically connected large landowners

Aquifer depletion

Overexploitation of groundwater resources: Water table in Jazira and Euphrates-adjacent regions falls sharply.

Subsidy withdrawal (2008–09)

Fuel and fertiliser support ended at the worst possible moment.

Meteorological drought

60% of land mass affected; cascading crop failures.

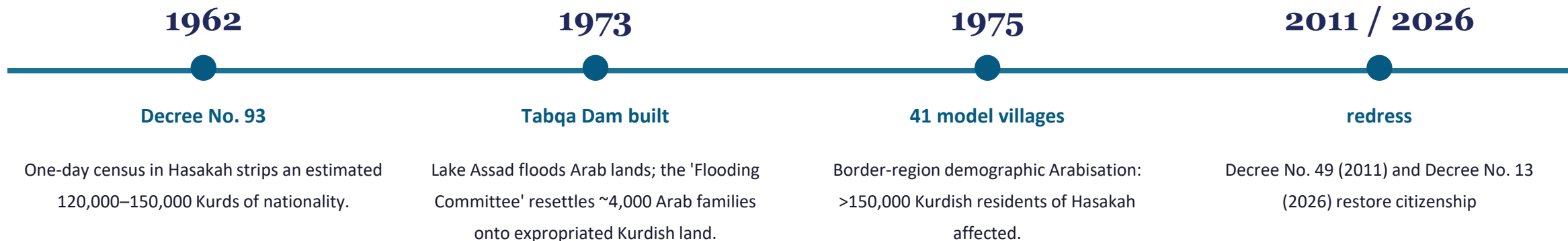
Rural displacement

Deir ez-Zor, Aleppo, Raqqa, Hasakah hit hardest.

STRUCTURAL VULNERABILITIES

- ~60% of national territory receives <250 mm rainfall/year.
- Wastewater treatment infrastructure remained minimal.
- Distribution-system losses estimated at ~25% of drinking water.
- Modern irrigation adopted slowly and unevenly.
- No DSI-equivalent: weak basin-level planning capacity.
 - Long-term land degradation including increased soil salinity

The Arab Belt — water infrastructure as demographic engineering



Control over land adjacent to the Euphrates was the objective; the hydraulic project was the mechanism.

The the worst drought in modern Syrian history 2007 - 2009

- agricultural drought lasted for two years, major precipitation decline
- failure of crops led to the erosion of livelihoods led to widespread rural-to-urban migration
- government's failure to implement its 2006 national drought strategy
- 2008-2009 government canceled subsidies for fuel and fertilizer
- Overall trend in Syria's vegetation productivity from 2001 to 2015 was sharply negative
- Turkish dams upstream the Euphrates river

The Euphrates River

وَمَنْ الَّذِي نَقَلَ الْفَرَاتَ لِبَيْتِنَا.. يُوْرِدُ دَجَلَةَ وَالرَّصَافَةَ؟

And who has carried the Euphrates to our house, and brought the roses of the Tigris and serenity with it? (Balqees, Nizar Qabbani)

The “breadbasket” of Syria:

- large share of Syria’s wheat, barely, and cotton
- 85% of Syria’s agricultural demand for water met by the Euphrates
- Temperatures in northeastern Syria have risen by one degree Celsius compared to 100 years ago,
- River could be dry by 2040, forcing people to leave a place they have called home for thousands of years



A river, a regime, and the politics of transition

Water governance in the Euphrates basin is inseparable from two of the most politically charged issues of Syria's transitional period: its relationship with Turkey as upstream hydro-hegemon, and its unresolved management of ethnic tensions in the northeast.

THE ARGUMENT, IN BRIEF

Beyond drought

Move past the 'climate-caused-the-war' debate.

Institutions matter

Same drought, different states, divergent outcomes.

Water = identity

Hydropolitics & Kurdish politics are one bilateral relationship.

Research question and thesis

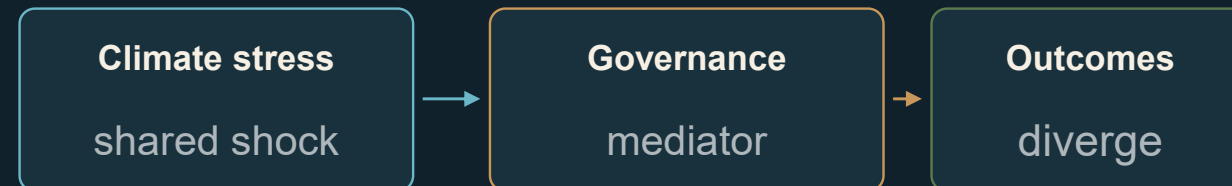
Research question

What governance choices determine whether ecological stress is absorbed or amplified?

Thesis

The 2007–2009 drought produced divergent outcomes in Turkey and Syria because institutions, infrastructure and distributive politics mediated the shock.

ANALYTICAL FRAMING



- Turkey: upstream control + GAP + irrigation capacity
- Syria: downstream dependency + elite capture + weak drought response
- Transition: reform requires both water diplomacy and Kurdish inclusion

A river, a regime, and the politics of transition

Drought: broader agricultural and socioeconomic lens of a relative decrease in water availability and its downstream consequences for livelihoods, land use, and political stability as employed by Kelley et al. (2015).

01 Hydro-hegemony theory

Zeitoun & Warner (2006)

02 Political economy of irrigation

Ballinger (2022)

03 Comparative drought analysis

Turkey vs. Syria, 2007–2009

04 Expert interview programme

Validation & enrichment

Comparing northern Syria and Southeast Anatolia

WHY THIS COMPARISON?

- Common exposure**
Both states faced the same 2007–2009 meteorological event
- Shared basin**
Turkey contributes ~90% of Euphrates flow; Syria is the principal downstream riparian.
- Entangled politics**
In both cases water management, agriculture, and identity politics are entangled

Irrigation, insurgency, and the opportunity-cost mechanism (Southeast Anatolia)

BALLINGER (2022) · CSAE OXFORD

–58%

Likelihood of a Kurdish-rebel conflict event in a fully-irrigated 25 km² grid cell, vs. the average cell (2016–2019).

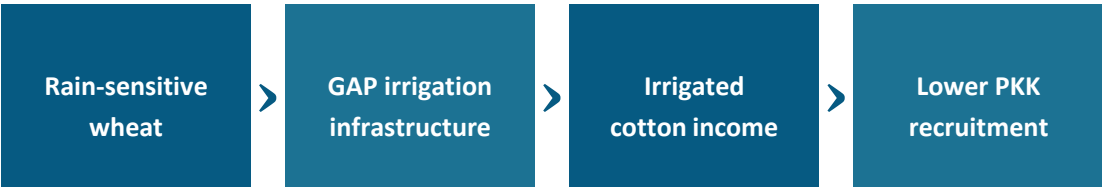
–49%

Conflict-event likelihood per year, from a 27 km² increase in irrigated area in a 100 km² cell (1985–2019).

THE MECHANISM

Stable, irrigation-decoupled agricultural income raises the opportunity cost of joining an insurgency. Farmers with more to lose recruit less.

PATHWAY



Caveat: where land tenure is unequal, the initial onset of irrigation can intensify conflict via rent competition before the income effect arrives to quell popular tension.

Hydro-hegemony and the upstream paradox

HYDRO-HEGEMONY (Zeitoun & Warner, 2006)

Hegemony at the river-basin level: exercised through diplomacy, treaty construction, knowledge production, and the management of political-economic interdependencies.

TURKEY'S THREE LEVERS

Material	GAP dams, irrigation, technical institutions
Political	1987 accord, 1998 Adana, 2024 Iraq–Turkey framework
Legal	Refusal to ratify the 1997 UN Watercourses Convention

THE UPSTREAM PARADOX

A downstream transitional state's most instructive policy model is the very hydro-hegemon whose infrastructure constrains its water.

Two dimensions:

Institutional — the governance model Syria needs was built by an upstream state.

Political — Turkey's water-as-pacifier playbook presumes sovereign water control.

Defining the Upstream Paradox

A structural condition in which a downstream transitional state finds that its most instructive policy model is simultaneously the actor whose infrastructure has created the primary constraint on its water availability.

Resource Threat

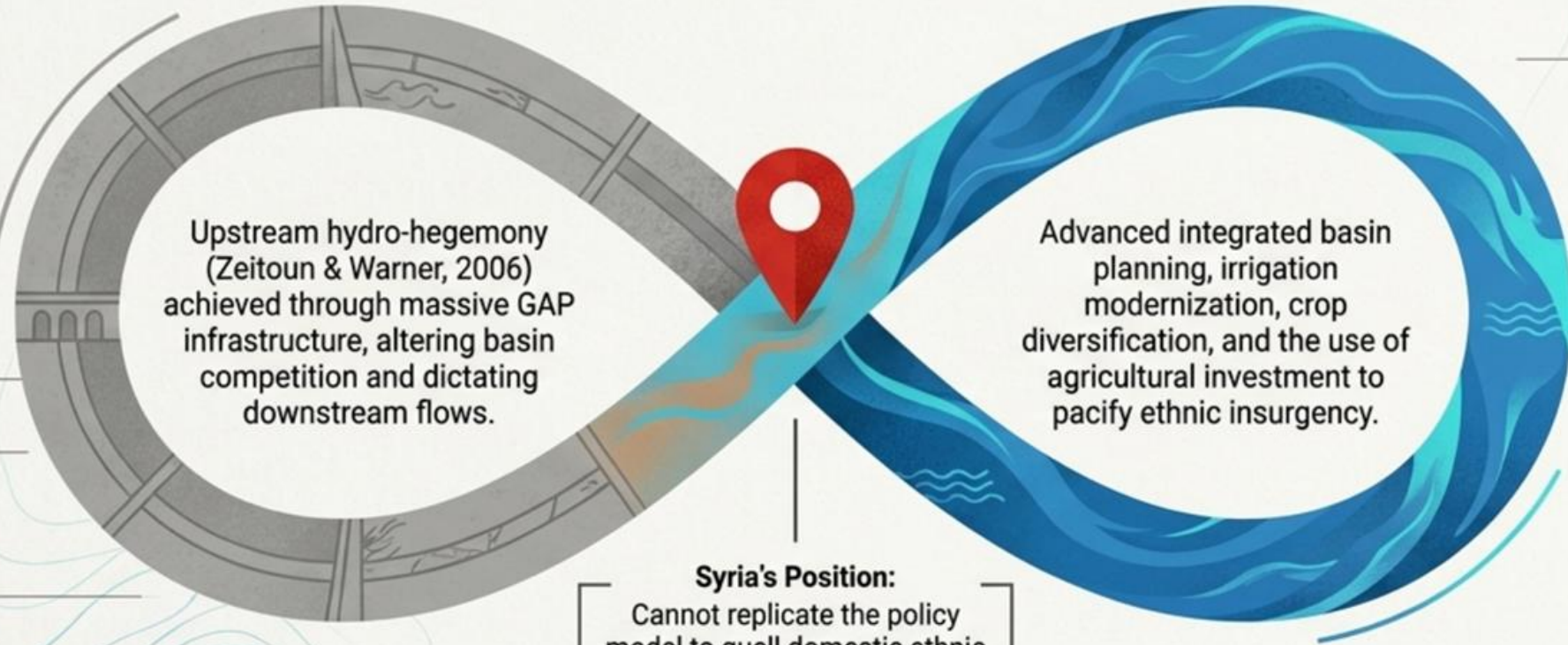
Upstream hydro-hegemony (Zeitoun & Warner, 2006) achieved through massive GAP infrastructure, altering basin competition and dictating downstream flows.

Policy Model

Advanced integrated basin planning, irrigation modernization, crop diversification, and the use of agricultural investment to pacify ethnic insurgency.

Syria's Position:

Cannot replicate the policy model to quell domestic ethnic tension without first negotiating with the resource threat.



Two droughts, one river — same exposure, divergent outcomes

TURKEY — Upstream advantage

INFRASTRUCTURE

GAP: 22 dams, 19 hydro plants, ~1.7m ha irrigated since 1977.

DROUGHT OUTCOME

Positive vegetation productivity 2001–2015 (Eklund & Thompson).

CROP STRATEGY

Shift from rain-sensitive wheat to irrigated cotton & high-value crops.

SYRIA — Governance failure

POLICY CHOICES

Post-2000 liberalisation handed groundwater to politically connected landowners.

HUMAN TOLL

~60% of land mass affected; 800,000 livelihoods destroyed (IRIN, 2009).

DISPLACEMENT

40,000–60,000 families displaced primarily from the northeast; peripheral-city populations swelled.

Conclusion: the contrast is not geography alone — it is the institutional capacity built upon that geography.

GAP, the PKK, and the political economy of irrigation

Where Syria used water infrastructure as an instrument of ethnic dispossession, Turkey used it — at least in part — as an instrument of ethnic pacification, with quantifiable results.

THE BILATERAL EXCHANGE

- Atatürk Dam + GAP reduce downstream flow → Damascus shelters Öcalan & supports PKK as leverage.
- 1987 accord: Turkey commits to $\geq 500 \text{ m}^3/\text{s}$; Syria commits to restrict PKK support.
- 1998 Adana Agreement: Syria expels Öcalan; water cooperation reaches its high-water mark.

WIKILEAKS, 2008

"Ankara explicitly expected GAP to reduce the appeal of PKK recruitment by improving rural livelihoods in southeast Anatolia."

THE WARNING

Where land tenure is unequal, irrigation can initially intensify conflict through competition over rents — before its pacifying income effect takes hold.

Why hydropolitics and the Kurdish question cannot be sequenced

THREE INTERLOCKED IMPERATIVES

Water diplomacy

Negotiate Euphrates flows with Turkey.

Kurdish settlement

Substantive — not symbolic — political inclusion.

Institutional capacity

Equitable distribution requires real governance organs.

EACH REQUIRES THE OTHER TWO

Water cooperation with Turkey depends on resolving Kurdish security concerns. Resolving them depends on credible material redress. Credible redress depends on institutional capacity Syria has not yet built.

A river in crisis: the 2025–2026 Euphrates

PHASE 1 • ACUTE SCARCITY (2021–2025)

<200 m³/s

Less than half the 1987 minimum (500 m³/s).

- ~30 months of sustained sub-treaty flow (SOHR, 2023).
- Lake Assad fell to 6 m above minimum operating level (April 2025).
- Hydroelectric output dropped to ~2 hours/day.
- Tishreen & Baath dams approached operational shutdown.

PHASE 2 • UNMANAGED ABUNDANCE (MAY 2026)

≈2,400 m³/s

Nearly 5× the agreed minimum — no advance notice.

- Atatürk Dam spillways opened for the first time in seven years.
- Raqqa and Deir ez-Zor flooded; farmland submerged, bridges destroyed.
- 50 of Syria's 210 Euphrates water stations taken out of service.
- Four children drowned in the Deir ez-Zor countryside.

Current landscape and governance gap

POST-2024

Irrigation absorbed

Ministry of Irrigation merged into the Ministry of Energy — water subordinated to energy-revenue logic.

No environment ministry

No environmental or climate provisions yet.

Crisis-response default

Environmental governance left to Emergency Management & Agriculture

AANES jurisdiction

Tabqa, Tishreen, Baath dams sit in contested territory with parallel technical staff.

A POSITIVE SIGNAL

Iraq–Syria ministerial meetings with daily flow data exchange.

The February 2025 Iraq–Turkey agreement — $\geq 500 \text{ m}^3/\text{s}$ plus a joint technical committee demonstrating Turkey is open to basin diplomacy when it serves its interests. Syria's task is to build the architecture and the leverage to secure an equivalent.

What Syria can — and cannot — learn from Turkey

01 Institutional

Differential resource management drove the divergent outcomes of 2007–09 beyond the effect of different levels of meteorological exposure.

TRANSFERABLE

02 Political-economic

Irrigation reduces insurgent recruitment via opportunity cost, but distributive equity is decisive.

TRANSFERABLE WITH CARE

03 Hydrological

The viability of Turkey's institutional model was helped by its upstream position. Syria cannot replicate the geography.

NOT TRANSFERABLE

04 Historical

Hydraulic and ethnic politics are inseparable. Symbolic restoration without land and water redress retains potential for instability.

FOUNDATIONAL

The transitional trajectory is not neutral

CURRENT TRAJECTORY

- Water governance absorbed into energy administration.
- No bilateral protocol with Turkey on flow management.
- No early-warning mechanism for upstream dam releases.
- No land reform addressing the Arab Belt's distributive legacy.

WHAT THE PARADOX DEMANDS

- Euphrates basin authority with technical capacity.
- Negotiated bilateral protocol including flow guarantees and early warning.
- Smallholder-prioritising agricultural investment in the northeast.
- Substantive Kurdish political settlement.
- Legal recognition of environmental governance.

The river does not distinguish between the mistakes of one government and the ambitions of another.

The Euphrates floods, and it also runs dry, and the communities along its banks absorb the consequences. The severity of the meteorological event is a function of climate; the severity of its social and political consequences is substantially a function of institutional capacity, resource distribution, and political economy.

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