From Vulnerability to Strategic Advantage: Water Security Governance in the Confederation of Sahel States

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1. INTRODUCTION

Water scarcity has driven most Sahelian populations below the international threshold of 1,700 cubic meters of renewable freshwater per capita per year —a level at which countries become "water-stressed," unable to meet domestic, agricultural, and economic needs without severe trade-offs (Nkiaka et al., 2024; World Bank, 2022). In this context, water is not only a development constraint but an increasingly central variable in security calculations. Fragmented hydraulic infrastructure has become a strategic liability: the 58 documented attacks on water facilities in Burkina Faso in 2022 illustrate how armed groups weaponize scarcity to erode state authority and deepen instability.

Against this backdrop, the Confederation of Sahel States (AES)—comprising Mali, Burkina Faso, and Niger under their 2023 mutual defense pact—offers a framework for reframing water as a pillar of collective security. The confederal charter identifies water as a sector for "mutualization," mandating joint policies and recognition of hydraulic infrastructure as a strategic asset. Together, they control approximately 1,700 kilometers of the Niger River, Africa's third-largest fluvial system – an underutilized resource with significant potential for coordinated management and strategic resilience.

Ongoing water-sector reforms in Niger (2024) and Mali (2025) create a limited but a crucial legislative window during 2025–2026 to redefine laws on resource allocation, infrastructure responsibilities, and basin management. The key policy question is therefore: how can the AES use this legislative window to turn fragmented water governance into a mechanism for confederal consolidation and enhanced security?

Strategically, coordinated water management could transform a dispersed vulnerability into a visible "confederal dividend"—improving reliability in border regions, protecting strategic infrastructure, and reinforcing AES's institutional coherence and bargaining power. Yet substantial past investments—including over 930 wells and boreholes under the Liptako-Gourma program—remain poorly integrated, and the AES still lacks a comprehensive water policy despite designating water as a strategic

mutualization sector alongside energy, agriculture, and transport.

Without decisive coordination during this legislative window, new investments risk reinforcing vulnerabilities rather than mitigating them, threatening both Sahelian development and the Confederation's long-term viability.

2. RESEARCH METHODS

This policy brief employs comparative policy analysis of water governance legal frameworks from Mali, Niger, and Burkina Faso. Primary sources include Niger's Water Code (Ordinance n°2010-09 of April 1, 2010) and its ongoing implementation through PANGIRE (2017-2030), institutional reform initiatives in Mali's water sector (2024-2025), regulatory revisions in Burkina Faso focused on rural water service delivery (2024-2025), ministry reports from national hydraulic departments, and regional cooperation frameworks including the Liptako-Gourma Authority (established in 1970) and the Niger Basin Authority (NBA/ABN, Water Charter adopted in 2008).

The brief's analysis considers: **(1)** legislative harmonization opportunities, **(2)** institutional coordination mechanisms, and **(3)** security-water nexus integration. It does not, however, assess implementation capacity or political feasibility, and the brief's recommendations assume baseline institutional functionality and political commitment.

3. KEY INSIGHTS

Fragmented water infrastructure turns development gains into strategic vulnerabilities

Despite significant investments under the Lipatko-Gourma program, the absence of an integrated water-security doctrine means that many local achievements remain isolated rather than forming a cohesive protective system. This gap stems from the AES' recent establishment (July 2024), divergent basin commitments (Mali within the Senegal River Basin Development Authority (Organisation pour la Mise en Valeur du fleuve Sénégal [OMVS]), Niger within the Niger Basin Authority, Burkina Faso's largely national program architecture), and the initial prioritization of military coordination over sectoral integration (Bassou, 2024).

In the current configuration, water infrastructure is managed nationally or by project, with limited cross-border planning. This fragmentation creates predictable and weakly protected nodes that armed groups can exploit—targeting wells, pumps, and distribution points, as seen in the 58 attacks on rural facilities in Burkina Faso in 2022 (UNICEF, 2023; Saadi, 2023). These attacks cause humanitarian stress and project an image of state incapacity, undermining legitimacy and enhancing recruitment opportunities for violent organizations (de Jong, 2023; Van Ackern & Detges, 2022).

This creates a vicious cycle: scarcity increases vulnerability, armed groups target infrastructure, service disruption deepens

grievances, and recruitment expands (Van Ackern & Detges, 2022). Breaking this cycle requires the AES to treat water infrastructure as a strategic asset within a confederal security framework—designing resilient interconnected networks, establishing cross-border protection protocols, pooling resources for maintenance, and integrating water-security indicators into joint intelligence and early warning systems (Bonzanigo et al., 2022).

Aligned water law reforms give the AES a window to build its own water-security doctrine

Parallel water-sector reforms across the three AES member states create a rare opportunity to develop an autonomous, Sahel-specific water-security doctrine. Mali's ongoing revision of its water code (officially initiated with stakeholder workshops in July 2025) and Niger's updated regulatory framework—building on Water Code Ordinance n°2010-09 and the establishment of its independent regulator ARSEau in October 2022—respond to similar pressures: projected rainfall declines of 20-50% across the Sahel region, declining Niger River flows, and commitments to the 2030 Agenda for Sustainable Development. Burkina's concurrent sectoral adjustments further align this reform momentum.

Because these reforms revolve around the shared Niger River, legislative convergence can strengthen rather than duplicate existing basin governance under the Niger basin Authority (ABN). Coordinated reforms would allow AES members to harmonize abstraction norms, service obligations in border zones, and emergency response protocols while remaining consistent with ABN standards. This alignment would transform three independent national frameworks into a more coherent AES "water-security space" tailored to Sahelian realities.

Over time, synchronized legislation built on AES principles could gradually form a confederal legal architecture centered on collective resilience, mutual assistance, and strategic autonomy in water governance. Such convergence would signal that the Confederation can innovate institutionally beyond defense. However, this opportunity is strictly time-limited: legislative calendars, particularly in Mali, are compressed, and transitional political contexts introduce additional uncertainty. Strategic coordination at the AES-level is thus crucial to ensure that parallel reforms converge into a shared doctrine rather than diverge over time.

Water scarcity multiplies existing risks, eroding state legitimacy and opening space for destabilizing actors

Limited access to safe water undermines state stability across the AES through overlapping social, economic, and security pathways. An estimated 50% of Nigeriens (World Bank, 2022), 30% of Malians (GIZ, 2022), and 25% of Burkinabés lack access to potable water (Statista, 2024). When households must compete for scarce and

unreliable supplies, citizens perceive the state as unable to meet basic obligations, eroding institutional legitimacy and trust (UNDP, 2024).

Climate variability further weakens traditional governance arrangements. Longstanding water-sharing agreements between herders and farmers are destabilized by droughts, irregular rainfall, and shifting migration routes, fueling more frequent disputes over land and grazing (Brottem, 2021). In Mali, these dynamics have evolved into what Pflaum (2025) terms "glocalized" conflict, as local disputes intersect with national security crises and external interventions. Armed groups exploit these tensions to act as protectors or arbiters, expanding their territorial influence and recruitment base (Mant et al., 2024; Pflaum, 2025).

Water stress also reshapes demographic and social patterns. Rural exodus toward peripheral urban zones produces dense settlements with high unemployment, weak governance, and limited infrastructure – conditions conducive to extremist messaging and alternative forms of governance (Van Ackern & Detges, 2022). Protests over inequitable access, "water riots," and attacks on perceived unfair infrastructure perpetuate social division and reinforce the legitimacy gap that armed groups exploit (Lyamouri, 2019).

Rather than serving as a direct cause of conflict, water scarcity amplifies existing vulnerabilities—weak governance, exclusion, identity tensions, and external interference (Pflaum, 2025; Van Ackern & Detges, 2022). It functions as a threat multiplier that deepens instability, fragments social cohesion, and opens operational space for violent actors. In the Sahelian context, water security therefore constitutes not only a development priority but an essential dimension of national and confederal defense (UNDP, 2024; Mant et al., 2024).

4. POLICY RECOMMENDATIONS

Adopt a three-phase plan to harmonize AES water laws

The AES should use ongoing water-law reforms in Mali, Niger, and Burkina Faso to create a common legal foundation for water security, resilience, and crisis response.

During Phase I (2025–2026), the Confederation should establish an AES Water Policy Working Group under its Defense and Security Committee to review national legal frameworks and basin commitments, including those of OMVS, the Niger Basin Authority, and the Liptako-Gourma Authority. This group would identify harmonization-compatible principles and prepare a non-binding Framework Agreement on AES Water Governance Principles to guide further integration (Niasse, 2017).

Phase II (2026–2027) would pilot targeted harmonization efforts in the Liptako–

Gourma region, selected for its shared hydrological and security vulnerabilities. The focus should be on developing water-solidarity protocols to manage drought and infrastructure crises, integrating security clauses to protect critical water assets, and promoting partnership frameworks that prioritize South–South capacity-building over externally imposed turnkey solutions (Bonzanigo et al., 2022).

Phase III (2027 onward) would consolidate these efforts through institutional and legal instruments that embed both cooperation and sovereignty safeguards. This phase should establish AES-level mechanisms to mediate transboundary water disputes in coordination with existing basin organizations, encourage jurisprudential alignment among courts and regulatory bodies, and incorporate continuity and withdrawal clauses to preserve core obligations. These clauses would ensure that essential commitments, including emergency solidarity and protection of shared strategic assets, remain valid even if political arrangements or membership within the confederation change (Pflaum, 2025; Niasse, 2017).

Build an integrated AES early-warning system for water security

To move from reactive crisis management to anticipatory water-security governance, the AES should establish an integrated early-warning system that combines satellite hydrological monitoring, field reporting, and data on pastoral mobility. Rather than duplicating existing mechanisms, it should build on the Niger Basin Authority's Satellite-Based Hydrological Monitoring and Forecasting System (SATH) platform while adding AES-specific analytical capacity focused on risk identification and security implications (Bonzanigo et al., 2022). The system would adopt a distributed architecture linking national focal points in water and defense ministries through an AES Water Security Intelligence Unit housed within the Defense and Security Committee, ensuring national ownership and respect for sovereignty sensitivities.

Operationally, the system would support four priorities: mapping water-deficit zones for pre-emptive deployment of supplies and maintenance teams; tracking pastoral movements to predict competition hotspots and prevent escalation (Brottem, 2021; Pflaum, 2025); assessing critical infrastructure exposure to insurgent activity to guide protection and contingency planning (Van Ackern & Detges, 2022); and producing municipal-level water-security risk indices integrating resource availability, infrastructure robustness, and governance capacity (UNDP, 2024). By translating environmental and social data into actionable planning, the AES could better protect strategic water assets while aligning defense, civil protection, and development

actors around shared, evidence-based risk assessments.

Lunch a Sahel hydraulic sovereignty initiative based on knowledge-transfer partnerships

To reinforce strategic autonomy and reduce technological dependence, the AES should launch a *Sahel Hydraulic Sovereignty Initiative* that structures external cooperation around skills, data systems, and governance capacity rather than equipment delivery. The initiative would rely on triangular partnerships with **Morocco**, **Germany**, and the **Netherlands**, selected for their complementary expertise and ongoing engagement in Sahel stability.

Morocco, through its National Office of Electricity and Drinking Water (ONEE), provides South–South expertise in arid-zone and decentralized water systems – solar-powered pumping, desert irrigation, and peripheral service provision – under conditions comparable to those of AES members and aligned with Rabat's interest in regional stability and cooperative migration management. **Germany**, through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Federal Institute for Geosciences and Natural Resources (BGR), brings long-standing Sahel experience in hydrological modelling, groundwater management, and regulatory reform, consistent with its climate diplomacy and emphasis on institution-building. The **Netherlands**, via the International Institute for Hydraulic and Environmental Engineering (IHE) Delft and its water-sector alliances, contributes with its expertise in flood control, integrated water management, and participatory basin governance, directly relevant to conflict-sensitive water diplomacy in the Sahel.

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