STRONGER GOVERNANCE FOR A WATER-SECURE JORDAN

WATER POLICY ANALYSIS BRIEF

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1. Why Governance Matters More Than Ever for Jordan's Water Security

Amman cityscape overlooking the historic city center and surrounding hills

Jordan ranks among the world's ten most water-scarce countries, with only 61 m^3 of water supply per capita per year, well below the 500 m^3 threshold that defines "absolute scarcity." Rapid population growth, refugee inflows, and climate-driven heatwaves and droughts have deepened this deficit. Projections suggest that, without major reforms, national demand could exceed sustainable supply by a factor of four by 2050. The country has long relied on groundwater to bridge the gap, but decades of over-pumping have pushed key aquifers, such as Azraq and Disi, into steep decline. At the same time, roughly half of all water entering municipal networks is still lost through leakage, theft, or faulty metering, undermining supply reliability and eroding the finances of public utilities. Intensifying flash floods and extreme heat further strain ageing infrastructure, posing simultaneous risks to agriculture, urban water security, public health, and livelihoods, especially for poor and remote communities that already receive water only once a week.

The National Water Strategy 2023–2040 sets ambitious targets for demand management, groundwater sustainability, and non-revenue water reduction. Yet a persistent gap separates policy from practice. Overlapping mandates across authorities, combined with municipal constraints including limited budgets, technical capacity, and unclear legal authority, produce recurring gaps and inefficiencies. As a result, illegal wells persist, pollution continues to degrade ecosystems, water losses remain high, and community voices remain unheard. Addressing these governance bottlenecks is now urgent. Climate projections signal more frequent droughts, heatwaves, and floods, while Jordan's commitments under the Paris Agreement and Agenda 2030 demand coherent and more inclusive water governance.

As part of its ongoing commitment to strengthening water security and climate resilience in Jordan, Mercy Corps, through the Tabeaa Project: Strengthening Climate Resilience in Jordanian Communities, conducted a water policy and governance assessment between March and November 2025. The objective was to build a clearer, multi-level understanding of how Jordan's water governance system functions and where the most strategic opportunities for reform lie and inform program design. The assessment combined an extensive review of national water laws, strategies, and institutional mandates with targeted fieldwork, including key informant interviews with national authorities, technical experts, and utility representatives; focus group discussions with farmers in three project locations; and a community survey capturing household water experiences and local implementation challenges. Guided by OECD and UNDP–SIWI governance frameworks, the analysis examined policy coherence, institutional roles, coordination mechanisms, and the bottlenecks that hinder effective service delivery and equitable access. A validation workshop with national and municipal stakeholders further refined the findings to ensure they reflect both institutional realities and community perspectives. This brief summarizes the broader in-depth analysis and presents actionable insights to help translate national policy ambitions into meaningful, on-the-ground progress.

2. Strengths and Shortcomings of Jordan's Water Governance and Why They Matter

Wadi Musa, a view of the area's urban fabric

2.1. The Architecture of Jordan's Water Laws and Policies

Jordan's water laws and policies form an extensive and evolving framework aimed at confronting one of the most acute water crises globally. Anchored in the Water Authority Law (2001) and supported by sectoral regulations and strategies such as the National Water Strategy 2023–2040, this body of legislation reflects an ambitious attempt to reconfigure the sector structurally, economically, and institutionally. Jordan's water laws and strategies increasingly acknowledge the country's chronic water insecurity, shaped by groundwater depletion, ageing infrastructure, and rising non-revenue water losses. Strategic documents also recognize the compounding pressures of climate change, population growth, and refugee inflows. However, while laws and policies reference these trends, plans do not entirely translate strategic climate awareness into operational decisions that manage risk, protect aquifers, and support resilience.

Jordan's water laws have established a centralised, technocratic structure for managing water resources. The Ministry of Water and Irrigation (MoWI) sits at the top of this structure. The MoWI sets national policy and aligns strategy with political authority, while the Water Authority of Jordan (WAJ) absorbs municipal water functions (infrastructure, licensing, regulation). The Jordan Valley Authority (JVA), tasked with irrigation and agricultural planning, operates in parallel, with limited coordination with WAJ. The legal framework emphasizes vertical integration, incorporating regional and municipal roles under national bodies. Municipalities and Water User Associations (WUAs), while formally acknowledged, have advisory functions with no fiscal autonomy or decision-making power.

Jordan's water policies reflect a selective and cautious opening to market-based approaches. The 2001 amendments to the Water Authority Law laid the foundation for Public-Private Partnerships, corporatisation of water utilities, and performance-based management contracts. The National Water Strategy promotes tariff reforms and economic incentives, such as tiered pricing and volumetric restrictions on agricultural users. Yet the state remains dominant, owning infrastructure, allocating resources, and policing extraction, while private actors play a limited role under strong regulatory and contractual controls. Pricing reforms remain constrained by concerns over equity and affordability.

Jordan's management style is efficiency oriented and infrastructure heavy. WAJ holds wide authority to develop and operate all municipal water and wastewater systems. The government promotes supply-side solutions through mega-projects, large-scale infrastructure, and water-harvesting schemes. Demand-side management is formally endorsed but weakly implemented. Laws favour compliance and enforcement (e.g., well closures, licence caps) over participatory or adaptive governance. Although Integrated Water Resources Management (IWRM) appears in policy language, there is no legal framework mandating basin-scale coordination, environmental flows, or decentralised planning.

Recent policies prioritise domestic and industrial use over irrigation or ecosystems. This shift is evident in reallocation policies reducing agricultural quotas in favour of cities and export sectors. Farmers report reduced access and rising tariffs, even as irrigation remains the top groundwater user. Ecosystems and environmental flows are virtually absent from law and policy. Though sustainability is a stated goal, measures focus on potable supply, agricultural use, and infrastructure resilience. There are minimal provisions to protect ecosystems like wetlands, river flows, or biodiversity.

2.2. Implementation Gaps and Institutional Constraints in Jordan's Water Governance

Jordan's robust water governance architecture remains hindered by institutional and operational challenges. This section examines three critical policy domains: groundwater management, water reallocation, and flood risk reduction, while also discussing the broader institutional roles of municipalities, local actors, and communities.

Groundwater protection in principle, not in practice. Groundwater, Jordan's most precious and over-exploited resource, is governed by the Groundwater Control Regulation, the Groundwater Sustainability Policy, and related legislation that set clear targets for abstraction, licensing, and metering. However, enforcement remains inconsistent. While WAJ holds judicial police powers and the law authorises penalties for illegal wells, abstraction caps for aquifers are not in place, and telemetry or metering systems are rarely deployed. In practice, some wells continue operating with limited oversight, while others face restrictions. This perception of unequal treatment contributes to ongoing overexploitation, with many registered wells exceeding safe yields. Weak monitoring and limited coordination between WAJ, the Ministry of Agriculture (MoA), and local authorities further hinder effective enforcement.

A risky water reallocation. Jordan's Water Reallocation Policy seeks to shift freshwater use from low-value agriculture to urban and industrial sectors with higher economic value, while expanding wastewater reuse for farmers. The economic rationale is strong, but communities still rely on agriculture for their livelihoods. Farmers in Azraq and Madaba report reduced entitlements and poorer water quality, and report not being consulted before reallocation decisions were made. Without compensation mechanisms or support for adaptation, this policy threatens the stability of vulnerable areas. At the same time, many irrigation districts still receive water based on historical patterns and outdated entitlements, indicating that the transition is still incomplete and there is still time to implement fairer allocation mechanisms.

National strategies increasingly acknowledge flood risks, but local preparedness remains fragmented and largely reactive. Responsibilities are split between WAJ, who oversees water infrastructure; the Ministry of Environment (MoEnv), who leads hazard mapping; and municipalities, who handle local drainage often without legal clarity or sufficient budgets. This institutional ambiguity leads to delays, with no single agency legally mandated to coordinate flood preparedness or response, and there is no action plan in place for infrastructure resilience or early warning. Floods cause major losses, prompting communities to clear drainage themselves or rely on INGOs when municipalities lack equipment or authority. Donors often fund protection works, like earthen dams or retention ponds, but these lack maintenance plans, legal status, or integration into broader planning. Without a cohesive governance framework, communities face repeated shocks, while municipalities are blamed for failures they are not empowered to prevent.

Implementation gaps are driven more by institutional fragmentation than by technical capacity. Overlapping mandates among WAJ, JVA, MoEnv, and MoA cause confusion, especially in groundwater regulation, wastewater reuse, and flood planning. In the absence of binding coordination mechanisms, collaboration depends on ad hoc arrangements or donor mediation, slowing down action, and creating blind spots. Municipalities have limited legal authority and budgetary control and are rarely involved in governance decisions, contributing to persistent gaps and inefficiencies. WUAs, without legal status or independent budgets, depend on short-term donor support. Where active, their role is limited to fee collection and minor maintenance, with no operational or strategic authority. Critically, neither WUAs nor municipalities are involved in policy design. Local communities are also largely excluded. Although policies refer to participatory planning, concrete mechanisms are rare. Small farmers, women, refugees, and civil society actors are seldom meaningfully involved, with participation typically beginning only after plans are finalised.

2.3. Future Implications of Jordan's Current Water Governance

The current legal–policy course is reshaping sector-wide risks that require closer monitoring:

Discretionary enforcement of groundwater rules risks deepening inequalities and eroding confidence in governance. Where monitoring is weak and rules are applied selectively, influential users continue operating private wells often on outdated licences, while smallholders face restrictions. This creates a two-tier system in which well-connected users secure access and small farmers, women, and refugees bear the brunt of scarcity, fuelling poverty, social grievances, and potential conflict, and undermining confidence in both local institutions and national strategies.

Despite references to sustainability, the current governance framework leaves aquifers and ecosystems exposed. Without aquifer-specific caps, consistent metering, and real-time monitoring, illegal or excessive abstraction persists, often without regard to recharge rates. Coupled with drought, higher temperatures, and erratic rainfall, this drives protracted aquifer depletion. Ecosystems are largely absent from allocation rules. There are no legally reserved environmental flows for rivers, wetlands, or biodiversity, limiting recharge, disrupting surface–groundwater interactions, and accelerating ecological decline. Fragmented responsibilities for wastewater, industrial discharges, and stormwater across WAJ, MoEnv, and municipalities without a binding coordination mechanism create monitoring gaps and slow responses, allowing pollution to go unchecked, degrading scarce resources, and threatening public health. Warning signs are clear: water tables are declining, by more than a metre per year in Azraq and Disi, and ecological collapse of Azraq Oasis.

Fragmented governance and uneven implementation raise costs for the economy and households. Overlapping mandates and siloed planning produce duplication, driving up lifecycle costs, delaying service, and weakening donor confidence, thereby tightening fiscal space for investments. Furthermore, with unclear mandates, limited budgets, and restricted authority, municipalities and communities improvise short-term fixes that are rarely integrated or technically robust, shifting risk downstream into the future, and constraining long-term development.

3. Priority Actions for Stronger Water Governance

Jordan's water governance is strong on paper but struggles in practice: groundwater is falling, reallocation risks weakening rural economies, floods still catch towns unprepared, and institutions do not coordinate effectively. The recommendations below aim to protect aquifers and ecosystems, avoid agricultural collapse, and restore equity and public trust.

Azraq Oasis, surrounded by natural vegetation and blue water.

- **Treat ecosystems as priority users:** Jordan should legally recognise the ecosystem as a user by adopting enforceable environmental flows for rivers, wetlands, and groundwater reserves. Once set, WAJ and JVA should embed these limits into operating procedures, including scheduled dam releases, caps on well permits, and shared pumping reductions when thresholds are breached. Allocation plans should list environmental flows and groundwater reserves alongside essential domestic needs. To do so, monitoring and enforcement are key. Small dams, floodwater harvesting, and monitored recharge can help, provided they do not affect downstream ecosystems.

- **Confront inequalities and tackle disproportionate access by a few.** Well-connected actors too often secure exemptions, licences, or disproportionate access to water resources, deepening inequality and accelerating the depletion of already fragile water sources and ecosystems. Tackling this requires stronger legal safeguards, impartial enforcement, and targeted anti-corruption measures. Concrete steps include a public water allocation registry, grievance or appeals mechanisms, and independent oversight. Financial disincentives such as progressive water-use charges, targeted taxation of high-volume extractors, and steep fines for violations can deter abuse and generate resources for reinvestment in vulnerable communities. Advocacy and outreach remain vital, not only to give voice to marginalised groups but also to expose inequities and their impact.

- **Grant real decision-making authority and resources to municipalities and community-based organisations.** This requires legal mandates for specific water functions, dedicated budget lines, and flexibility to adapt policies to local conditions. To ensure benefits reach vulnerable groups, decentralisation must be paired with transparency and accountability, for instance, by using public reporting, independent audits, and participatory planning. Municipal capacity also needs reinforcement through targeted training, infrastructure investments, and the devolution of selected budgeting and planning functions. Equally important, WUAs and similar bodies should receive support so they can give farmers, women, youth, and other community members a meaningful role in water governance.

- **Make awareness and participation the default.** Policy documents, water allocation decisions, and enforcement data should be made publicly available and communicated in clear, understandable language through local platforms. Draft policies should be shared in advance for public consultation, ensuring the active participation of provincial, municipal, and community representatives. Public awareness campaigns should tackle misinformation, explain the reasoning behind difficult reforms, and showcase examples of successful local adaptation. Just as importantly, citizens must have safe and straightforward ways to challenge decisions through accessible feedback and appeals processes.

- **Recalibrate water reallocation policy without undermining agriculture.** Reallocation is economically rational but risks losses for farming households and local economies. To reduce this risk, the process should be phased and participatory, with staged milestones at basin and district levels and active involvement of affected users to adjust each step. Instead of blanket measures, the policy should set differentiated targets that reflect local efficiency and vulnerability. Where needed, the policy could envision safety nets and targeted subsidies prioritising smallholders and marginalised groups. Advanced wastewater reuse should only happen where farmers can connect, afford tariffs, and trust quality, and where monitoring can ensure reuse actually replaces rather than adds to freshwater withdrawals.

- **Reset and monitor groundwater rights.** The legal and regulatory reform of legacy water rights and informal practices is a priority. To reform historic groundwater licences, policies should introduce sunset clauses, volume-based caps, and mandatory reviews. Where possible, informal practices should be legalised under new sustainability and equity criteria, offering vulnerable populations a path toward legitimacy and state support. These measures cannot occur without enforcement and remote monitoring systems. Real-time, technology-enabled monitoring must be paired with expanded field inspection teams and training programmes to build local capacity.

- **Clear leadership, preventive planning, and resourced local authorities to reduce flood risk:** To avoid fragmented and reactive responses to floods, the government should legally designate a single lead agency to steer preparedness and response across MWI, WAJ, JVA, MoEnv, civil defence, governors, municipalities, and utilities, with clear roles and shared operating procedures defining who forecasts, who issues warnings, who closes roads, and who clears drains. Planning should shift from response to prevention, using up-to-date flood risk maps to co-design adaptation plans with municipalities and civil society. These plans would set, for instance, routine drainage maintenance, standards for conveyance and retention, and nature-based measures. Early warning systems should be managed by the lead agency and pushed through municipal channels so alerts reach every community quickly and consistently. Lastly, as first responders, municipalities need dedicated budget lines, trained teams, and essential equipment.

4. Caring for People and Ecosystems in Jordan's Water Future

Water Policy Analysis Validation Workshop in Amman

Jordan's water challenge is, at heart, a question of how authority is shared, how rules are applied, and whose interests shape access and trade-offs. This paper does not claim a single fix, but it sketches a direction. The message is to account for Jordan's ecosystems as users with their own rights, protect those who bear the brunt of scarcity, and bring decisions closer to the places where risks are lived. Progress will come by trying new approaches with communities, expanding what works, and building the confidence of institutions to act transparently and fairly. Partners can add value not only through finance but through consistent policy engagement that clarifies mandates, improves monitoring, and equips municipalities, basin councils, and local actors. The alternative is inaction that raises costs, deepens inequity, and allows ecological losses that may be irreversible. With practical steps taken over time, Jordan can move from managing crisis to building a water-secure and resilient future.

Mercy Corps' Commitment through the Tabeaa project

Mercy Corps is committed to advancing climate and water resilience by generating high-quality evidence, strengthening local systems, and driving action that leads to long-term change. Through the Tabeaa (طبيعة): Strengthening Climate Resilience in Jordanian Communities project; co-funded by the Z Zurich Foundation and the Embassy of Switzerland in Jordan, and implemented as part of the global Zurich Climate Resilience Alliance, Mercy Corps in Jordan is working to equip communities, municipalities, and national actors with the knowledge and tools needed to navigate intensifying climate risks, particularly heatwaves, flash floods, and growing water scarcity. Tabeaa adopts a multi-faceted approach that enhances community adaptive capacity, supports the localization and enforcement of national climate and disaster-risk policies, and mobilizes greater investment in resilience initiatives. By integrating community-led action with policy influence and strategic partnerships, the project aims to strengthen water governance and ensure that vulnerable populations have access to more reliable, climate-resilient water systems. This brief forms part of that commitment, summarizing the findings of an in-depth water policy and governance analysis and outlining actionable pathways that can turn national ambitions into tangible improvements for Jordan's most climate-affected communities.