

Transition Analysis

Mozambique's Water Sector

Transition analysis of the water sector in Mozambique, identifying key system lock-ins, framing decisive transition themes, and mapping seeds of change for a resilient and just water future.

Prepared by:

Genito Maure, Dinis Juízo, Nícia Givá, André Machava, Alda Salomão

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About this document

Transition analysis is an approach used to develop a comprehensive understanding of the systemic issues that shape a society's ability to realise its vision. It examines how interconnected factors, causal loops, and feedback dynamics move a system towards different states of equilibrium or, in some cases, collapse. Its purpose is to identify pathways, interventions, and innovations that can support a transition towards a more desirable future.

This transition analysis was prepared by a Mozambican Deep Dive team for the water sector in Mozambique. It draws on an extensive desk review of primary policy, legal, reports, and diagnostic documents, interviews with stakeholders, which informed the synthesis work undertaken by the project team. The analysis identifies four pillars priori identified through a consultative stakeholders participatory workshop: (1) Water Resources, (2) Water Demand, (3) Water Supply, and (4) Sanitation and seven subthemes that emerged as decisive in defining the pace and direction of a transition towards a more equitable, resilient, and sustainable water system in Mozambique. For each theme, transition questions are formulated to guide a co-creative agenda building workshop that will craft a subsequent research and action programme. The analysis was further supported by three case studies illustrating emerging niche practices with transition potential.

Executive Summary

Mozambique's water sector is locked in a stable but sub-optimal governance regime that is structurally unable to deliver equitable, climate-resilient water and sanitation services. While legal frameworks are progressive, their operationalization is severely hindered by institutional fragmentation, low tariffs, deferred maintenance, and an overwhelming dependence on external donor funding (which accounts for over 80% of capital investments). This fragmentation separates water resources management from other critical socio-economic sectors like food, energy, and urban development, exacerbating the vulnerability of the system.

Increasing climate pressures—such as frequent droughts in the south and central regions, and intense cyclones in the coastal areas—are worsening these existing structural lock-ins, turning what are symptoms of unsustainability into a permanent state of crisis. Addressing these challenges requires moving beyond mere system optimization (such as institutional restructurings and incremental tariff tweaks) to a fundamental transition in how water is valued, managed, and governed.

The current water regime faces long-term challenges and persistent problems, and most likely is unable to address these effectively under the way it is currently organized. Fragmentation across functions, together with the separation of water policy from other socio-economic domains, is unsustainable. Climate change has integrated impacts that demand coordinated technological innovation, economic transformation, and social resilience. The central challenge is to establish formal and informal governance arrangements that enable integrated water systems to respond to climate uncertainty while respecting ecological limits and meeting socio-economic needs.

At the report validation workshop, stakeholders from diverse backgrounds identified ethics and corruption as critical concerns in Mozambique's water sector. It was found that ethical failures and corruption further reinforce the identified systemic weaknesses. Limited transparency in investment prioritisation, procurement, licensing, tariff decisions, and the allocation of donor and public funds can divert resources from underserved communities, weaken maintenance, and reward infrastructure delivery over reliable service outcomes. Where mandates are fragmented and monitoring is weak, conflicts of interest, favouritism, rent-seeking, and the misuse of authority become harder to detect and sanction, eroding public trust and deepening rural, peri-urban, and gender inequalities. A credible transition therefore requires more than institutional reform: it must embed integrity, transparent decision-making, independent oversight, accessible information, protection for those who report wrongdoing, and clear accountability for results across government, utilities, private operators, and development partners.

Looking ahead, the evidence presented in this report suggests that research synthesis and policy reform, while necessary, will not be sufficient on their own to shift Mozambique's water sector onto a more resilient trajectory. The analysis has shown that the sector's challenges are rooted not only in technical gaps, but also in fragmented institutions, weak accountability, constrained financing, climate vulnerability, unequal service outcomes, and limited integration with food, energy, urban development, and economic planning. Addressing these interconnected challenges will require broader transdisciplinary engagement processes that bring research and policy into sustained collaboration with government, business, civil society, communities, private operators, and development partners. Such processes can mobilise the innovation potential of society and the private sector,

create space for experimentation and learning, and help translate strategic intent into practical pathways towards resilient, equitable, and productive water futures.

1 Introduction

Mozambique is among the most water-stressed countries in sub-Saharan Africa—not because it lacks water, but because it has not yet unlocked water’s potential as a foundation for human development, economic growth, and ecological sustainability. The country faces a stark paradox: it is endowed with abundant river basins and groundwater, yet millions of citizens, particularly in rural and peri-urban areas, lack reliable access to safe water and sanitation. This is fundamentally a question of justice: water insecurity disproportionately burdens the poorest and most vulnerable, especially women and girls who carry the physical and temporal burden of water fetching. Droughts recur 4–7 years out of 10 in the south and centre, while Cyclones Idai and Kenneth (2019) destroyed water infrastructure across entire provinces, highlighting the system's extreme vulnerability.

This is not primarily a technical or financial challenge. It is a challenge of governance, of societal values, of institutions, and of how we collectively imagine and organize our relationship with water. This transition analysis seeks to understand why the water system remains locked in a sub-optimal equilibrium despite progressive policies, and to identify the leverage points and transformative actors that can unlock a resilient, equitable, and just water future.

a transition analysis of Mozambique’s water sector, such as drought management in Twente (Netherlands) and economic transition in the Netherlands. The goal is not to produce another sectoral strategy as Mozambique already has those. The goal is to understand why the system remains stuck in a sub-optimal equilibrium despite strong policy intent, and to identify the knowledge gaps, leverage points, and transformative actors that can unlock the transition to a truly resilient and just water system.

2 Framing: What Is a Transition, and Why Does It Matter for Mozambique?

A transition is a fundamental change in the culture, structures, and practices that define how a system functions. It is not merely incremental improvement or policy

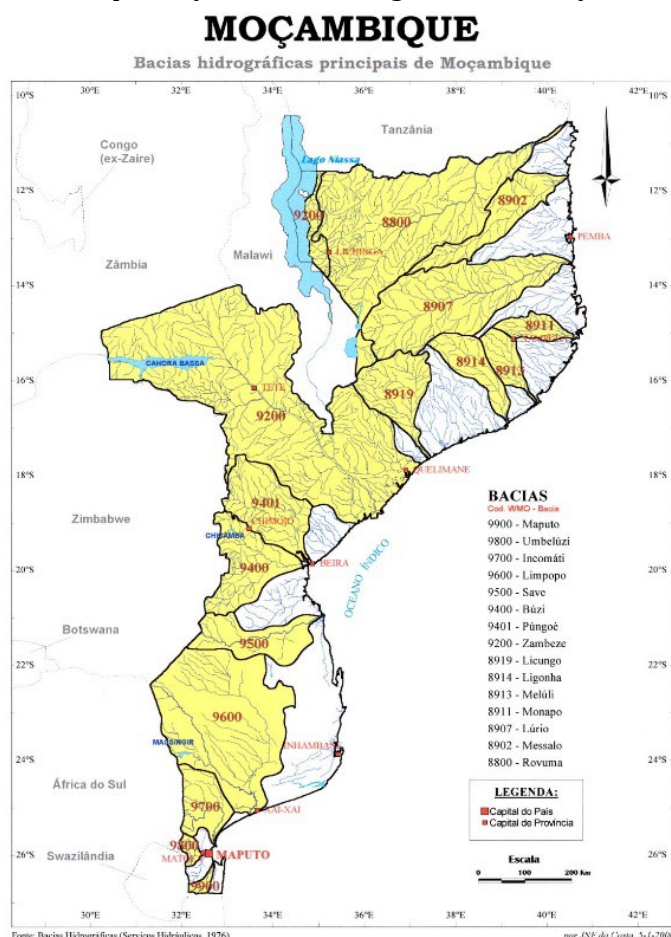


DIAGRAM 1: [Map of Mozambique – Water System Overview]

Legend: Major river basins Source: World Bank Water Security Diagnostic 2025.

reform. It involves a shift in the dominant logic, in the share of power and resources, in what is considered normal, and in who gets to participate in decisions. Transition might, at times, require breaking with consolidate practices and with what is taken as obvious to unlock the potential of new or innovative approaches that are more suitable to the new realities

Transition theory distinguishes between three levels of a socio-technical system (Rotmans et. al (2001), Loorbach (2010):

1. **The landscape level:** macro trends that exert pressure on the system from outside - climate change, global commodity markets, demographic growth, geopolitical instability.
2. **The regime level:** the dominant structures, rules, cultures, and practices that constitute the current system - the “lock-in” that makes change difficult.
3. **The niche level:** emerging innovations, experiments, and alternatives that challenge the dominant regime and, under the right conditions, can scale up and trigger systemic change.

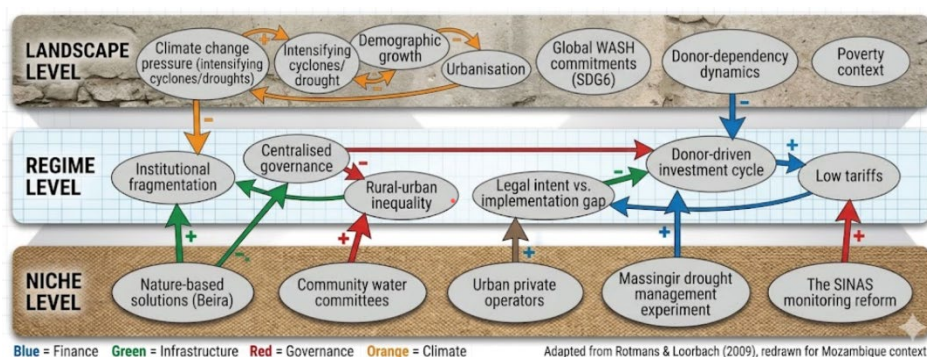


DIAGRAM 2: Multi-Level Perspective on the Mozambique Water Transition

Legend: Three horizontal bands representing Landscape, Regime, and Niche levels. Landscape shows: climate change pressure (intensifying cyclones/droughts), demographic growth, urbanisation, global WASH commitments (SDG6), donor-dependency dynamics, poverty context. Regime shows centralised governance, donor-driven investment cycle, institutional fragmentation, low tariffs, rural-urban inequality, legal intent vs. implementation gap. Niche shows: Nature-Based Solutions (Beira), community water committees, urban private operators, Massingir drought management experiment, the SINAS monitoring reform. Arrows show transition dynamics. Adapted from Rotmans & Loorbach (2009), redrawn for Mozambique context.

In Mozambique, these landscape pressures are highly interconnected and build a compelling argument that the current regime is unsustainable. Rapid population growth (projected to increase water demand by 80% by 2050) and rapid urbanization create massive demand pressures on an already fragile system. These pressures interact with intensifying climate change hazards (cyclones and droughts) and geopolitical shifts, such as upstream water use in transboundary river basins. Because these influences are deeply intertwined in the current regime, they cannot be studied in isolation. They drive the system toward unavoidable crises, proving that the status quo is unsustainable and must adapt structurally.

Mozambique’s water sector exhibits a textbook case of a **stable but suboptimal regime**: legal and policy intent is progressive and internationally aligned; institutional structures are formally in place; and successive reforms have been attempted since independence. The country undertakes regular 5-yearly elections,

that provide opportunities for the political leadership to present strategies and actions to address societal pressing issues, however, the most visible results of the process is to legitimate its governments and plans, yet the results are far from the envisaged targets with ramping poverty levels. Noticeably, the system persistently fails to deliver equitable, climate-resilient water and sanitation services for all, especially for the 70% of the population living in rural areas and the rapidly growing peri-urban periphery.

The key question guiding this transition analysis asks: **How can the water transition in Mozambique be designed so that - given the pressures of climate change, rapid urbanisation, persistent poverty, institutional fragmentation, and donor dependency - a resilient, equitable, and economically productive water system is achieved?**

3 Method

This analysis is based on:

Desk review of 30+ primary policy, legal, diagnostic, and research documents (listed in Section 10). These cover national water policy (1995, 2007, 2016), national resource plans, water security diagnostics, public expenditure analyses, climate profiles, SDG monitoring assessments, sanitation sustainability reports, sub-sectorial diagnostic analysis, and national development strategies.

Synthesis and analysis by the KIN project team, drawing on the desk review materials and team expertise in transition management, water governance, and the Mozambican context.

Reference to analogous KIN transition analyses from the Netherlands - specifically, the Drought in Twente analysis and the Economic Transition analysis - to apply proven analytical frameworks.

Field validation (May 2026): A series of semi-structured stakeholder interviews and a Crutzen¹ co-creation workshop with actors from government, civil society, the private sector, basin committees, academic institutions, and international partners. Proposed questions for the workshop and further interactions are set out in Section 9.

The analysis is structured around **seven themes** that appear decisive for the pace and direction of the transition. For each theme, transition questions are formulated - articulating the knowledge gaps and normative choices that must be addressed to enable the desired transformation.

4 The Mozambique Water System: Endowment, History, and Current Regime

4.1 Hydroclimatic Endowment and Geographic Context

Mozambique's water system is characterised by sharp geographic contrasts that profoundly shape governance and equity challenges. The country spans 801,590 km², stretching from the Rovuma River in the north to the Maputo River in the south. Its total renewable freshwater resources amount to approximately 217 billion m³/year, yet much of this water (54%) originates upstream, beyond Mozambique's borders.

Key hydroclimatic features include:

Hundred and four river basins, of which 35 are considered pillar to national socio-economic development and are part of the National Water Resources Plan (2019)

¹ an innovative, co-creative, and transdisciplinary workshop format developed by KIN.

Thirteen major river basins, of which 9 are transboundary and heavily dependent on upstream management decisions in Zambia, Angola, Botswana, Namibia, Zimbabwe, Malawi, Tanzania, Eswatini, and South Africa. The Zambezi River alone drains a catchment of 1.37 million km², spanning across eight (8) countries with Mozambique as the downstream recipient of flows determined largely by conditions upstream.

Extreme rainfall variability: average annual rainfall of 1,032 mm nationally but ranging from over 2,000 mm in central highlands of Zambeze province to under 400 mm in parts of the southern Gaza Province, creating a permanent north-south asymmetry in water availability.

Drought as the country's most frequent disaster: with return periods of 4 in 10 years in central provinces and 7 in 10 years in the south (World Bank 2010). El Niño years, which the south is particularly exposed to, drive prolonged multi-year droughts the last of which lasted over 5 years between 2014 and 2019. The lack of investment in hydraulic infrastructures to manage water resources affects the ability of the country to manage drought and ensure water rights in our communities.

Extreme flood risk: Mozambique is the third most exposed country to multiple hydrometeorological hazards in Africa. The Zambezi, Licungo, Buzi, Save, Limpopo, and Incomati valleys experience regular inundation that destroys infrastructure and disrupts services for millions. Between 2000 and 2015, floods affected over 4.6 million people.

Cyclone exposure: an average of 3–4 tropical cyclones impact Mozambique annually. The 2019 cyclones Idai and Kenneth caused catastrophic damage to water, sanitation, and health infrastructure across Sofala, Manica, Zambezia, Nampula, and Cabo Delgado provinces.

Climate change trajectories: temperatures have already risen 1.5–2°C since 1961, and projections suggest a further 1.5–3°C increase by mid-century. Droughts in the south and centre will intensify; extreme precipitation events will increase; and delayed onset of rainy seasons will reduce agricultural water availability.

Urban flooding: Rapid and largely informal urbanisation is placing growing pressure on urban services, particularly sanitation, drainage, and flood management. The main drivers are accelerating population growth and informal settlement expansion; insufficient drainage and sanitation infrastructure; and increasing exposure to climate-related hazards, including intense rainfall and flooding. Together, these factors are compounding urban flood risks and creating wider public health and service delivery challenges.

Water quality and pollution: Mozambique's mineral wealth is placing increasing pressure on water resources, particularly in areas affected by artisanal and formal mining. Weak coordination among government entities and limited enforcement capacity allow pollution risks to accumulate across basins. These pressures threaten drinking water sources, undermine ecosystem integrity, and increase the long-term costs of water resource management.

Water storage is a critical vulnerability: Mozambique has significant large dam infrastructure water storage, however 95% of it is in single reservoir of the Cahora Bassa dam (the largest dam in sub-Saharan Africa by reservoir volume) located in the Zambezi river; the other significant water retaining infrastructures are Massingir, Chicamba, Pequenos Libombos and Corumana. Overall, the country total storage capacity per capita is modest relative to rainfall variability. The underdevelopment of small and medium reservoirs for irrigation and rural supply means that the system's ability to buffer seasonal and inter-annual variability is severely limited. Groundwater resources - abundant in many areas but poorly mapped outside ARA Sul - represent a critical underused asset, especially for rural

water security in drought-prone regions. Groundwater availability and productivity vary significantly across the country because Mozambique's geology is dominated by crystalline formations, which cover around 57% of the territory. The most productive aquifers are generally found in sedimentary formations, but these systems are not uniformly reliable: in some areas, groundwater quality is affected by salinisation linked to historic seawater incursions and coastal geological processes.

Climate change trajectories act as systemic risk multipliers: temperatures have already risen 1.5–2°C since 1961, and projections suggest a further 1.5–3°C increase by mid-century. Rather than being a standalone hazard, climate change worsens the existing institutional and financial lock-ins affecting the water regime. For example, the recurring destruction of water points by intense cyclones forces the sector into a reactive emergency response loop. This reactive cycle diverts scarce domestic resources and reinforces a donor-financed recovery model, cementing the donor dependency paradox. Consequently, climate change makes the current centralized governance model increasingly untenable and unsustainable.

Mozambique's current water governance regime cannot be understood without reference to its historical trajectory. Three phases are particularly relevant:

Colonial period (until 1975): Water infrastructure was developed primarily for commercial agriculture and colonial settler communities, particularly in the Limpopo Valley, the Zambezi delta, and coastal cities. Indigenous populations had minimal access to piped water or sanitation while rural population was completely neglected. This period established deep spatial inequalities in infrastructure that persist today and embedded a logic of water as a resource for economic production rather than a social good.

Post-independence centralis and civil conflict (1975–1992): After independence, the first government nationalised water infrastructure and adopted a strongly centralised state dominated governance model. The civil war (1977–1992) devastated rural infrastructure and disrupted whatever administrative capacity existed at local level. Water provision in rural areas did not improve much from the largely unsafe dug wells and unprotected sources, while urban systems in Maputo and major cities were maintained with increasing difficulty.

Democratic transition and reform era (1992–present): The peace agreement of 1992 and the introduction of multi-party democracy opened a new era of institutional reform, driven in large part by international aid and the Washington Consensus model. The water law - *Lei de Águas* (1991) and its subsequent implementing decrees introduced basin-based management, the Integrated Water Resources Management (IWRM) framework, user fees, and a separation of policy, regulation, asset management, and operations. The first National Water Policy (1995) opened the door for active private sector participation in water management, the Delegated Management Framework (DMF, 1998) introduced private sector participation in urban water supply, separating asset ownership (FIPAG for large cities, later AIAS in 2009 for small towns) from operations. The regulatory council (CRA, later AURA in 2019) was established to provide economic regulation of the sector ensuring protection and balancing of private sector and users' interests, oversee tariff

One of the people interviewed coined the expression “**centralization of decentralisation**” in reference to situations whereby new regulations are being passed to move decision making powers from decentralised bodies to central government entities

setting and ensuring and service quality. The regulatory council (CRA, later AURA) was established to oversee tariff and service quality.

These reforms were formally progressive, but their implementation reflected a tension between the ambition of decentralisation and the reality of centralised decision-making, limited local capacity, and donor-driven investment cycles. Decentralisation has been more formal than substantive: basin-level institutions (ARAs) lack financial autonomy and technical staff; municipalities have limited budget authority over water and sanitation; and provincial governments have only recently - since 2020 - been given formal authority over rural water and sanitation.

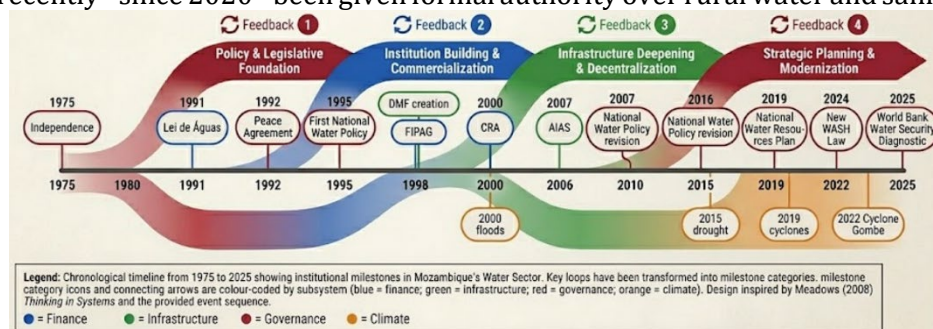


DIAGRAM 3: Timeline of Key Institutional Milestones in Mozambique's Water Sector

Legend: Horizontal timeline from 1975 to 2025. Key events marked: Independence (1975); Lei de Águas (1991); Peace Agreement (1992); First National Water Policy (1995); DMF creation / FIPAG (1998); AIAS (2007); CRA (2000); National Water Policy revision (2007, 2016); National Water Resources Plan (2019); New WASH Law (2024); World Bank Water Security Diagnostic (2025). Below timeline: major climate/disaster events (2000 floods, 2015 drought, 2019 cyclones, 2022 Cyclone Gombé). Colour bands indicating dominant reform phases.

Rural water sector reforms: The rural water sector followed a parallel reform trajectory and was initially neglected, leaving many communities to rely on unsafe sources, unprotected dug wells, rainwater harvesting, and limited sanitation options. In the 1980s, the government launched the national rural water programme PRONAR, which focused on groundwater-based, dispersed water points equipped with hand pumps. This marked an important step towards safer water access for rural communities. In sanitation, the programme promoted protected pit latrines using prefabricated concrete slabs, which became especially common in peri-urban areas and contributed to early improvements in rural and peri-urban sanitation facilities.

In the late 1990s, reforms introduced demand-driven approaches for rural water supply and community-led sanitation models focused on ownership and behaviour change. A Rural Water Supply Transition Programme was also introduced; although it was never formally closed, some of its approaches continue to influence practice to date.

Institutionally, the rural water sector has remained dominated by government entities, with limited private sector participation. The government is now working to decentralise implementation of the rural water programme PRONASAR to provincial and district levels. At the same time, rural settlement patterns are changing: as communities become more concentrated in growth centres, service provision is increasingly shifting from dispersed water points towards small piped water systems.

4.2 The Current Governance Regime: Intentions and Realities

Today, Mozambique's water sector is governed by a layered institutional architecture that formally separates:

Policy: Ministry of Public Works, Housing and Water Resources (MOPHRH) through its National Directorate for Water Resources Management (DNGRH) and National Directorate for Water Supply and Sanitation (DNAAS).

Regulation: Water and Sanitation Regulatory Authority (AURA), responsible for tariff approval, service quality monitoring, and licensing.

Asset management²: Investment Fund and Asset Holders for Water and Sanitation (FIPAAS), it combines the functions and responsibilities of FIPAG (Investment Fund and Asset Holder for Water Infrastructure of large urban centres), AIAS (Water and Sanitation Infrastructure Administration, responsible for water supply infrastructure in secondary towns and sanitation infrastructure of large cities and its mandate) and DNAAS functions related to Rural Water and Sanitation under the PRONASAR. FIPAAS mandate has thus expanded to include all water and sanitation systems of all urban towns and villages and rural communities.

Operations: private operators, municipalities, and community-based management structures.

Water resources management: Three Regional Water Administrations (ARAs) responsible for basin-level allocation, licensing, monitoring, and drought management.

Related uses: irrigation (INIR under MAAP), hydropower (EdM under MIREME), environment (MAAP), health (MISAU for drinking water standards).

Legend: Org chart showing MOPHRH at top, with branching to DNGRH (water

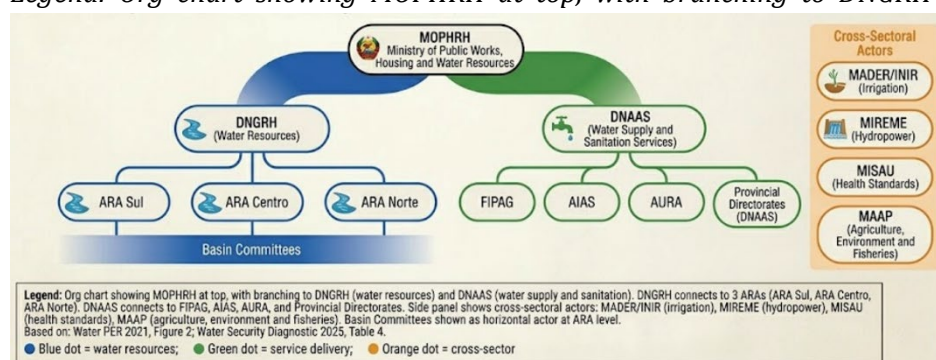


DIAGRAM 4: Institutional Architecture of the Mozambique Water Sector

resources) and DNAAS (water supply and sanitation). DNGRH connects to three ARAs (ARA Sul, ARA Centro, ARA Norte). DNAAS connects to FIPAG, AIAS, AURA, and Provincial Directorates. Side panel shows cross-sectoral actors: MADER/INIR (irrigation), MIREME (hydropower), MISAU (health standards), MAAP (agriculture, environment and fisheries). Basin Committees shown as horizontal actor at ARA level. Colour coding: blue = water resources; green = service delivery; orange = cross-sector. Based on: Water PER 2021, Figure 2; Water Security Diagnostic 2025, Table 4.

The formal architecture is coherent on paper. The legal framework - anchored in the Lei de Águas (No. 16/1991), Water Use Decree (No. 43/2007), groundwater regulations (Decree No. 18/2012), economic instruments (Decree No. 20/2016), and the new Water Supply and Sanitation Services Law (No. 9/2024) - reflects internationally recognised IWRM principles, including the user pays principle,

² Ongoing WASH sector reforms are reshaping Mozambique's institutional architecture. Responsibilities and functions are being transferred from established institutions to newly created organisations, creating a period of transition in which mandates, accountability lines, and operational roles are still being clarified.

basin-based management, participatory governance, equity, and climate risk management.

The operational reality is more fragmented. As the World Bank's Water Security Diagnostic (2025) and the Water PER (2021) document in detail:

ARAs operate with severe staff shortages, incomplete and degraded hydrological monitoring networks, and limited enforcement tools. Abstraction licensing for groundwater and small-scale irrigation is weakly enforced outside ARA Sul.

The DMF has never fully achieved its private-sector participation ambitions: the Maputo system was the only one ever transferred to private operation, and that transfer was reversed by 2010. FIPAG Serviços was left to operate all FIPAG systems until the recent reforms of 2025.

Non-revenue water (physical losses plus commercial losses) in FIPAG systems averages 35–40%, meaning a third of water produced never generates revenue. This dramatically weakens financial sustainability and the investment.

Tariffs are kept low for political and social reasons but fall systematically short of operation and maintenance cost recovery, let alone capital investment. The gap is filled - irregularly and unpredictably - by government transfers and donor grants. Investment is overwhelmingly donor-financed and off-budget: over 80% of sectoral capital expenditure comes from external sources, primarily the World Bank, AfDB, and bilateral partners. This creates perverse incentives, weakens accountability, and produces cycles of infrastructure expansion without adequate provision for ongoing maintenance.

Rural coverage for basic water supply was estimated at around 55–60% as of 2022 (JMP), with wide provincial variation and significant quality concerns. Sanitation coverage in rural areas is even lower, and open defecation remains prevalent in many districts.

The urban-rural gap is structural: urban areas benefit from regulated utilities, metered connections, and formal tariff structures, while rural areas depend on community-managed systems with limited technical and financial support. There are noticeable coverage differences in services between regions but also when comparing water supply and sanitation.

4.3 The Four Pillars of the Water System: Resources, Demand, Supply, and Sanitation

The Mozambique water system can be understood through four interconnected pillars, each with its own governance logic, institutional actors, financing flows, and performance challenges. Together, they define the material conditions within which the transition must be designed. While the pillars are presented separately for analytical clarity, they are deeply interdependent: deficits in water resource management constrain supply reliability; uncontrolled demand growth undermines resource sustainability; weak sanitation systems contaminate the water resources that supply depends on; and the financial fragility of supply services limits investment in the sanitation chain. Managing these interdependencies is one of the central challenges of the transition.

4.3.1 Water Resources: Endowment, Allocation, and Management

Mozambique's water resources are, in absolute terms, abundant - but their distribution, reliability, and governance are deeply problematic.

Surface water: Mozambique's total renewable freshwater resource is 217 billion m³/year, with only 100 billion m³ internally generated. The country is highly dependent on transboundary inflows, with 9 of its 13 major river basins originating upstream (e.g., the Zambezi, which drains a massive 1.37 million km² catchment). This downstream position makes Mozambique structurally

vulnerable to upstream water allocation decisions in neighboring countries like South Africa, Zimbabwe, and Zambia.

Groundwater: Groundwater is the primary source of drinking water for the majority of the rural population, yet it remains poorly characterized. Hydrogeological mapping is incomplete, and systematic aquifer monitoring is restricted to ARA Sul. Shallow alluvial aquifers are highly vulnerable to contamination during floods, while deeper aquifers in the sedimentary basement highly fractured formations in the crystalline basement offer stable yields but require drilling infrastructure. Climate change threatens recharge rates, particularly in the arid southern provinces.

Dams and storage infrastructure: Mozambique's major dams serve multiple purposes:

Cahora Bassa (HCB): 2,650 MW hydropower capacity; largest reservoir in the country and region (63 billion m³) (Water PER 2021). Operated primarily for power generation, with limited agricultural or domestic supply integration.

Massingir: approximately 2.7 billion m³ capacity; key drought buffer for southern Mozambique, it serves the Chókwè and lower Limpopo irrigation schemes. Unfortunately, these schemes suffer recurrent destruction by floods (Water PER 2021; PNRH 2019).

Pequenos Libombos: approximately 0.4 billion m³; is the main source of water supply to the Greater Maputo water system.

Corumana: 2.0 billion m³; mostly for irrigation it also augments water supply to the Greater Maputo water system. A second dam (Moamba Major) is under consideration given growing urban demand pressures (World Bank 2025).

- **Chicamba:** approximately 1.6 billion m³; serves Beira and Sofala Province water supply. Climate variability poses risks to firm yield in drought years (World Bank 2025).

Total regulated storage capacity per capita is estimated at approximately **1,500–2,000 m³/person/year** - modest relative to rainfall variability and further limited by the fact that most storage serves single uses (hydropower or irrigation) with limited integration into multi-purpose water resource management (World Bank 2025). While the average percapita storage is good it should be noted that 95% of it is concentrated in one reservoir the Cahora Bassa Reservoir in central Mozambique.

Basin management: The Regional Water Administrations (ARAs) are responsible for water allocation licensing, monitoring, and enforcement within their basins: -

ARA Sul (southern basins: Limpopo, Incomati, Umbeluzi, Maputo): the most resourced and technically capable, with a functional monitoring network and a hydrological database. - **ARA (Zambezi)**: manages the country's largest river system but operates with significant data gaps on tributaries and irrigation abstractions. - **ARA Norte**: progressively less resourced, with limited monitoring infrastructure and weak enforcement capacity.

Basin Committees - the participatory governance bodies prescribed by the 2007 Water Use Regulation - exist formally in several basins but are operationally weak: irregular meetings, poor linkage to ARA decision-making, limited female participation, and no direct authority over resource allocation decisions (World Bank 2025; Water PER 2021).

Key resource management challenges include: (1) Monitoring gaps, with the national hydrological network declining since the 1990s, leaving ARAs without real-time data for drought management; (2) Weak licensing compliance, as small-scale abstraction is largely unmonitored outside ARA Sul; (3) Limited transboundary governance authority, with river basin commissions (e.g., LIMCOM, ZAMCOM) unable to influence upstream flows; and (4) Regulating pollution from mining and agricultural runoff.

4.3.2 Water Demand: Current Uses and Future Pressures

Understanding current and projected water demand is foundational for transition planning, yet it is one of the most significant knowledge gaps in Mozambique's sector. Demand analysis is sector-fragmented: domestic supply data sits with DNAAS/FIPAG/AIAS; irrigation data with INIR; hydropower with HCB/EdM; and industrial data is largely absent. No institution currently produces an integrated national water demand balance.

Domestic demand: Population growth (2.8% annually) will increase domestic demand by 80% by 2050. Piped consumption in urban centers is 80–120 lpcd, but peri-urban areas average only 20–40 lpcd, and rural areas just 15–25 lpcd. This urban-rural disparity highlights the structural inequity in water access.

Irrigation demand: Irrigation is the largest potential future user. Currently, only 118,000–150,000 hectares are irrigated out of 3.6 million hectares of potential. Expanding irrigation by 500,000 hectares would add 4 billion m³/year of demand, requiring substantial basin-level planning and additional multi-purpose storage.

Hydropower demand: Cahora Bassa's operational regime requires large and stable releases from the storage to maintain turbine efficiency and meet contractual commitments (primarily to South Africa's Eskom). This creates a structural constraint: maximum power generation timing and optimal agricultural release timing do not always coincide, and low-flow years create difficult trade-offs between energy and water security (Water PER 2021; World Bank 2025).

Industrial and mining demand: The development of natural gas extraction in Cabo Delgado, mining operations in Tete, agro-industrial processing in the Zambezi valley, and expanding tourism infrastructure are generating growing water demands poorly captured in licensing data (World Bank 2025; PNRH 2019). The scale of LNG project water requirements remains unquantified in public sector planning documents - a significant gap in integrated demand management (World Bank 2025).

Environmental flow demand: Environmental flows - the water required to sustain aquatic and riparian ecosystems - are legally recognised under Decree No. 43/2007 but are not systematically computed for any basin and are routinely not enforced in licensing practice (PNRH 2019; World Bank 2025). The Zambezi delta, Maputo mangroves, and wetlands of the lower Limpopo provide critical ecosystem services (flood buffering, fisheries, water filtration, coastal protection) that depend on minimum flow regimes being maintained (World Bank 2025).

Key demand management challenges include:

Demand data gaps: no national demand register; irrigation abstractions are largely unlicensed and unmeasured; industrial demand is not tracked (World Bank 2025; Water PER 2021).

Demand forecasting absence: water resource planning rarely integrates demographic, agricultural, or industrial growth projections systematically (PNRH 2019; World Bank 2025).

Agricultural water efficiency: flood irrigation remains dominant in most schemes; drip and sprinkler technologies cover less than 2% of irrigated area, meaning water productivity per hectare is far below potential (World Bank 2025; Water PER 2021).

Urban non-revenue water: system losses of 35–40% in urban supply systems represent the single largest hidden “demand” - water produced but never delivering service or generating revenue (Water PER 2021; DNAAS 2023).

Climatic demand uncertainty: higher temperatures and extended dry seasons will increase evapotranspiration, crop water requirements, and domestic cooling demands simultaneously - a triple pressure on available supply (Climate Profile 2021; World Bank 2025).

4.3.3 Water Supply: Service Delivery Across Urban, Peri-Urban, and Rural Contexts

Water supply service delivery in Mozambique is structurally bifurcated between a formal urban system governed by the Delegated Management Framework (DMF) and a fragmented rural system managed primarily by communities and district governments. In between lies a rapidly growing peri-urban population that neither system effectively serves. Currently, DNAAS plays a role in implementing the piped water distribution systems for new growth centers that did not fall under the AIAS portfolio through the PRONASAR small-scale piped system initiative.

Based on the institutional arrangements that existed until 2025, which are currently being modified in line with the reforms introduced in 2005, below is a description of how the situation was.

Urban water supply in large cities (FIPAG systems):

Urban water supply in large cities (so-called FIPAG systems): until 2025, FIPAG managed 21 principal systems serving major cities. Key performance challenges include high non-revenue water (35–42% average losses, exceeding 50% in Beira), intermittent supply (8–18 hours/day), and suppressed tariffs that prevent cost recovery, forcing an 80% reliance on external donor funding for capital investments.

Non-revenue water (NRW): averages **35–42%** across FIPAG systems; in Beira, NRW has historically exceeded 50% (Water PER 2021; DNAAS 2023). Reducing NRW to 25% in major systems alone would free enough water to serve several hundred thousand additional urban consumers without new production investment (World Bank 2025).

Service continuity: intermittent supply (less than 24 hours/day) is the norm in most FIPAG cities; Maputo averages approximately 16–18 hours/day; secondary cities often receive 8–12 hours (Water PER 2021; World Bank 2025).

Water quality compliance: treated water quality at the point of production generally meets national standards, but quality deteriorates through the distribution network, particularly where intermittent supply allows bacterial ingress (WASH Poverty Diagnostic 2018; World Bank 2025).

Financial performance: FIPAG systems recover about **70–80%** of operating costs through tariff revenue (Water PER 2021). Capital investment remains overwhelmingly donor-funded, with more than 80% coming from external sources (Water PER 2021). Tariffs approved by AURA have consistently failed to keep pace with inflation and rising operating costs (Water PER 2021; DNAAS 2023).

Urban water supply in small towns (AIAS systems):

Urban water supply in small towns (so-called AIAS systems): before the current reforms AIAS had a mandate to manage approximately 130 secondary urban systems. These are financially precarious, highly vulnerable to climate shocks, and suffer from high non-revenue water and low operator capacity, putting them at high risk of service collapse.

Peri-urban water supply:

Peri-urban water supply: Peri-urban areas are served by over 1,800 private water vendors (FPAs) who charge prices 5–20 times higher than the formal utility tariff, creating severe economic burden for low-income households.

Rural water supply:

Approximately **70% of the population lives in rural areas** and depends on boreholes with handpumps (30,000–35,000 installed, with 30–40% non-functional), protected springs, and small piped systems. O&M funding is chronically inadequate, leaving a wide gap between official coverage and actual service availability.

Gravity-fed piped rural systems: approximately **800 small rural piped systems** constructed under PRONASAR, managed by community water point committees (Comités de Água) or contracted private operators (DNAAS 2023).

Protected springs, shallow wells, and traditional sources: used by millions in areas without improved infrastructure (WASH Poverty Diagnostic 2018).

Rural coverage as reported by SINAS and JMP reflects infrastructure **installation** rather than **functional service delivery** (UNICEF SDG6+5 Assessment 2022; DNAAS 2023). The DNAAS Sustainability Indicators Study (2023) confirms that O&M financing for rural systems is chronically inadequate - district governments rarely have the budgets or technical staff to respond to borehole breakdowns in a timely manner. The result is a structural gap between officially reported coverage and the lived reality of service availability for millions of rural Mozambicans.

Emerging rural growth centres and service model transition: The pattern of settlement in rural areas is changing as populations increasingly concentrate in small growth centres. In response, PRONASAR and other partners are investing more heavily in piped water systems that resemble those used in the urban subsector, rather than relying only on dispersed rural water points. This shift creates both opportunities and uncertainty. As more small piped systems are developed in densifying rural settlements and small villages, responsibilities for ownership, operation, maintenance, regulation, and financing are becoming less clear. The result is an emerging overlap between traditional rural water supply arrangements and urban-style service delivery models. Over time, some of these systems may gradually be integrated into the urban water supply subsector or placed under institutions such as FIPAAS. If this transition is to improve service reliability and sustainability, institutional mandates, accountability mechanisms, and support arrangements will need to be clarified.

Key water supply transition challenges include:

Rural borehole sustainability: the 30–40% non-functional rate erodes gains from new installations and wastes capital investment repeatedly (DNAAS 2023; World Bank 2025).

Urban system expansion lag: urban population growth consistently outpaces network expansion, pushing more residents into informal vendor-supplied supply at punitive prices (World Bank 2025; WASH Poverty Diagnostic 2018).

Peri-urban governance gap: no institutional model currently serves peri-urban populations effectively at scale (Water PER 2021; SPEED+ 2018).

Energy costs: pumping energy represents 30–50% of operational costs in urban systems, making supply cost recovery ever more challenging as electricity tariffs rise (Water PER 2021; DNAAS 2023).

Climate resilience of supply sources: single-source urban systems (Chicamba for Beira; Nampula dam for Nampula City; boreholes for most rural areas) are highly vulnerable to drought and infrastructure failure with no backup (World Bank 2025; Climate Profile 2021).

Urban-rural investment imbalance: the WASH Poverty Diagnostic (2018) found that urban water coverage reached its 2015 target (6.6 million people served vs. target of 6 million), while rural coverage fell far short (6.3 million vs. target of 11 million), illustrating a systematic resource allocation bias against the rural poor.

4.3.4 Sanitation: The Forgotten Pillar

Sanitation is the most neglected pillar of Mozambique's water sector - chronically underfunded, institutionally ambiguous, and persistently absent from the headline investment and policy conversations that drive sector reform. While water supply has received sustained donor attention and institutional development since the 1990s, sanitation has remained the poor relative.

Coverage trends: National improved sanitation coverage was approximately **28% in 2015** (WASH Poverty Diagnostic 2018; JMP) - one of the lowest rates in sub-Saharan Africa, lower than Ethiopia, the Democratic Republic of Congo, Nigeria, and Tanzania (WASH Poverty Diagnostic 2018). Access levels **stagnated since 2010** while comparator countries showed improvement (WASH Poverty Diagnostic 2018).

Key patterns:

Urban improved sanitation: approximately **45–55%** in 2022, concentrated in formal settlements with access to VIP latrines or flush toilets (JMP 2022; World Bank 2025). Piped sewerage coverage is limited to a small fraction of urban households. Urban coverage increased from 38% (2003) to 59% (2015) before showing signs of stagnation (WASH Poverty Diagnostic 2018).

Rural improved sanitation: approximately **13–18%** (JMP 2022; World Bank 2025). The WASH Poverty Diagnostic (2018) found that rural sanitation improved by only **one percentage point per year** over the preceding 13 years - from 3% (2003) to 14% (2015). To achieve the government's coverage goals, the rate must increase to **2.5–3.5 percentage points per year** (WASH Poverty Diagnostic 2018).

Open air defecation: more than half of the rural population continued to practice open air defecation as recently as 2018 (World Bank 2025). Open air defecation rates for the rural bottom 40% of the wealth distribution declined only marginally, from 82% (1996) to 56% (2015) (WASH Poverty Diagnostic 2018). Provinces with the most severe unimproved sanitation include Inhambane (63%), Gaza (55%), and Cabo Delgado (66%) (WASH Poverty Diagnostic 2018).

The sanitation service chain: A critical analytical lens is the **full sanitation service chain**: containment → emptying → transport → treatment → safe disposal/reuse (WHO/UNICEF). In Mozambique:

The service chain **beyond containment is largely absent** in rural areas and informal urban settlements (World Bank 2025; WASH Poverty Diagnostic 2018).

Faecal sludge management (FSM): pit latrine and septic tank emptying is performed in major cities by a mix of municipal services and private operators, with very limited treatment capacity. Only Maputo, Beira, Quelimane, and Nampula have any form of networked sewerage, and treatment facilities are poorly maintained and heavily overloaded (Water PER 2021; World Bank 2025).

Solid waste linkages: open dumping of solid waste near water sources and co-contamination of sanitation infrastructure during floods are largely unaddressed (World Bank 2025).

The Beira Sanitation Autonomous Service has developed a **Business Continuity Plan** addressing the viability of the FSM chain in a post-Idai climate risk context - a pioneering document with lessons for other urban areas.

The sanitation sector suffers from particularly fragmented institutional authority: **DNAAS** holds overarching policy responsibility for sanitation.

AIAS manages urban sanitation infrastructure assets in major cities.

Municipalities are legally responsible for urban environmental sanitation - but most lack the budget and technical capacity to fulfil this mandate.

MISAU (Ministry of Health) leads hygiene promotion and WASH in schools and health facilities, including ODF campaigns.

INGD coordinates emergency sanitation in disaster contexts.

The new Water Supply and Sanitation Law (No. 9/2024) attempts to clarify these responsibilities, but operationalisation through implementing regulations is still pending.

The financing gap: Total public investment in sanitation consistently falls far below what is needed. Sanitation receives a systematically smaller budget allocation than water supply, and donor financing for sanitation is more limited

and less predictable. The WASH Poverty Diagnostic (2018) estimated that achieving government coverage goals requires investment at roughly **three times the historical rate**. The dominant financing model - household investment in own-latrine construction - leaves the poorest households without options, since they cannot afford improved latrines without subsidies or credit mechanisms (WASH Poverty Diagnostic 2018; Water PER 2021).

WASH in schools and health facilities: The absence of adequate WASH in health facilities and schools is a critical gap with direct health and equity consequences (World Bank 2025; WASH Poverty Diagnostic 2018). Health facilities without reliable water and functional latrines cannot safely perform deliveries, wound care, or infection prevention. Schools without gender-separated latrines contribute to girls' school dropout, particularly at the onset of menstruation (UNICEF SDG6+5 Assessment 2022).

Gender dimensions: Inadequate sanitation disproportionately affects women and girls - increasing safety risks (open air defecation at night), restricting school attendance during menstruation, and increasing the workload of domestic water and hygiene management (WASH Poverty Diagnostic 2018; World Bank 2025). A gender-transformative sanitation strategy must go beyond household latrine construction to address the complete service chain, WASH in public spaces, and women's participation in sanitation governance.

Urban flooding and public health risks: Rapid urbanisation, much of it occurring through unplanned settlements without basic infrastructure, is creating a recurring urban flood risk. This risk is especially acute in coastal cities and low-lying areas, where communities are exposed to sea storm surges, intense rainfall, and surface inundation in flat terrain. Limited investment in urban drainage further worsens these conditions. Poor drainage, combined with inadequate sanitation and inadequate solid waste management, increases the likelihood of contaminated floodwater and contributes to heightened public health risks, including cholera outbreaks, malaria, and other waterborne diseases.

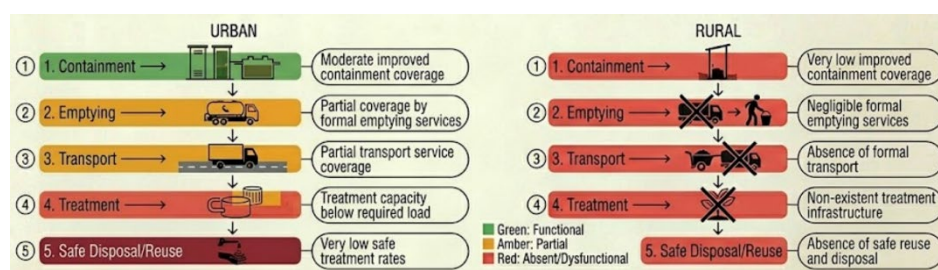


DIAGRAM 5: Sanitation Service Chain – Status in Urban and Rural Mozambique

Legend: Two flow diagrams (urban left, rural right), each showing the five stages of the sanitation service chain: Containment → Emptying → Transport → Treatment → Safe Disposal/Reuse. Each stage colour-coded by coverage and functionality (green = functional/covered; amber = partial/irregular; red = absent/dysfunctional). Key indicators annotated: % households with improved containment; % served by formal emptying services; treatment plant capacity vs. load; % of faecal sludge reaching safe treatment. Sources: WASH Poverty Diagnostic 2018; Beira Sanitation BCP; DNAAS Sustainability Study 2023; World Bank Water Security Diagnostic 2025.

Key sanitation transition challenges and transition implications include:

The urban sanitation paradox: improved sanitation statistics mask the near-total absence of the downstream service chain. A household with a flush toilet connected to a non-functional sewer is not receiving a safe sanitation service (World Bank 2025; WASH Poverty Diagnostic 2018).

Fragile ODF gains: CLTS-based open defecation elimination programmes produce rapid initial gains but show high reversion rates without sustained follow-up and hardware investment (World Bank 2025).

Climate vulnerability: pit latrines and septic tanks are highly vulnerable to flooding and high groundwater tables - the dominant failure mode in Mozambique's flood-exposed lowland communities (Climate Profile 2021; World Bank 2025).

Sanitation and water quality nexus: open defecation and unmanaged faecal sludge are primary drivers of drinking water source contamination in rural areas, directly undermining the gains of water supply investment (WASH Poverty Diagnostic 2018; World Bank 2025). Sanitation cannot be treated as a separate investment stream from water resources and supply.

Integrated urban planning and infrastructure development: Municipalities need to strengthen urban planning and invest in resilient drainage, sanitation, and related infrastructure to reduce urban flood risks.

5 Current Situation, Structural Tensions and Bottlenecks

The desk review, field visits, stakeholder interviews and team analysis reveal a consistent pattern: **Mozambique's water system is locked in a stable but suboptimal equilibrium.** This is not a system in chaos; it is a system that has reached a kind of homeostasis that falls well short of its stated objectives. The key features of this lock-in are:

The legal-implementation gap: Strong legal and policy intent repeatedly fails to translate into transformative actions leading to operational outcomes. The Water Policy commits to IWRM, equity, and climate risk management; the implementation relies on institutions that are under-resourced, weakly coordinated, and frequently bypassed by donor-driven parallel structures.

The financing trap: Poor quality of services → low tariffs → insufficient revenue → dependence on government transfers and donor funding → unpredictable cash flows → deferred maintenance → infrastructure deterioration → inefficient service delivery → inability to attract private investment → reinforced dependence on public subsidies. This cycle is self-reinforcing and politically difficult to break, because raising tariffs is socially contested and requires political capital that sector authorities rarely command.

The donor dependency paradox: International aid finances over **80% of capital investment** in the water sector (Water PER 2021). This inflow enables infrastructure expansion but simultaneously undermines domestic accountability, weakens sector planning, distorts institutional incentives, and creates off-budget spending that is invisible in national public finance systems (Water PER 2021; World Bank 2025).

The centralisation-decentralisation tension: Decentralisation is formal policy but not operational reality. ARAs lack financial autonomy; provincial governments have nominal authority over rural water but insufficient budgets and capacity; and municipalities are caught between their legal WASH management responsibilities and the centralised FIPAG/AIAS institutional model.

The urban-rural equity gap: Resources, institutional attention, and investment systematically favour urban systems. The **70% of Mozambicans living in rural areas** (INE, cited in World Bank 2025) face systematically worse service levels, less climate resilience, and less legal protection in practice (WASH Poverty Diagnostic 2018; World Bank 2025).

The climate-infrastructure mismatch: Infrastructure is designed and managed as if climate variability were an externality rather than a structural condition.

Cyclone and drought response remains largely reactive rather than embedded in routine planning and investment decisions.

The productive water underuse: Mozambique's vast irrigation potential (estimated at **3.6 million hectares**, of which less than **150,000 are currently irrigated** - PNRH 2019; World Bank 2025) is almost entirely untapped. Water's role as a driver of food security, agricultural employment, export revenue, and economic diversification is systematically undervalued.

Past reform cycles—such as the Delegated Management Framework (DMF), the creation of AURA as the regulatory authority, and formal decentralization to provincial levels—have largely optimized the existing system rather than transformed it. They adjusted administrative rules and institutional structures without changing the regime's core logic, including centralized decision-making and reliance on off-budget donor funding. As a result, these reforms have been absorbed into the existing lock-in, reinforcing underlying power structures and dependencies instead of opening pathways to a genuine transition.

These seven structural tensions are interrelated and mutually reinforcing. They will be explored as transition themes in Section 6.

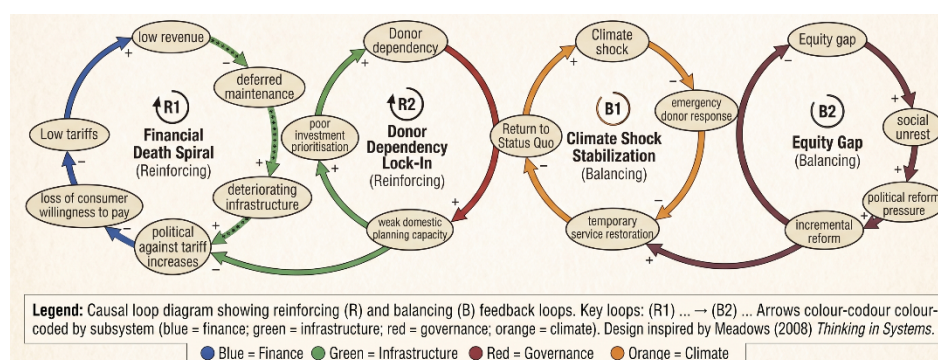


DIAGRAM 6: Systems Diagram – Lock-In Dynamics in the Mozambique Water Sector

*Legend: Causal loop diagram showing reinforcing (R) and balancing (B) feedback loops. Key loops: (R1) Low tariffs → low revenue → deferred maintenance → deteriorating infrastructure → loss of consumer willingness to pay → political pressure against tariff increases → low tariffs. (R2) Donor dependency → weak domestic planning capacity → poor investment prioritisation → continued donor dependency. (B1) Climate shock → emergency donor response → temporary service restoration → return to status quo. (B2) Equity gap → social unrest → political reform pressure → incremental reform → stabilisation of status quo. Arrows colour-coded by subsystem (blue = finance; green = infrastructure; red = governance; orange = climate). Design inspired by Meadows (2008) *Thinking in Systems*.*

6 Seven Themes Decisive for the Water Transition

From the desk review and team analysis, seven themes emerge as decisive for the pace and direction of the transition to an equitable and resilient water system in Mozambique. These themes are not ranked in any particular order of priority, however each represents a critical dimension of the transition challenge.

6.1 Theme 1: Urgency and the Perception of Water as a Public Good

The situation: Mozambique's water crisis does not generate the kind of sustained political urgency that drives structural change. Cyclones and floods create momentaneous spikes of attention, lasting the duration of the emergency, thereafter the system returns to its previous trajectory. Droughts in the south and

centre - the most persistent water challenge - rarely receive equivalent attention. Citizens in rural areas have normalised inadequate access; urban consumers rely on informal vendors as a supplement; and policy discourse remains dominated by infrastructure targets rather than by the deeper question of what kind of water system the country wants for 2050.

The perception of water as a “given” - delivered by donors and government, managed by professionals, paid for (barely) by tariffs - prevents the emergence of a social movement for water transformation. Water is not yet universally experienced as a right that demands accountability, nor as a shared good that requires collective stewardship.

There is also a significant perception gap between official statistics and lived realities. SINAS - Mozambique’s water information system - is acknowledged as an important tool but it is not regularly populated with monitoring data, it remains unable to track SDG6 targets at service outcome level (UNICEF SDG6+5 Assessment 2022). The disconnect between infrastructure counts and service quality means that coverage numbers routinely overstate access for millions of citizens whose water points are non-functional or contaminated.

Transition questions:

- *How do different actors - from smallholder farmers to urban peri-urban residents, from basin committee members to MOPHRH planners - perceive and value water? How does this valuation relate to their vulnerability and their political agency?*
- *What would it take to make water scarcity, service failure, and sanitation deprivation visible and politically salient at national and subnational levels? Who are the actors who can create and sustain that urgency?*
- *How do gender dynamics shape the perception, valuation, and burden of water insecurity? What would a gender-transformative water agenda look like in Mozambique?*
- *Viewing water supply as a “given” — delivered by donors and government, managed by professionals, and barely paid for through tariffs — weakens public demand for transformation. Water must be experienced as both a right and a shared public good, linked to accountability, stewardship, and social justice. Because scarcity and service failures fall hardest on women, girls, and rural communities, a just transition must prioritise basic domestic needs and equitable distribution over commercial interests. What exactly is needed to raise this awareness?*
- *How can communities, civil society, and the private sector become active champions of water system transformation, rather than passive recipients of services?*

6.2 Theme 2: Roles, Responsibilities and Institutional Fragmentation

The situation: Mozambique’s water sector involves more than 30 public and state-owned institutions, distributed across multiple ministries, levels of government, and functional mandates. While the formal institutional architecture is clear on paper, operational reality is characterised by overlapping mandates, weak coordination mechanisms, and accountability gaps.

Critical interface failures occur at multiple nodes:

- **ARAs and service providers:** Raw water allocation decisions by ARAs and abstraction licensing are poorly coordinated with the investment and operational decisions of FIPAG, AIAS, and provincial utilities. This creates long-term resource sustainability risks, particularly as urban systems grow and climate variability intensifies.
- **MOPHRH and cross-sectoral actors:** Water governance is formally multi-sectoral (irrigation and environment under MAAP, hydropower

under MIREME, health under MISAU), but practical coordination across these ministries is weak. The National Water Council, the formal coordination body, remains largely advisory with limited convening power.

- **Central government and subnational levels:** Decentralisation reforms have transferred nominal authority to provincial governments and municipalities, but without commensurate budget transfers, technical capacity, or regulatory clarity. District water officers - the key frontline actors - often lack resources, training, and a clear line of accountability. At time government introduces new reforms of regulation that centralize decision making to national level entities which is contrary to the decentralization objective.
- **Formal and informal service providers:** An estimated 1,800+ informal private water vendors operate in urban areas, largely outside the regulatory framework (Water PER 2021; SPEED+ 2018). Their coverage of peri-urban populations is significant, but their service quality, pricing, and environmental practices are largely unregulated.

Transition questions:

- *To what extent does the current governance structure support or hinder a just and resilient water transition? Which institutional interfaces are most critical for unlocking systemic change?*
- *What redistribution of roles and responsibilities - between central and subnational government, between sector agencies, between public and private actors - is necessary to make decentralisation work in practice?*
- *How can accountability for service outcomes (not just infrastructure delivery) be embedded in institutional mandates, performance contracts, and financing arrangements?*
- *What new governance arrangements - such as an integrated Basin Commission, a WASH Coordination Platform, or a Water Transition Arena - would be needed to enable more coherent, cross-sectoral decision-making?*
- *How can informal service providers be integrated into formal governance architecture in ways that maintain their coverage contribution while improving service quality and equity?*

6.3 Theme 3: Vision, Cooperation and Strategic Guidance

The situation: Mozambique has a rich array of sector plans, strategies, and reform proposals - the National Water Resources Plan (2019), the National Water Policy (2016), the National Development Strategy 2025–2044, the SDG Action Plan for Water Resources (2018), and most recently the World Bank Water Security Diagnostic (2025) with its detailed reform recommendations. Yet the pattern across these documents is consistent: strong on diagnosis and strategic intent, weak on operationalisation and coherence.

There is no shared long-term vision for the water system that cuts across subsectoral boundaries and commands broad political support. Reform proposals tend to originate externally (World Bank, bilateral donors) and to be implemented piecemeal, without integration into domestic political and planning cycles. The result is a landscape of parallel initiatives, overlapping reform proposals, and reform fatigue.

The new institutional restructuring described in the Water Security Diagnostic (2025) and later introduced with the creation of FIPAAS and AdM - which creates a public subsector fund, establishment of national company with subsidiary provincial operating companies, clarification of asset management mandates - represents a significant opportunity. But the track record of previous reform cycles (the DMF, the CRA/AURA restructuring, the rural decentralisation) suggests

that reform design is easier than reform implementation, and that without a clear political champion, sustained financing, and genuine multi-stakeholder buy-in, reforms tend to stall in their initial phases.

A shared long-term vision can bridge top-down strategies and bottom-up lived realities. Co-creating a 2040/2050 vision should not be treated as a bureaucratic exercise, but as a strategic continuation of the current deep dive process. It should place social justice, climate risks, and the experiences of water-stressed communities at the centre. By aligning stakeholders around a common future, it can mobilize transdisciplinary action and shift the sector from donor-led project compliance toward a domestically owned transition agenda that can endure political cycles and sustain local action. A provisional vision will be discussed during the agenda building workshop and will guide the future implementation of the transition.

Transition questions:

- *What would a shared long-term vision for Mozambique's water system in 2040 or 2050 look like? Who needs to be in the room to formulate it? How can it be made politically durable?*
- *Which actors currently play - or could play - a catalytic role in steering the water transition at different levels? How can transition leadership be cultivated across government, civil society, and the private sector?*
- *How can the current reform window (new WASH Law 2024, World Bank Diagnostic 2025, ENDE 2025–2044) be leveraged to lock in structural changes rather than incremental adjustments?*
- *What would it take to move from donor-driven reform to domestically owned and led transition planning?*
- *How can the Crutzen workshop and subsequent transition programme create a durable platform for cross-actor learning, co-creation, and accountability?*

6.4 Theme 4: Financing, Economic Instruments, and the Cost of Inaction

The situation: The financial architecture of Mozambique's water sector is structurally fragile. Tariffs are kept below cost-recovery levels across all service categories, which is also reflection of failing and poor service delivery. The 2021 Public Expenditure Review estimated a water sector financing gap of hundreds of millions of dollars per year relative to what would be needed to achieve national coverage targets and basic system maintenance. Over 80% of capital investment comes from external sources, creating a perverse dynamic in which sector performance is more responsive to donor priorities than to citizen needs.

The social and economic costs of inaction are enormous and systematically under-accounted for:

- **Health costs:** contaminated water and inadequate sanitation drive diarrhoeal disease, child stunting, and malnutrition. The World Bank Water Security Diagnostic (2025) estimates that poor WASH accounts for a significant share of the country's disease burden, with stunting rates directly correlated with sanitation access.
- **Agricultural costs:** underdevelopment of irrigation leaves the country exposed to recurrent drought-induced food insecurity. Droughts in 2012–2013 alone caused yield losses across 216,000 hectares.
- **Cyclone recovery costs:** a single event like Idai (2019) caused estimated damages exceeding USD 3 billion, with water infrastructure representing a significant share.
- **Economic productivity costs:** unreliable water supply constrains industrial development, tourism, and urban economic activity. High-

growth sectors such as natural gas, agro-processing, and mining depend on reliable water access that the current system cannot guarantee.

The case for reforming economic instruments is clear. True pricing - where tariffs reflect the full social, environmental, and long-term costs of water use - is not currently applied. Raw water tariffs exist (Decree No. 20/2016) but are rarely enforced for large users. Progressive social tariff design for low-income households is technically possible but politically challenging without adequate public subsidy mechanisms.

Transition questions:

- *What is the full economic cost of water system failure in Mozambique, including health, agriculture, industry, and disaster losses? How can this be made visible and politically actionable?*
- *What tariff structures are fiscally feasible, socially equitable, and sufficient to move towards cost recovery? What complementary mechanisms (social tariffs, cross-subsidies, output-based aid) are needed?*
- *How can the domestic budget share for WASH be increased towards the 4% target recommended by sector stakeholders? What political economy barriers need to be overcome?*
- *How can donor financing be restructured from project grants to sector budget support, with domestic accountability mechanisms, to reduce the off-budget distortion?*
- *What role can innovative financing mechanisms - green bonds, blended finance, impact investment, PPPs - play in the Mozambican context? Under what conditions?*

6.5 Theme 5: Climate Resilience and Local - System Dependencies

The situation: Mozambique's water system faces an intensifying climate stress that current institutions, infrastructure, and practices are inadequately prepared to manage. Climate change is not an external future risk; it is a present operational reality, compounded by the country's structural exposure.

Key vulnerabilities include:

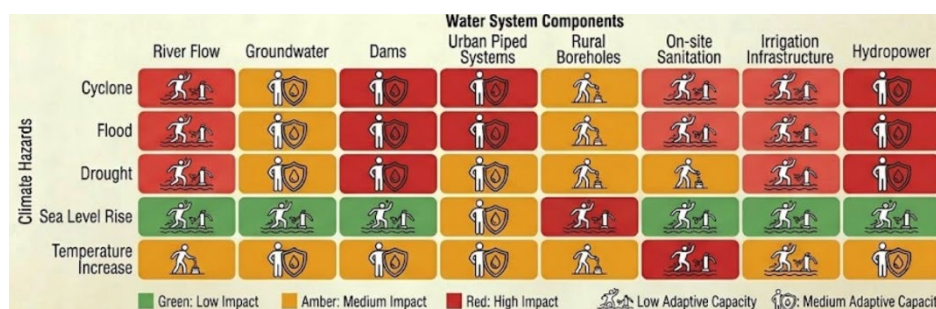
- **Downstream dependence:** Because most major river basins originate outside Mozambique, national water availability is hostage to upstream management decisions and to climate dynamics in neighbouring countries (particularly South Africa, Eswatini, Zimbabwe, Zambia, and Malawi). Reduced upstream flows - already projected under climate change scenarios - will reduce Mozambique's effective water availability even if domestic management improves.
- **Infrastructure fragility under cyclones and floods:** Water and sanitation infrastructure is repeatedly damaged by cyclones and floods. The 2019 and 2026 events showed how quickly systems can be overwhelmed and how long recovery takes in communities with limited redundancy. Rural systems, which depend on single-source boreholes without backup, are particularly fragile.
- **Drought response capacity:** The 2014–2019 Umbeluzi drought illustrates the limits of current drought management. Enforcement of water allocation priorities was weak; communication to users was insufficient; and monitoring capacity was unable to provide real-time decision support. Basin Committees exist formally but are weakly functional across most basins (World Bank 2025; Water PER 2021).
- **Sanitation under climate stress:** On-site sanitation facilities are particularly vulnerable to flooding and high groundwater tables, leading to faecal contamination of water sources during flood events. This creates

a direct climate-health link that is largely invisible in current investment planning.

- **Nature-based solutions as climate adaptation:** Beira's experience with mangrove restoration and urban green-blue infrastructure represents an emerging niche of Nature-Based Solutions (NbS) that can simultaneously provide climate resilience, reduce infrastructure costs, and restore ecosystem services. Scaling these approaches requires regulatory recognition and investment mainstreaming.

Transition questions:

- *How can climate risk be systematically embedded in water infrastructure design, investment prioritisation, and operational protocols - rather than remaining an afterthought or an emergency response add-on?*
- *What institutional and technical capacity is needed at basin level (ARAs) to improve drought early warning, allocation enforcement, and demand management under scarcity?*
- *How can Nature-Based Solutions - such as wetland restoration, managed aquifer recharge, urban green-blue infrastructure, and agroforestry for catchment protection - be mainstreamed into the water sector investment portfolio?*
- *What transboundary cooperation agreements and mechanisms are needed to manage the risks of upstream-downstream dependencies, particularly under worsening climate conditions?*
- *How can sanitation investments be climate-proofed, and how can the climate-health nexus be made more visible in investment decisions?*



[DIAGRAM 7: Climate Risk and Water System Vulnerability Matrix]

Legend: Matrix with climate hazards on one axis (cyclone, flood, drought, sea level rise, temperature increase) and water system components on the other (river flow, groundwater, dams, urban piped systems, rural boreholes, on-site sanitation, irrigation infrastructure, hydropower). Cells coded by severity of impact (high/medium/low) and current adaptive capacity. Sources: World Bank Climate Profile 2010; WB Water Security Diagnostic 2025; WASH Poverty Diagnostic 2022.

6.6 Theme 6: Interactions with Other Transitions (Food, Energy, Urbanisation, Equity)

The situation: The water transition in Mozambique does not happen in isolation. It is deeply intertwined with several other major societal transitions that simultaneously create pressures, opportunities, and constraints for the water system.

- **Food and agricultural transition:** Agriculture employs approximately 80% of the Mozambican workforce and accounts for over 25% of GDP. Yet irrigated agriculture covers less than 5% of the estimated potential. The food insecurity driven by recurrent droughts - concentrated in the south and centre - is directly linked to the underdevelopment of irrigation and

water storage. A transition to more productive, climate-resilient smallholder agriculture in Mozambique is fundamentally a water transition. The Massingir dam and the Chókwè irrigation scheme represent existing assets around which a more ambitious agricultural water transition could be built.

- **Energy transition:** Hydropower generates approximately 70% of Mozambique's electricity, primarily through Cahora Bassa. Climate-driven changes in Zambezi flows create significant risks for energy security - a risk that is rarely discussed in energy policy debates. At the same time, reduced river flows for navigation and potential conflicts between irrigation water demand and hydropower release schedules create tension between water uses.
- **Urbanisation transition:** Mozambique's urban population is growing rapidly, with informal settlements expanding without basic services around Maputo, Matola, Beira, Nampula, and secondary cities. The water and sanitation challenge in peri-urban areas is qualitatively different from both the formal urban model (DMF, piped connections) and the rural model (community management). A transition strategy for peri-urban WASH - combining flexible service delivery models, formalisation of informal providers, and participatory planning - is urgently needed.
- **Equity and social justice transition:** Access to water and sanitation is one of the starkest dimensions of inequality in Mozambique. The urban-rural gap is profound. Within urban areas, informal settlements face prices for water from vendors that are 5–20 times higher than the formal piped tariff (Water PER 2021; SPEED+ 2018). Gender inequality shapes the burden of water fetching, the risks of inadequate sanitation for women and girls, and the exclusion of women from water governance. The transition analysis must explicitly address distributive justice - who gains and who loses under different transition scenarios.

Transition questions:

- *What are the key interdependencies and feedback loops between the water system and other socio-ecological systems in Mozambique (food, energy, urbanisation, biodiversity, health)?*
- *Under what conditions can the water transition contribute to - rather than being in tension with - transitions in food systems, energy security, and urbanisation?*
- *How can an equity lens be systematically applied to water transition planning, ensuring that the benefits of improved systems reach the most marginalised - rural communities, women, peri-urban residents, people with disabilities?*
- *What institutional coordination mechanisms are needed to ensure that water governance decisions are integrated with land use planning, agricultural investment, and urban development?*

These interdependencies make equity the bridge between Theme 6 and the productive economy focus of Theme 7. Access to water and sanitation remains one of Mozambique's clearest inequalities: the urban-rural divide is deep, and households in informal settlements served by private vendors may pay 5–20 times more for water than those connected to formal systems. Gender inequality further shapes who bear the burden of water collection, who faces the risks of inadequate sanitation, and who is excluded from water governance. Distributive justice—who benefits and who loses under different transition pathways—must therefore sit at the centre of the water transition. Climate change intensifies this challenge by reducing water availability for vulnerable communities while better-protected

urban enclaves are more able to absorb shocks. A just transition must redirect resources to address these structural imbalances and ensure that food, energy, urban, and productive-economy transitions reinforce, rather than undermine, the basic rights of poorer communities.

6.7 Theme 7: Water as an engine of the productive economy

The situation: Water is consistently framed in Mozambique's policy discourse as a social service - a basic need to be delivered to households. What is systematically underemphasised is water's role as an engine of economic production: for agriculture, fisheries, industry, tourism, and energy. This framing gap has consequences: investment in productive water use is chronically underfunded, and the economic case for water system investment - which is very strong - is rarely made in political and financial debates.

The numbers are stark: sectors that directly depend on water account for a major share of Mozambique's GDP and employment. Agriculture (water-intensive) employs 80% of the workforce. Hydropower (Cahora Bassa) generates 70% of electricity. Fisheries - both marine and inland - contribute significantly to food security and export revenue. Emerging sectors such as natural gas processing and agro-industrial development are highly water-intensive.

The underdevelopment of irrigation is the most glaringly missed opportunity. Mozambique has an estimated 3.6 million hectares of irrigable land, but only around 5% is irrigated. Studies suggest that each hectare brought into irrigation generates annual agricultural value added of USD 600–1,500, depending on crop and market access. At scale, the irrigation potential represents a transformative economic opportunity - but it requires substantial investment in water storage, distribution, and basin management.

The parallel with the KIN Economic Transition analysis is instructive: the costs of inaction continued underdevelopment of irrigation, continued food insecurity, continued drought vulnerability - are enormous and systematically underestimated. Making these costs visible and demonstrating the economic returns from investing in the water transition, is a critical advocacy and governance challenge.

Transition questions:

- *What is the full economic value of water in Mozambique's productive sectors, and how can this be made politically visible and actionable? - What investment, institutional, and policy changes are needed to unlock the irrigation potential of Mozambique's major river basins, while ensuring equitable access for smallholder farmers?*
- *How can water sector investment be reframed as economic infrastructure investment rather than social expenditure - shifting its position in national budget priorities?*
- *What role can the private sector play in expanding productive water use, and under what conditions can private investment be mobilised while protecting smallholder access and environmental sustainability?*
- *How can water productivity gains (more crop per drop, more value per cubic meters of industrial water) be incentivised through economic instruments, extension services, and technology transfer?*

7 Case Studies: Seeds of Transition

The transition analysis was supported by three case studies that enable the team to investigate potential emerging niche practices in Mozambique that challenge the dominant water regime. The innovation being tested represent 'seeds of

transition' that explore alternative futures, anticipate resilient practices, and highlight the barriers that must be overcome to scale up systemic change.

7.1 Nature-Based Solutions for Climate Adaptation in Beira

The coastal city of Beira represents a key niche for Nature-Based Solutions (NbS) in response to intensifying cyclones. Through mangrove restoration, green-blue urban parks, and natural drainage rehabilitation, Beira is demonstrating how ecological engineering can buffer climate shocks. Crucially, the Beira Sanitation Autonomous Service (SASB) has developed a Business Continuity Plan to secure the faecal sludge management (FSM) chain during post-cyclone emergencies. This niche explores a desired future where ecology and infrastructure are integrated. However, scaling NbS faces significant barriers, including a lack of national regulatory standards and a centralized funding model that continues to favor conventional concrete-heavy infrastructure.



[DIAGRAM 8: Beira Green-Blue Infrastructure Scheme]

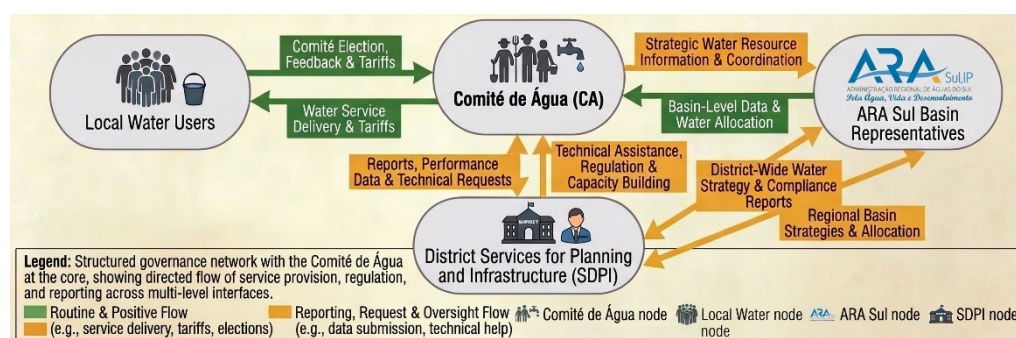
Legend: Map of Beira's Chiveve River corridor showing mangrove restoration zones, retention basins, and green parks integrated with the urban drainage and sanitation network. Source: CES Consulting Engineers Salzgitter GmbH and Inros Lackner SE - 2020/ UPSCALING NATURE-BASED FLOOD PROTECTION IN MOZAMBIQUE'S CITIES 2022.

7.2 Informal Private Water Operators (FPAs) in Greater Maputo

In the peri-urban settlements of Greater Maputo, over 1,800 informal Private Water Operators (Fornecedores Privados de Água – FPAs) have emerged to fill the service gaps left by the formal utility, FIPAG. Operating small-scale groundwater networks, these vendors provide immediate access to water, although at unit prices 5 to 20 times higher than the formal tariff. This niche represents a bottom-up, self-organized response to service deficits, demonstrating high agility and localized market knowledge. AURA's attempts to license and regulate these FPAs represent a key transition pathway, showing how informal practices can be recognized to improve quality and equity. Yet, FPAs face severe barriers, including high energy costs for pumping and uncertainty regarding network encroachment by the formal utility.

7.3 Community-Managed Water Systems in Gaza and Massingir

In the drought-prone Gaza Province, community water committees (Comités de Água) manage rural water points under severe climate stress. In Massingir, experiments in local drought management and participatory water allocation have emerged around the Chókwè irrigation scheme. These committees manage local maintenance and collect user contributions to buffer the system against pump breakdowns. This niche demonstrates the potential of decentralized, bottom-up governance and local resilience knowledges. However, the lived reality is that these committees operate with very thin technical support and minimal financial backup. When deep boreholes break down, rural communities are forced to revert to unprotected sources due to lack of local public maintenance budgets. This case highlights both the resilience of community-led systems and the critical need to support them with formal subnational governance structures to make decentralized water management sustainable.



[DIAGRAM 9: Community Water Committee Governance Model]

Legend: Governance diagram showing linkages between the Comité de Água, local water users, the ARA Sul basin representatives, and the District Services for Planning and Infrastructure (SDPI). Source: DNAAS Sustainability Study 2023.

8 Ethics, Integrity and Corruption in the Water Sector

The situation: Ethics and corruption are not peripheral issues in Mozambique's water sector; they influence how priorities are set, contracts are awarded, licences are issued, tariffs and subsidies are determined, infrastructure is certified, and services are monitored. Stakeholders at the report validation workshop identified these concerns as important contributors to the sector's present condition. The risk is heightened by fragmented mandates, weak monitoring, dependence on externally financed projects, limited public access to information, and accountability systems that often focus on expenditure and infrastructure delivery rather than reliable, equitable service outcomes. These conditions can permit conflicts of interest, favouritism, informal payments, political interference, collusion, and misuse of authority, even where laws and formal procedures are in place.

Integrity risks across the water value chain:

- **Planning and investment selection:** Projects may be prioritised because they are visible, politically attractive, or aligned with available donor funding rather than because they address the greatest service, equity, or climate risks. Weak demand data and limited disclosure make it difficult to test whether investment choices reflect public need.
- **Procurement and contract management:** Large infrastructure contracts create risks of tailored specifications, bid collusion, conflicts of interest, unjustified variations, inflated costs, weak supervision, and

certification of incomplete or poor-quality works. The 2023 fiduciary assessment for the Urban Water Security Program rated fiduciary risk as substantial and emphasised mitigation measures in procurement, financial management, internal control, and anti-corruption arrangements.

- **Licensing, regulation, and enforcement:** Discretion in abstraction licences, operator licensing, tariff approval, water-quality enforcement, and sanctions can create opportunities for selective treatment or regulatory capture, particularly where agencies lack staff, data, and operational independence.
- **Operations, billing, and local service delivery:** Informal connections, meter manipulation, unrecorded payments, preferential reconnection, biased staff recruitment, and weak cash controls can increase non-revenue water and undermine utility finances. In rural systems, unclear control over user fees and spare-parts funds may contribute to breakdowns and declining trust.
- **Emergency and climate finance:** Cyclones, floods, and droughts require rapid procurement and exceptional procedures. Without transparent beneficiary selection, public disclosure, and post-emergency audit, urgency can weaken safeguards and produce repeated spending without durable resilience.

Contribution to the current sector condition: Integrity failures reinforce the lock-ins identified elsewhere in this analysis. Resources diverted through waste, favouritism, or weak contract performance reduce the funding available for operation and maintenance, while poor-quality works increase lifecycle costs and accelerate infrastructure failure. Non-transparent prioritisation can reproduce the urban–rural and peri-urban inequalities already visible in service coverage. Weak enforcement allows pollution, illegal abstraction, and unsafe service provision to persist. When communities cannot see how decisions are made or how funds are used, willingness to pay and participate declines, further weakening revenue and collective stewardship. Corruption therefore operates as a system multiplier: it connects fragmented governance, donor dependency, financial fragility, poor maintenance, unreliable data, and unequal outcomes in a self-reinforcing cycle.

Why integrity is central to the transition: A transition redistributes authority, resources, and opportunities. New institutions, decentralised responsibilities, private participation, climate funds, digital systems, and major infrastructure programmes can improve performance, but they can also create new points of capture if integrity is not designed into the reform process. Ethics must therefore guide both the goals of the transition and the means used to achieve them. This requires attention to fairness, public value, professional conduct, ecological responsibility, and intergenerational justice, alongside conventional controls against fraud and bribery. Integrity should be treated as an enabling condition for investment efficiency, regulatory legitimacy, social trust, and a just distribution of transition benefits and costs.

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Transition questions:

- *At which points in planning, procurement, licensing, regulation, construction, billing, maintenance, and emergency response are integrity risks most likely to undermine service outcomes?*
- *What information should be public, in what form, and through which institutions so that citizens and oversight bodies can follow water-sector decisions and expenditure?*

- *How can accountability be shifted from compliance with procedures and infrastructure delivery towards functionality, water quality, continuity, equity, and climate resilience?*
- *Which independent oversight, community monitoring, whistleblower protection, and sanction mechanisms are credible in the Mozambican context?*
- *How can decentralisation, private participation, donor finance, and digitalisation be designed so that they reduce rather than relocate opportunities for corruption and capture?*
- *What ethical principles should guide trade-offs between domestic needs, productive uses, ecological limits, affordability, and the interests of future generations?*

9 Conclusions and Outlook

Taken as a whole, the analysis indicates that Mozambique's water sector delivers important services, but through arrangements that are increasingly misaligned with the country's social, climatic, institutional, and economic realities. Progressive legal and policy frameworks coexist with fragmented mandates, weak implementation capacity, constrained domestic financing, and continued reliance on externally driven investment cycles. These conditions limit the sector's ability to provide reliable water and sanitation services, protect water resources, respond proactively to droughts, floods, and cyclones, and support the productive uses of water required for food security, energy reliability, urban development, and economic diversification. The central challenge is therefore not simply to expand infrastructure or improve administrative efficiency, but to transform the conditions under which water is governed, financed, valued, allocated, and held accountable across sectors and levels of government.

The findings also show that the sector's constraints are cumulative rather than isolated. Challenges related to public urgency, institutional mandates, long-term direction, financing, climate exposure, ethics, corruption, cross-sectoral coordination, and productive water use interact in ways that reinforce existing vulnerabilities. For this reason, the transition agenda will need to be integrated, sequenced, and politically anchored, combining policy reform with practical experimentation and sustained learning. A structured process of engagement with government, civil society, communities, private operators, researchers, and development partners can help identify credible pathways for change, test emerging practices, and build shared ownership of implementation. In this sense, transition arenas and other co-creative platforms should serve not only as consultation mechanisms, but as spaces for joint problem-solving, accountability, and the gradual formation of a nationally grounded water transition agenda.

This analysis therefore culminates in a central transition question: **How can Mozambique design and steer a water transition that, despite climate stress, structural poverty, institutional fragmentation, contradictory decentralisation dynamics, and donor dependency, creates the conditions for an equitable, resilient, and economically productive water system by 2050?**

Addressing this question will require more than improved policies or increased investment. It calls for a deeper transformation in how water is valued, how decisions are made, who participates in governance, and how accountability is exercised. This is the central purpose of transition management and the agenda that the KIN Mozambique programme will carry forward.

This document was prepared as part of the KIN Mozambique Water Sector Transition Programme. It is shared for review and comment by team members, partners, and funders. Feedback is warmly welcomed.

10 Questions for Agenda Building Workshop

To validate the findings of this analysis, an Agenda Building Workshop is Planned for the 18 of June 2026. The following questions are designed to test the seven transition themes and explore potential leverage points with stakeholders:

Theme 1: Urgency and public good perception

- How do different actors—from smallholder farmers to urban peri-urban residents, from basin committee members to MOPHRH planners—perceive and value water? How does this valuation relate to their vulnerability and political agency?
- What would it take to make water scarcity, service failure, and sanitation deprivation visible and politically salient at national and subnational levels? Who are the key transition leaders who can create and sustain that urgency?
- How do gender dynamics shape the burden of water insecurity, and how can a gender-transformative water agenda be promoted?

Theme 2: Roles, responsibilities and institutional fragmentation

- To what extent does the current governance structure support or hinder a just and resilient water transition? Which institutional interfaces are most critical for unlocking systemic change?
- What redistribution of roles and responsibilities—between central and subnational government, between public and private actors—is necessary to make decentralization work in practice?
- How can accountability for service outcomes (not just infrastructure delivery) be embedded in institutional mandates, performance contracts, and financing arrangements?
- How can informal service providers be integrated into formal governance architecture in ways that maintain their coverage contribution while improving service quality and equity?

Theme 3: Vision, cooperation and strategic guidance

- What would a shared long-term vision for Mozambique's water system in 2040 or 2050 look like? Who needs to be in the room to formulate it, and how can it be made politically durable?
- Which actors currently play—or could play—a catalytic role in steering the water transition at different levels? How can transition leadership be cultivated?
- How can the current reform window (new WASH Law 2024, World Bank Diagnostic 2025, ENDE 2025–2044) be leveraged to lock in structural changes rather than incremental adjustments?

Theme 4: Financing, economic instruments and the cost of inaction

- What is the full economic cost of water system failure in Mozambique, including health, agriculture, industry, and disaster losses? How can this be made visible and politically actionable?
- What tariff structures are fiscally feasible, socially equitable, and sufficient to move towards cost recovery? What complementary mechanisms, such as social tariffs and cross-subsidies, are needed?
- How can domestic budgets for WASH be increased, and how can donor financing be restructured from project grants to sector budget support to reduce off-budget distortions?

Theme 5: Climate resilience and local-system dependencies

- How can climate risk be systematically embedded in water infrastructure design, investment prioritization, and operational protocols—rather than remaining an afterthought?

- What institutional and technical capacity is needed at basin level (ARAs) to improve drought early warning, allocation enforcement, and demand management under scarcity?
- How can Nature-Based Solutions—such as wetland restoration, managed aquifer recharge, and urban green-blue infrastructure—be mainstreamed into the water investment portfolio?

Theme 6: Interactions with other transitions (food, energy, urbanisation, equity)

- What are the key interdependencies and feedback loops between the water system and other transitions—food, energy, urbanization, and equity—in Mozambique?
- Under what conditions can the water transition reinforce—rather than trade off against—transitions in food systems, energy security, and urban development?
- How can an equity lens be systematically applied to ensure that the benefits of improved systems reach the most marginalized?

Theme 7: Water as an engine of the productive economy

- What is the full economic value of water in Mozambique’s productive sectors, and how can this be made politically visible and actionable?
- What investment, institutional, and policy changes are needed to unlock the irrigation potential of major basins while ensuring equitable access for smallholder farmers?
- How can water productivity gains, such as more crop per drop, be incentivised through economic instruments, extension services, and technology transfer?

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