Arab Reform Initiative

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“PAYING MORE, GETTING LESS”

LEBANON’S FLAT-TARIFF WATER REGIME, SERVICE FAILURE, AND HOUSEHOLD COPING PATHWAYS

Jules Hatem

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He has worked at every level of the system this paper describes. As co-founder and Managing Director of Triple E sarl, he spent eight years supplying the decentralized water and wastewater solutions that households, municipalities, and industries turn to when public service falls short. As Deputy Team Leader at Sachsen Wasser GmbH, and now as adviser to GIZ's WAMA project, he has worked between the Ministry of Energy and Water, Lebanon's four Water Establishments, private operators, and international organizations and donors including the EU, BMZ, USAID, and UNDP, on the refurbishment of treatment infrastructure and the governance of the country's water and wastewater services. He also lectures in wastewater treatment, industrial and environmental engineering, sustainability, and agro-food processing at the Lebanese University and Université Saint-Joseph de Beyrouth.

Disclaimer:

Cover photo: Residential Rooftop with multiple water tanks in Saida, south of Lebanon, 2025.
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Table of Contents

1. Paying More, Getting Less in Lebanon's Domestic Water System

In Lebanon's domestic water sector, a central contradiction structures everyday life: Households pay an annual flat fee for formal water connection, yet cannot rely on a predictable, safe, and accountable service. Many households remain formally connected while organizing daily life around uncertainty: Irregular network supply, pumping constrained by electricity availability, water storage management, and periodic recourse to trucked or purchased water. As a result, the household water bill is not experienced as a single tariff, but as a stacked burden combining formal payment with recurring coping costs. This is the condition captured by the phrase "paying more, getting less".

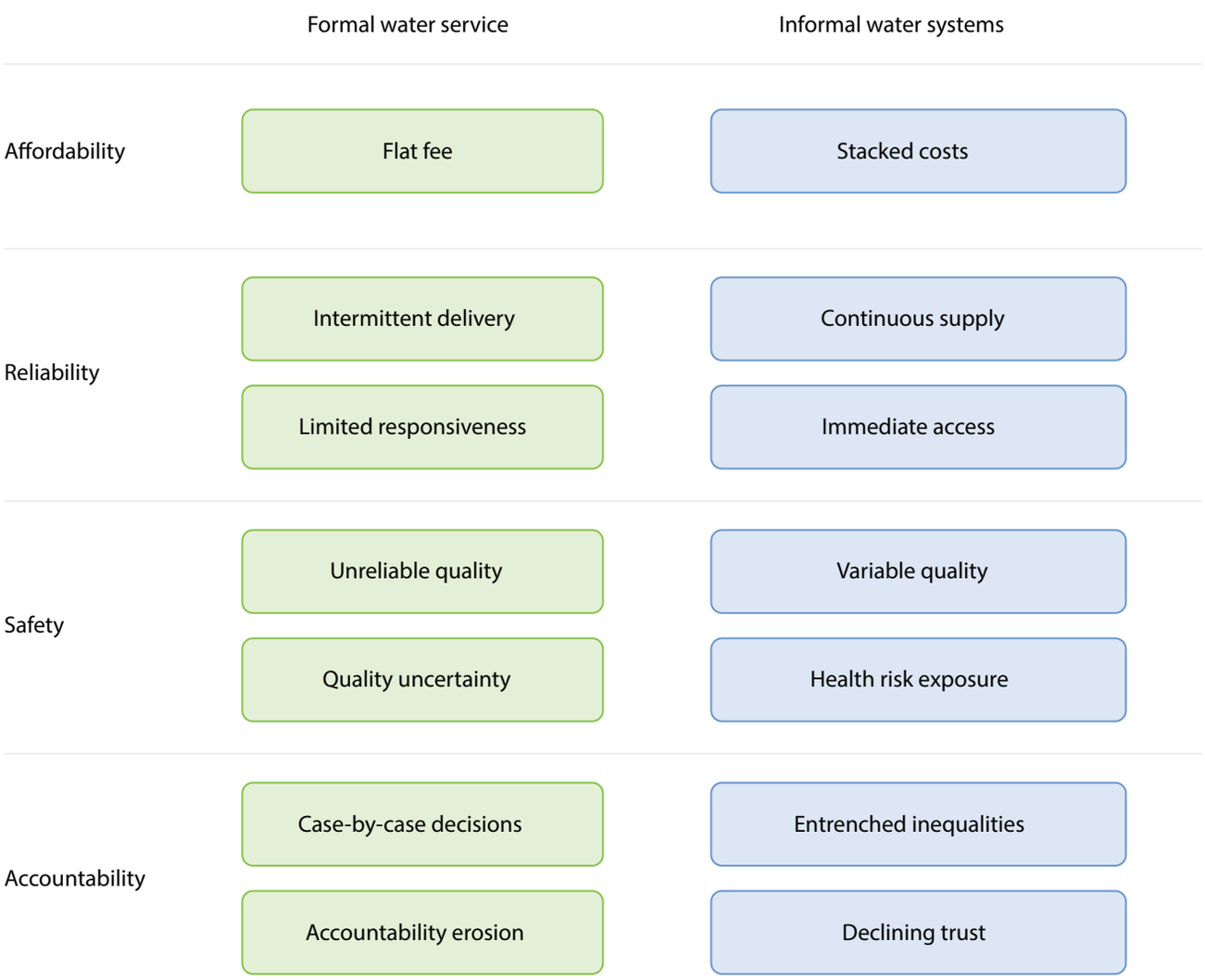
The contradiction is not simply the result of scarcity or infrastructure failure. It is produced by a service regime in which billing is tied more to connection status than to measurable and enforceable service delivery. The result is a persistent gap between being connected and being served. Households must therefore assemble water access through hybrid coping pathways that combine public supply, informal and private markets, storage, pumping, and other household-level adjustments. These pathways are functional, but they are also unequal: They shift costs, risks, and practical responsibility onto users, with especially severe implications for affordability, safety, and accountability. This paper treats Lebanon's flat-tariff water regime not as a technical detail, but as a governance arrangement that explains how water injustice is lived.

The analysis focuses on domestic water service in Lebanon and draws on 52 semi-structured interviews with households, municipal actors, Water Establishment personnel, informal water providers, experts, researchers, and civil society practitioners, alongside a targeted desk review. It employs a water justice lens to understand the impacts on people and their livelihoods. Rather than treating service failure as a temporary crisis, the paper traces how it becomes routine in everyday life and how households compensate for it through repeated coping practices.[1] The emphasis is on lived service outcomes: Reliability, affordability, safety, and accountability.

The paper proceeds as follows. It first examines how the legacy flat-tariff regime bills access instead of delivery and how this shapes the connection–service gap. It then analyzes how households cope with intermittent supply through hybrid provisioning, focusing on affordability, accountability, and safety. Finally, it turns to three practical service improvement cases to identify what limited but meaningful gains are possible under constraints.

1 Farhana Sultana, "Water Justice: Why It Matters and How to Achieve It", *Water International*, Vol. 43, no. 4, 2018, pp. 483-493, available at https://doi.org/10.1080/02508060.2018.1458272

Figure 1: The Tradeoffs Between Lebanon's Formal and Informal Water Systems



2. Flat-Tariff Service Bills Access, Not Delivery

This section examines Lebanon's legacy service-connection regime in operational terms: How billing remains anchored to connection status while delivery remains intermittent, weakly measured, and difficult to contest. One key informant pointed to the commercial realities that led to flat fees: Low fee collection, illegal water connections, and large volumes that are consumed but not billed or paid. In Lebanon's domestic water sector, being formally connected does not reliably translate into predictable, adequate service.[2] Stakeholders repeatedly distinguish between connection status on paper and the day-to-day reality of securing water that is sufficient, continuous (or at least scheduled), and affordable once coping costs are included.[3] For this reason, evaluating water access in Lebanon requires focusing on service outcomes rather than infrastructure coverage alone.

2 Interview with engineer Alain Maroun, water sector stakeholder and expert, phone interview by author, 5 December 2025.

3 Here "costs" refers to out-of-pocket spending on bottled water and trucked water, as well as other coping expenses such as pump operation and energy or storage-related investments where relevant.

One material feature of this disconnect is the weakness of household-level metering and routine meter reading. Table 1 uses selected indicators from the Ministry of Energy and Water's 2020 National Water Sector Strategy Update, showing that metering and meter-reading practices remain incomplete and uneven across water establishments.[4]

Table 1: Selected Metering, Subscription, and Collection Indicators by Water Establishment, 2020

Water Establishment	Subscribed households	Number of water meters	Water meters as share of subscribed households	Estimated population tapping water from unknown origin	Estimated collection rate
North Lebanon Water Establishment	124,793	56,226	45%	1,154,432 (67%)	63%
Bekaa Water Establishment	86,761	38,400	44%	359,576 (48%)	32%
Beirut and Mount Lebanon Water Establishment	592,835	185,960	31%	239,243 (8%)	79%
South Lebanon Water Establishment	176,000	Not available	Not available	408,000 (34%)	51%

Source: Adapted by the author from Ministry of Energy and Water, National Water Sector Strategy Update – 2020: Volume I (Executive Summary), p. 18.[5]

The service connection is therefore best understood as a charging and classification logic that converts connection status into a flat annual payment obligation. Under this model, the annual charge is not calculated from metered household consumption but instead is typically administratively set according to service-connection status and subscription categories, then applied regardless of the volume actually delivered or received. Under intermittent service, this creates a fundamental injustice: Households may be required to pay without a measurable service baseline against which they can verify what they are paying for, contest under-delivery, or claim a remedy when service fails.

Insights from stakeholder interviews indicate that households interpret payment as implying at least a minimum service claim: Some predictable allocation, basic transparency about schedules and distribution rules, and a responsive interface when problems arise. Yet supply is intermittent, information is often opaque, and grievances do not reliably lead to remedy. As a result, payment is experienced less as a tariff for service than as an obligation attached to formal status. Table 2 summarizes this distinction between what the system bills and what households understand as service.

4 Ministry of Energy and Water, "National Water Sector Strategy Update – 2020: Volume I (Executive Summary)", 2020, available at https://faolex.fao.org/docs/pdf/leb211915EVolI.pdf (Ministry of Energy and Water, "National Water Sector Strategy Update").

5 Ministry of Energy and Water, "National Water Sector Strategy Update", p. 18.

Table 2: Connection-based vs Service-based Water Systems

	Connection-based	Service-based
System demands	Flat annual fee linked to connection status	Payment based on delivery and performance
Household expectations	Minimum service implied by payment	Predictable allocation, transparency, remedy for interruptions
What can be verified	Connection and payment	Requires measurement and communication through itemized billing

2.1. The flat-tariff regime as a distributive and procedural injustice

From a water justice perspective, charging under uneven service conditions produces both a distributive and a legitimacy problem. For households facing a uniform payment obligation regardless of how much water they receive, the tariff becomes a flashpoint for perceived unfairness rather than a shared contribution to a public utility. Households are paying more and getting less, a notion that emerged repeatedly from interviews. In this configuration, the flat fee becomes the first payment of the stacked bill, as households must secure water elsewhere.[6] In practice, securing usable water in Lebanon often includes storage, pumping, and sometimes in-situ treatment, all with costs attached.[7]

Policy and sector frameworks are broadly consistent with these accounts. The prevailing flat-rate model is widely described as regressive because it is not tied either to consumption or to income.[8] Policy and strategy documents further acknowledge that households often pay formal flat fees while simultaneously relying on private purchases to compensate for public shortages in quantity or quality, a configuration described as a form of "disguised tariffication".[9] Legal and reform texts continue to position metering and volumetric tariffs as a reform direction, even if implementation remains incomplete and contested.[10]

The significance of this arrangement is not only financial but political. When payment is decoupled from predictable service and enforceable entitlement, legitimacy erodes. Through a fairness lens, users compare what they are asked to pay with what they actually receive and observe whether rules are applied consistently. This helps explain why willingness to pay becomes fragile under conditions of intermittent delivery and weak transparency. It also clarifies why tariff reform, if introduced without first rebuilding service credibility, risks reproducing injustice in a new form rather than resolving it.[11]

6 Interview with engineer Antoine Zoghbi, Beirut and Mount Lebanon Water Establishment senior manager, phone interview by author, 9 December 2025 (Interview with Zoghbi).

7 Interview with Dalia Lakkis, water sector expert, phone interview by author, 19 December 2025 (Interview with Lakkis).

8 Fatima Sidaoui, The Political Ecology of Water Justice: A Case Study of Tripoli, Lebanon, Doctoral dissertation, Wilfrid Laurier University, 2017 (Sidaoui, The Political Ecology of Water Justice).

9 ECODIT Liban SARL, Strategic Environmental and Social Assessment (SESA) of the Updated National Water Sector Strategy (NWSS) – Ministry of Energy and Water (MoEW): Executive Summary, prepared for the Council for Development and Reconstruction, 7 October 2022.

10 Ghassan Moukheiber & Associates – Law Offices, Lebanese Water Sector Legislation: Summary Analytical Report, Draft 2, 31 March 2022.; Nadim Farajalla, Silva Kerkezian, Zeinab Farhat, Rana El Hajj, and Michelle Matta, The Way Forward to Safeguard Water in Lebanon: National Water Integrity Risk Assessment, Issam Fares Institute for Public Policy and International Affairs, American University of Beirut, April 2015.

11 Interview with engineer Salah Saliba, water sector expert, phone interview by author, 6 December 2025 (Interview with Saliba).

2.2. Double payment and the consolidation of hybrid markets

The practical expression of this regime is what this paper treats as the household's "stacked water bill": The formal annual charge remains in place, but it is insufficient to secure usable water. Households, therefore, incur recurring additional expenditures to meet basic needs, especially where public delivery is unreliable.[12] Studies in Beirut show that informal sources can account for a dominant share of household water costs while supplying only a minority share of total consumed volume, illustrating how affordability is shaped less by the nominal flat fee than by the wider bundle of coping expenditures.[13] Interviewees likewise described tanker reliance, bottled water purchases, and repeated coping expenses as routine rather than exceptional features of domestic water access.[14]

This is the point at which hybrid provisioning ceases to be a marginal coping strategy and becomes the core operating system of domestic water access in the country. Households assemble water from multiple sources: Network delivery where available; trucked water and other private purchases where public supply fails; and household storage, pumping, and treatment to manage timing, pressure, and quality. The result is a blurred boundary between public service, household-level management, and substitute markets. Households remain formally within the public system, but practical continuity increasingly depends on private expenditure and household-level adaptation.

This shift has important governance implications. As market dependence expands, disputes over continuity, quality, timing, and volume are mediated less through clear public service standards than through negotiation with multiple providers and intermediaries. Accountability becomes hard to locate, despite the ongoing obligation to pay. There are direct procedural justice implications. Municipal actors may become de facto interfaces, but this does not by itself resolve the underlying mismatch between what the system bills and what households can credibly claim as service.[15] This results in uneven services across the country, with potential for marginalization of areas where municipalities could not step up. The broader consequences of this hybrid arrangement for reliability, affordability, accountability, and safety – all components of a water justice framework – are developed in the sections that follow.

3. A Water Justice Lens for Lebanon: Service Outcomes, Burden-Shifting, and Accountability

This section sets out the water justice lens used in the paper to clarify how the connection–service gap is experienced in practice. In the Lebanese domestic water context, the injustice of the flat-tariff regime lies not only in the fact that service is intermittent, but also in how that intermittency redistributes burdens, compels households to compensate privately, and weakens the practical meaning of payment, voice, and remedy.[16] The paper organizes its analysis around four service-level dimensions that recur across interviews, observations, and the desk review: Reliability/continuity, affordability/equity, accountability/voice, and quality/safety.

Figure 2 illustrates the connection–service gap and the four justice dimensions through which this paper reads lived water injustice in Lebanon.

12 Yasmine Choueiri, Jay Lund, Jonathan London, and Edward Spang, "(Un)Affordability of Informal Water Systems: Disparities in a Comparative Case Study in Beirut, Lebanon", *Water*, Vol. 14, no. 17, 2022, available at https://doi.org/10.3390/w14172713 (Choueiri et al., "(Un)Affordability of Informal Water Systems").

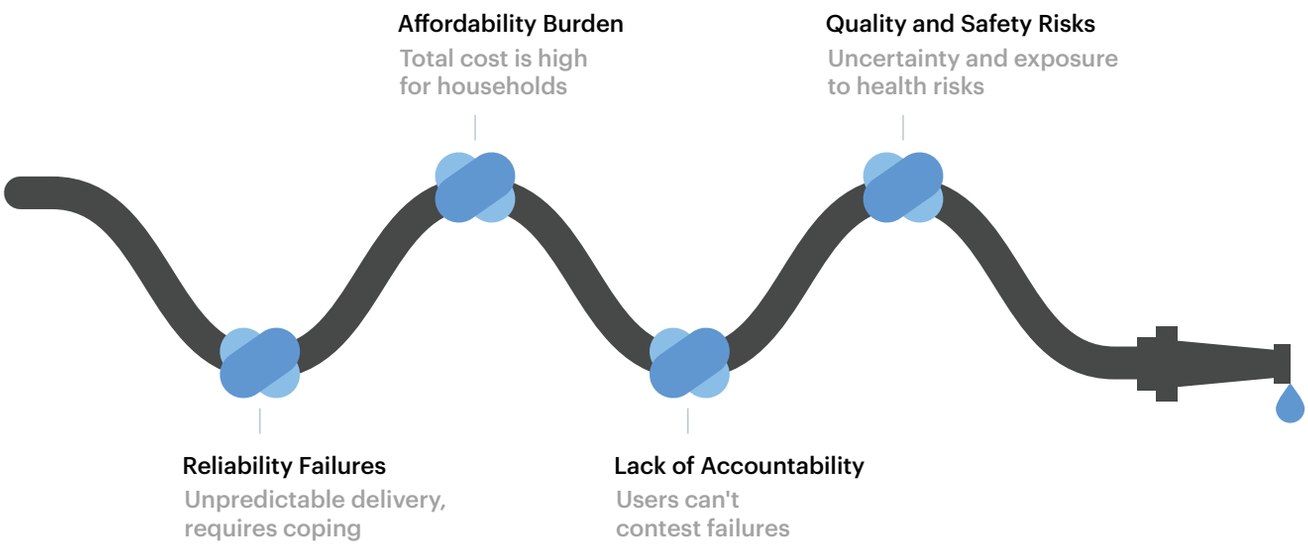
13 Choueiri et al., "(Un)Affordability of Informal Water Systems".

14 Interview with Abed al-Menhem Othman, municipal official and mayor, phone interview by author, 7 January 2025 (Interview with al-Menhem Othman); Interview with Rawad Amine, international NGO water, sanitation, and hygiene practitioner; governance program implementer, phone interview by author, 22 December 2025 (Interview with Amine).

15 Interview with attorney Christina Abi Haidar, legal and regulatory expert, phone interview by author, 14 January 2026 (Interview with Abi Haidar).

16 The four dimensions are derived from the field material and are used here as an operational way of reading lived service outcomes under the flat-tariff regime.

Figure 2: The Four Justice Dimensions in Lebanon's Domestic Water Access

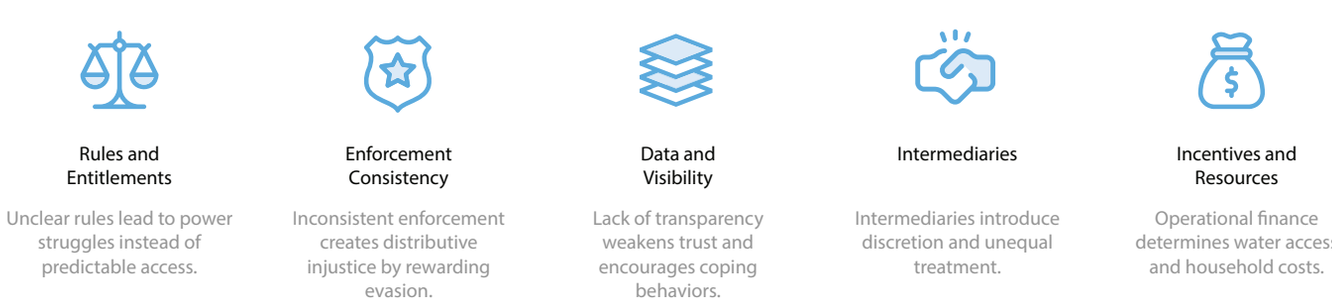


Reliability/continuity refers to the predictability and usability of delivery over time: Not simply whether a network exists, but whether water arrives with enough frequency, duration, and pressure to sustain everyday life. Affordability/equity concerns the full burden households bear to secure water, including formal fees, market purchases, energy costs, storage, and risk-reduction practices. Accountability/voice concerns whether users can understand the rules of service, identify the relevant duty bearer, raise complaints, and obtain follow-through. Quality/safety concerns whether water remains safe across the full chain of source, transport, storage, and point of use, and who bears the costs of reducing uncertainty when formal safeguards are weak. Taken together, these dimensions make water justice observable as lived service experience rather than as a purely legal or infrastructural abstraction.

3.1. Governance ingredients that explain variation

Even under broadly similar national constraints, justice outcomes vary across geographies, neighborhoods, buildings, and income groups. This variation is not random. It reflects differences in how service is governed, how shortages are managed, and how burdens are shifted downstream. Five governance ingredients are especially important in explaining this variation.

Figure 3: Five Elements of Governance



First, rules and entitlements: Where schedules, allocation logic, priorities, and service responsibilities are unclear or not publicly communicated, households cannot claim a predictable entitlement and instead must negotiate access in practice. Second, enforcement consistency: Users assess fairness by comparing who pays, who receives, who bypasses rules, and who benefits from discretionary exceptions. Third, data and visibility: When delivery, billing, and responsibilities are not made legible, households cannot evaluate performance or contest unequal treatment. Fourth, intermediaries: Municipal actors, local offices, building managers, informal brokers, and private vendors often become de facto interfaces between households and the water system, sometimes stabilizing access but also multiplying discretion. Fifth, incentives and operational resources: Electricity, fuel, staffing, spare parts, and maintenance capacity shape pumping hours, distribution cycles, and responsiveness; in this sense, operating expenditure (OPEX) becomes a justice determinant because service gaps are translated directly into household coping costs.[17]

Based on the four justice dimensions, these elements help explain why outcomes differ even among formally connected users. With legible rules, consistent enforcement, accessible information, and sufficient operational resources, users are more likely to experience continuity as a governed service. Where those ingredients are weak, the same formal status can conceal very different realities of access, cost, and recourse. The operational guide in Table 3 summarizes these relationships and shows how they work together.

Table 3: Operational Guide to Justice Dimensions and Governance Ingredients

Governance ingredient	Reliability/ continuity	Affordability/ equity	Accountability/ voice	Quality/safety
Rules/ entitlements	Allocation logic, schedules, and service priorities are clear.	Charges are linked to what is delivered or clearly explained.	Complaint rights and minimum service expectations are defined.	Water-safety standards and user guidance are communicated.
Enforcement consistency	Distribution rules are applied consistently, with fewer discretionary exceptions.	Collection and enforcement are applied fairly across users.	Complaints lead to documented follow-up rather than selective action.	Vendor, storage, and unsafe practices are subject to oversight.
Data/visibility	Timing, interruptions, and delivery conditions are communicated.	Bills, tariffs, and payment obligations are understandable.	Users can access information on performance, responsibilities, and complaints.	Monitoring results are disclosed where water-quality data exist.
Intermediaries / duty-bearing	Municipalities, local offices, and building-level actors help mediate distribution and access.	Informal fees and brokered access costs are reduced or made visible.	Users know who receives complaints and who is responsible for follow-up.	Responsibilities are clearer across public actors, vendors, buildings, and households.
Incentives/ resources	Energy, pumping hours, staffing, and maintenance capacity support continuity.	Cost-shifting to households for pumps, generators, storage, and purchases is reduced.	Staff and resources are available to respond to complaints and repair needs.	Testing, treatment, maintenance, and risk-reduction capacity are available.

17 Interview with Dr Sabine Saad, energy and climate expert, academic professor, phone interview by author, 9 January 2026 (Interview with Dr Saad).

3.2. Coping pathways as political economy

Across the interviews, coping appears as a patterned "everyday engineering": Households use storage, pumping, purchases, timing rules, and risk-reduction practices according to their income, housing type, geography, and access to intermediaries. Coping capacity, therefore, becomes a constituent of inequality among formally connected users. In other words, the injustice lies not only in service failure itself, but in the unequal ability to convert intermittent supply into workable domestic access.[18]

Three recurring coping pathways are particularly visible in the evidence. The first is a storage-and-pumping pathway, in which tanks, pumps, and timing routines convert short or irregular supply windows into a more stable domestic reserve. The second is a market-substitution pathway, in which households purchase trucked, bottled, or refill-shop water to compensate for public failure. The third is a risk-reduction pathway, in which households boil water, install filters, switch vendors, or rely on bottled water to reduce perceived safety risks. These pathways are often combined, and each one depends on assets that are unequally distributed: Money, space, reliable electricity, information, and the ability to mobilize local relationships.[19]

All these coping strategies have political-economic consequences and justice implications. Continuity failures trigger private adaptation; private adaptation produces a composite household water basket; and that water basket shapes what households must pay, manage, and risk in order to obtain water that should have been delivered as a service. This is where the four dimensions converge: Reliability failures amplify affordability burdens, accountability gaps make those burdens harder to contest, and safety risks are shifted onto households with unequal capacity to manage them.

Table 4: Coping Pathways Typology, or Household "Everyday Engineering"

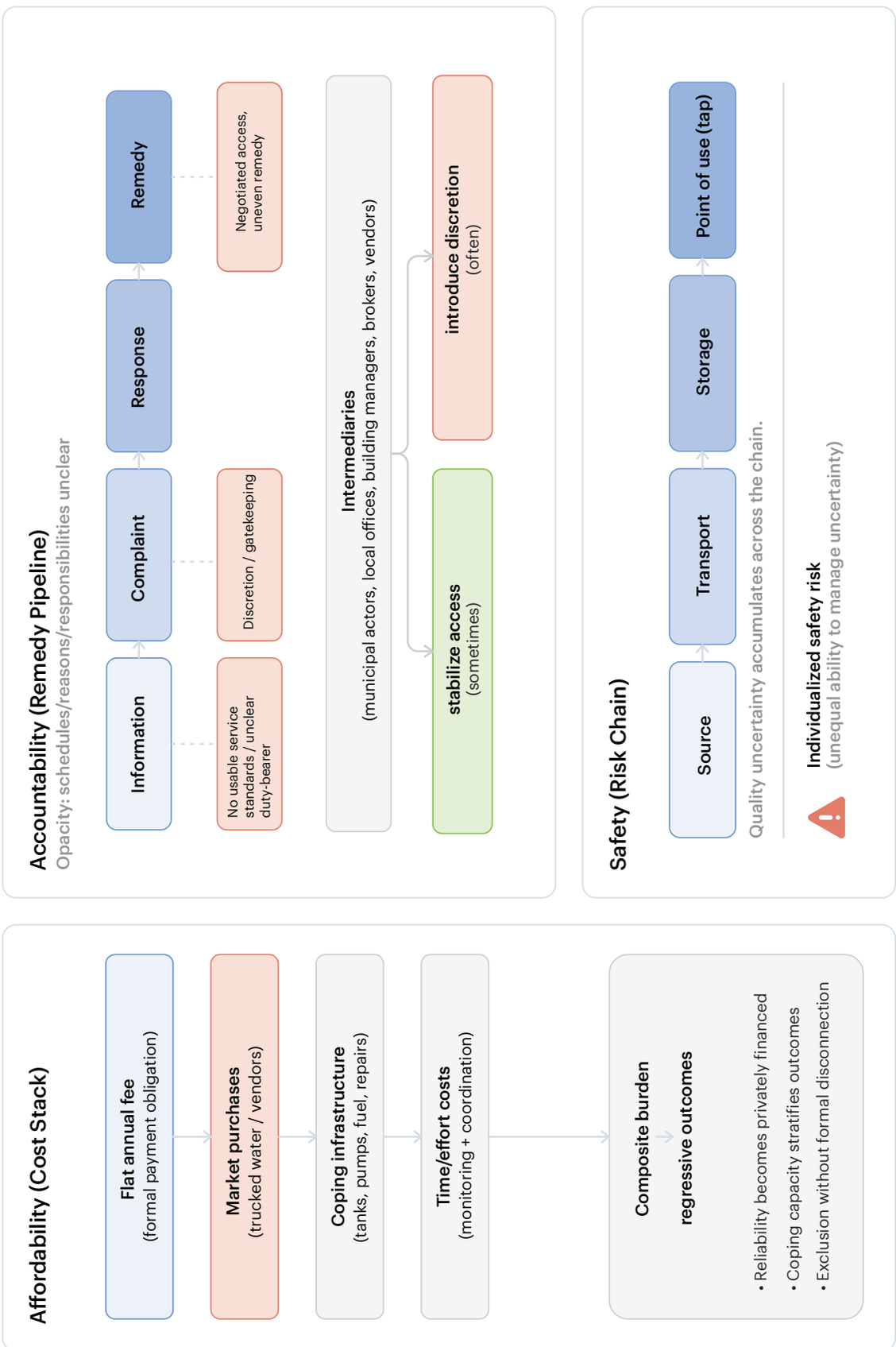
Coping Pathway	Operational Components	Assets & Constraints	Justice Implication
Storage and pumping	Tanks, pumps, timing rules	Capital, space, electricity	Converts intermittency into stratified reliability
Market-substitution	Trucked water ordering, storage thresholds	Liquidity, vendor access, and trust	Produces "double payment" and price exposure
Risk-reduction	Boiling, filters, vendor switching	Ability to "buy safety"	Shifts safety governance to households

Thus, water injustice in Lebanon is not experienced only at the point of tariff payment, nor only at the point of supply interruption. It is experienced through the full chain that links unreliable service to private compensation, unequal burden-bearing, and weakened accountability, as shown in Figure 4 below.

18 Interview with Lakkis.

19 Interview with Dr Antoine Hreiche, technical expert and academic professor, phone interview by author, 10 December 2025.

Figure 4: How Injustice Is Experienced (Three Pathways)



4. Intermittency, Substitute Markets, and the Household Cost Stack

Intermittent supply, substitute markets, and stacked costs are treated here as a single analytical block because they describe one continuous mechanism rather than three separate problems. Intermittent and weakly governed public delivery forces households to compensate through storage, pumping, and purchased water; those compensatory pathways then produce the household cost stack that defines affordability in practice. Reliability failure, substitute markets, and regressive burden, therefore, need to be read together rather than in sequence.[20]

Across stakeholder accounts, unreliable delivery is described as the normal operating condition of domestic water access in Lebanon. Formally connected households do not experience the network as a predictable utility. They experience it as an uncertain window: Water may arrive briefly, at low pressure, or at inconvenient times, and households must adapt their routines around that uncertainty. In this sense, intermittency does not simply reduce volumes; it converts water into a recurring problem of timing, storage, risk management, and labor.[21]

This helps explain why reliability is stratified among connected users. Outcomes differ by elevation, network position, building configuration, storage capacity, and access to electricity for pumping. Stakeholders repeatedly pointed out that two households with the same formal status can live very different service realities depending on whether they can capture water when it arrives, redistribute it internally, or purchase supplementary supply when public delivery fails. District-level metering and network management initiatives show that some of these inequalities can be observed and managed, but in much of the system, they are experienced as arbitrary because allocation logic and schedules are not communicated clearly.[22]

Operational finance is central to this pattern. Pumping hours, distribution cycles, and responsiveness depend on electricity, fuel, staffing, spare parts, and routine maintenance. Under the postcrisis energy shock, infrastructure may still exist, but the ability to operate it has narrowed dramatically. Several interviewees described this as the practical mismatch between capital infrastructure and operating reality: Networks, reservoirs, and pumping assets remain on paper, but continuity deteriorates because the OPEX required to run them reliably cannot be absorbed.[23]

The justice ramifications are direct. When utilities cannot absorb energy and operating costs, households absorb the consequences through shortages, delayed repairs, and deeper reliance on substitute supplies. Reliability failure, therefore, becomes an inequality engine. Households with tanks, pumps, generators, liquidity, or access to trusted vendors are better able to convert irregular delivery into a workable domestic supply. Those without such assets face more frequent shortages and sharper exposure to both price shocks and safety uncertainty.[24] Table 5 summarizes the main drivers through which intermittency stratifies reliability among formally connected users.

20 This integrated treatment is consistent with the paper's core mechanism: Service failure, private compensation, and regressive burden are analytically linked rather than treated as separate phenomena.

21 Interview with engineer Joumana Nasser, water expert, phone interview by author, 18 December 2025.

22 Interview with Dr Faraj al-Awar, water engineer and expert, phone interview by author, 9 December 2025; World Bank Group, "Greater Beirut Water Supply Project: Additional financing", 12 April 2018.

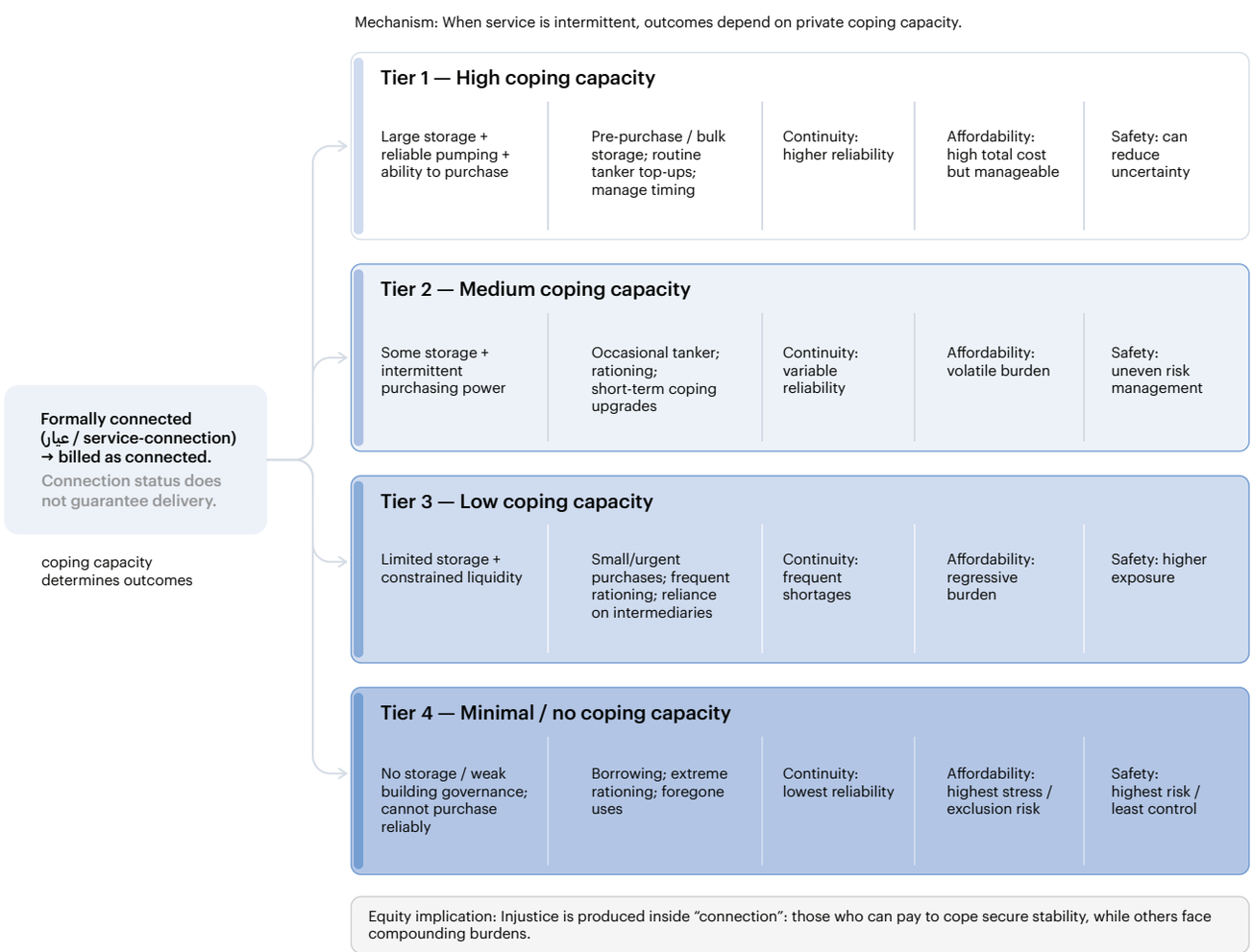
23 Interview with Dr Saad; Interview with engineer Bassam Jaber, water expert, phone interview by author, 20 December 2025.

24 Interview with engineer Anthony Doumit, water subscriber and beneficiary, phone interview by author, 8 January 2026.

Table 5: How Intermittency Drivers Affect Connected Users

Driver	Mechanism	How Users Are Affected
Ability to invest in coping infrastructure	Storage/pumping converts irregular delivery into usable supply	Households with capital, space, and reliable electricity can adapt
Network/building position	Access mediated by elevation and network position	Some users experience systematically better service
Energy/OPEX constraint	Pumping hours and distribution cycles governed by electricity and costs	Service becomes more volatile where OPEX cannot be absorbed

Figure 5: Inequality Ladder Among Connected Users



5. The Tanker Economy as Substitute Infrastructure

Where intermittency persists, trucked water becomes a significant part of the practical service system. Households purchase tanker deliveries not only during acute emergencies but as a routinized means of securing continuity when the public network cannot be relied upon. In this configuration, the tanker economy functions as substitute infrastructure: It does not replace the public network formally but rather fills in the continuity gaps.[25]

Stakeholders consistently described tanker provision as relationship-driven and weakly governed. Households often choose vendors on the basis of trust, predictability, and prior experience more than on price alone. In many areas, recurring buyer–seller relations and local areas of coverage stabilize the market, but they also make it difficult for users to verify the water's source, the equipment's hygiene, or the consistency of delivered volume; recourse when disputes arise is usually negotiated rather than institutionally enforced.[26]

The tanker chain also increases a household's dependence on its building's infrastructure. A delivery must be transferred into a tank, stored safely, and, in many buildings, pumped again to the point of use. This means that tanker dependence is tied not only to liquidity but also to housing conditions, building management, and electricity availability. Once households and buildings invest in storage and pumping systems oriented around purchased delivery, market dependence becomes more durable.[27]

The safety implications are embedded in this substitute market. Tanker water is not a homogeneous product: Source, transport, hoses, filling points, and storage conditions all affect quality, and attribution becomes difficult when households mix water from multiple origins in the same reservoirs. For many users, trust must substitute for enforceable oversight. This is why tanker water is analytically important not only for affordability but also for accountability and safety: It shows how service failure moves risk management from the public system to the household.[28]

Table 6: Trucked Water Delivery Chain

Delivery Chain Step	How It Works	Concerns
Vendor selection	Relationship-driven choice	Trust is social; verification is limited
Delivery to building/ household tank	Transfer via hose into storage	Volume disputes; handling uncertainty
Internal distribution	Pumping from storage to point of use	Dependent on electricity; uneven intrabuilding access

25 Interview with al-Menhem Othman; Interview with Amine.

26 Christina Cavalcanti and Dana Hourany, "Riding with the Black Hose Brigade: The Truckers who Bring you Water when the Government Fails", The Public Source, 22 May 2024, available at https://thepublicsource.org/unregulated-privatized-water-lebanon (Cavalcanti and Hourany, "Riding with the Black Hose Brigade").

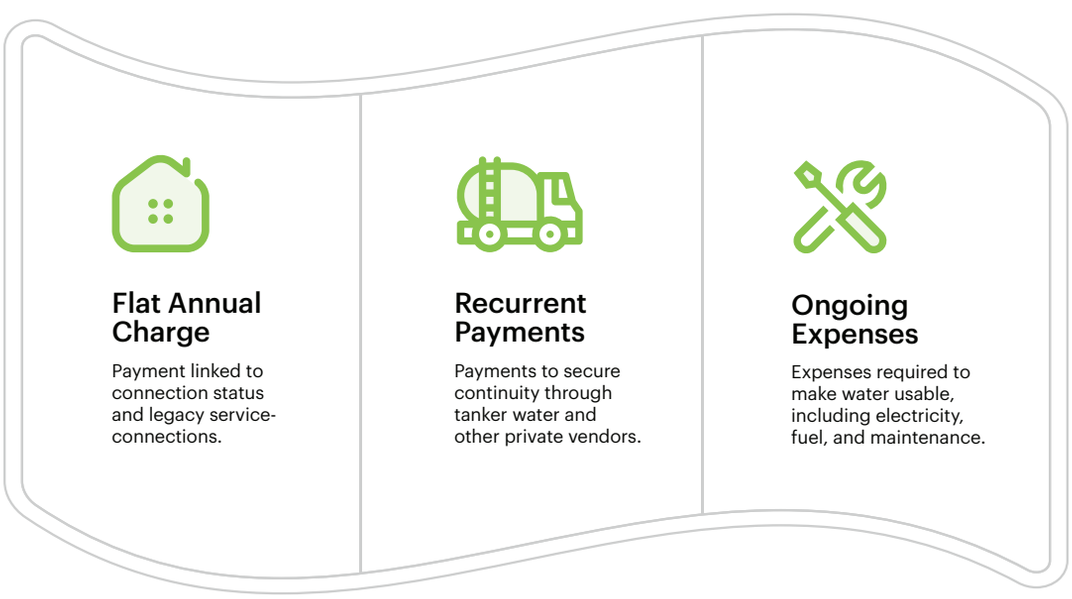
27 Interview with Zoghbi.

28 Interview with Dr Yasmina Choueiri, water researcher and expert, phone interview by author, 9 December 2025 (Interview with Dr Choueiri); ECODIT Liban Sarl, "Strategic Environmental and Social Assessment".

6. The Household Cost Stack: Affordability, Regressivity, and Willingness to Pay

The affordability question in Lebanon cannot be reduced to the nominal flat fee alone. Under intermittent service, households experience water costs as a stack: The formal annual charge must be paid, and is supplemented by recurring expenditures on tanker deliveries, bottled or refilled drinking water, storage, pump operation, generator use, maintenance, and sometimes in-house treatment. What matters, therefore, is not the tariff itself but the total burden required to assemble a usable household water supply.[29]

Figure 6: Costs Associated with Water Service in Lebanon



This is why the notion of double payment is so important. The formal payment preserves nominal inclusion in the public system, while the second layer of payment secures continuity, usability, or perceived safety elsewhere. Studies from Beirut show that informal sources can account for a dominant share of household water costs while supplying only a minority share of total consumed volume. Interviewees similarly described routine tanker and bottled water purchases as necessary household expenditures.

The burden is regressive because coping capacity is uneven. Households able to invest in tanks, pumps, and reserve storage can reduce the urgency and frequency of market purchases; those without such assets are forced into more frequent, often more expensive purchases under time pressure. The same formal connection status can therefore correspond to very different effective water costs. Lower-income households, renters, and households living in weakly serviced buildings are less able to smooth costs over time and are likely to pay more per usable unit of water.[30]

Table 7 below shows the comparative cost

29 Choueiri et al., "(Un)Affordability of Informal Water Systems".

30 Interview with Lakkis.

breakdown per liter across water sources, illustrating how affordability depends on the full household water basket rather than the formal tariff alone.

Table 7: Cost Breakdown by Source per Liter of Water[31]

	Average Unit Cost (USD/L)
Formal Piped Water	0.0017
Bottled Water	0.5238
Tankers	0.0045
Wells	0.0010

Source: Adapted by the author from Choueiri, "(Un)Affordability of Informal Water Systems", p. 10.

Affordability also shapes legitimacy. When users are charged under a flat fee regime yet still face repeated private expenditures to secure minimum water access, willingness to pay becomes conditional. Interviewees repeatedly framed nonpayment and selective compliance not simply as individual opportunism but as symptoms of a broken service bargain. People compare what they are asked to pay with what they receive, and they observe whether enforcement is consistent. Under these conditions, the formal tariff loses credibility as a public service contribution and is reinterpreted as an obligation without dependable return.[32]

This does not mean that tariff reform is irrelevant. It means that pricing reform alone cannot resolve the affordability problem if the service remains intermittent, opaque, and weakly measurable. Before more sophisticated tariff instruments can be experienced as fair, users need a credible service baseline, a clearer customer registry, accessible information on allocation and billing, and a complaint path that produces action. Otherwise, new pricing tools risk intensifying household obligations while leaving the burden-shifting logic intact.[33]

What sections 4 to 6 describe is one mechanism. Intermittency creates the need to cope; coping expands substitute markets and building-level infrastructure; and those compensations produce a regressive household cost stack that undermines the legitimacy of the formal tariff. Reliability failure, market substitution, and affordability are therefore not separate subthemes. They are the practical sequence through which the connection–service gap is lived.

31 Choueiri et al., "(Un)Affordability of Informal Water Systems", p. 10.

32 Interview with Saliba; Ministry of Energy and Water, "Towards a Sustainable Water Sector: Lebanon's National Water Strategy 2024-2035", June 2024, available at https://rws-ccaf.com/Resources/towards-sustainable-water-sector-lebanons-national-water-strategy-2024-%E2%80%93-2035 (Ministry of Energy and Water, "Lebanon's National Water Strategy").

33 Sidaoui, The Political Ecology of Water Justice; Lama Abdul Samad, "Lebanon's Water Strategy: Drowning in promises, thirsting for action", Badil: The Alternative Policy Institute, 2 October 2025, available at https://thebadil.com/analysis/lebanons-water-strategy-drowning-in-promises-thirsting-for-action/

7. Accountability Without Service

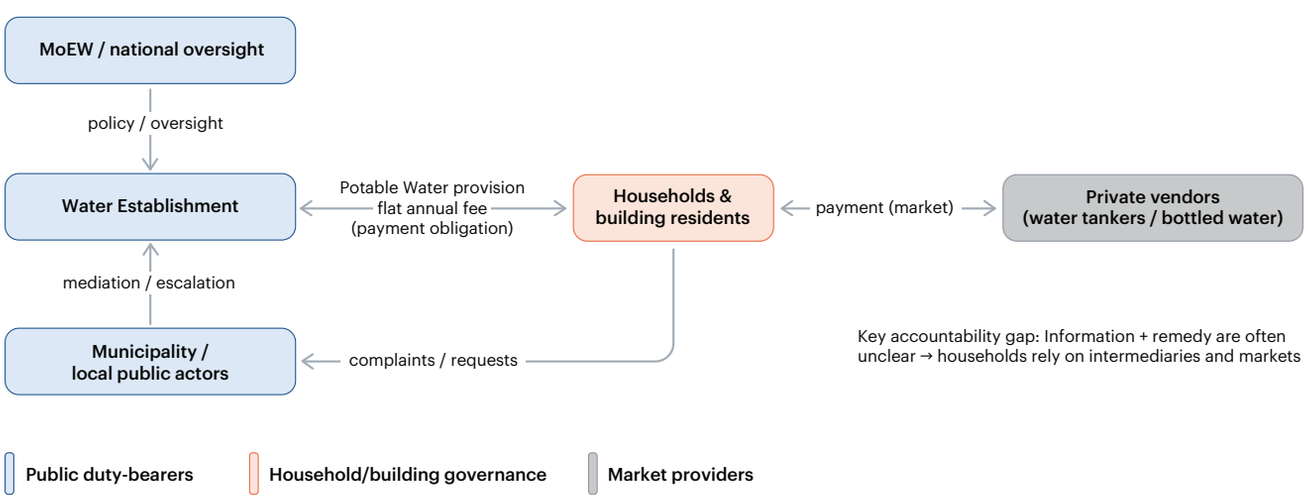
In Lebanon's domestic water sector, accountability is experienced less as a formal institutional promise than as a practical question: Can users understand the rules of service, identify who is responsible, raise a complaint, and obtain a remedy when delivery fails? Under the flat-tariff regime and persistent intermittency, the dominant experience described by interviewees is the presence of contact points but the absence of predictable follow-through. Metering-based allocation may make volumes and charges more legible, but on its own, it does not solve this accountability gap.[34] When households pay yet still cannot reliably verify service standards, the relationship shifts from tariff-for-service to obligation without enforceable entitlement.

7.1. Accountability as lived experience

Across the field material, accountability appears in lived rather than abstract form. Users repeatedly linked fair service not only to whether water eventually arrived, but to whether they could understand the allocation logic, knew when interruptions would occur, and could expect action after repeated complaints. Mr. Kassem Khalife, a Water Establishment senior manager, noted that call-center mechanisms record grievances and assign reference numbers, yet this administrative act does not necessarily create a clear path to resolution for users.[35] In practice, the decisive issue is not whether a complaint exists on paper, but whether it produces documented follow-up and timely corrective action.

This distinction matters because it shapes payment legitimacy. Where households perceive their fees are disconnected from service outcomes and that complaints disappear into opaque administrative channels, compliance weakens, and recourse becomes informal. Remedy is then pursued through repeated visits, personal relationships, local notables, municipal intermediaries, or political pressure rather than through predictable rights-based procedures. The burden of seeking redress – time, transportation, repeated calls, and bearing uncertainty – becomes an additional layer of injustice.

Figure 7: Duty Bearer Map of the Domestic Water Service in Lebanon



34 Interview with Kamal Mawloud, North Lebanon Water Establishment senior manager, phone interview by author, 9 December 2025.

35 Interview with Kassem Khalife, South Lebanon Water Establishment senior manager, phone interview by author, 4 December 2025.

7.2. Transparency, information, and blurred duty-bearing

Stakeholder accounts consistently point to information failure as the missing spine of accountability. Users often do not know when water will arrive, why it did not arrive, who decides access priority under scarcity, or which institution is answerable for which part of the system. Where measurement and communication are weak, allocation tends to revert to inherited practices, discretionary adjustments, and informal mediation, making outcomes difficult to justify or contest in public terms. This opacity prevents households from evaluating fairness and performance and undermines meaningful participation in water governance.

Lebanon's legal and policy framework, at least on paper, is more ambitious than everyday practice suggests. The Water Law is framed as supporting public reporting and improved transparency, while broader access-to-information obligations should, in principle, make key decisions, reports, and performance data available.[36] Yet interviewees and secondary assessments alike indicate that implementation remains inconsistent, fragmented, and often difficult for ordinary users to navigate. Mohamed Saad al-Ayyoubi, a water, sanitation, and hygiene coordinator for an NGO, linked weak accessibility of reliable information partly to bureaucratic inertia that slows operational response and obscures responsibility.[37]

This is where intermediaries become central. Municipal actors, local utility staff, building managers, private vendors, and informal brokers often stabilize access in the short term by coordinating deliveries, negotiating fixes, and translating complaints into action. But the same intermediary layer also blurs duty-bearing. Christina Abi Haidar, an attorney and regulatory expert, observed that when mandates and decision rationales are not clearly communicated, institutions can deflect responsibility by framing failures as outside their remit.[38] Accountability then migrates from public rules to negotiated relationships.

Table 8: Accountability Pathway

Stage	What is Missing	Practical Consequence
Information	Service schedules, interruptions, and responsibilities are unclear	Disputes migrate to power/discretion
Complaint channel	Unclear interfaces; intermediaries fill gaps	Remedy becomes negotiated rather than institutionalized
Follow-up	Limited documented follow-through	Legitimacy erosion; compliance decline

The practical implication is that meaningful accountability does not require perfect governance before progress is possible. What it does require is a cycle that closes routine communication, clearer service and allocation logic, a reachable complaint interface, and recorded follow-up. Dr Mahdi Wehbi, a water, sanitation, and hygiene sector information management specialist, stressed that disclosure

36 Moukheiber & Associates, "Lebanese Water Sector Legislation Summary"; Sandra Ibrahim, "Assessing the Compliance of Lebanese Ministries with the Access to Information Law", The Lebanese Center for Policy Studies, 21 January 2025, available at https://www.lcps-lebanon.org/en/articles/details/4890/monitor-%7C-assessing-the-compliance-of-lebanese-ministries-with-the-access-to-information-law

37 Interview with Mohamed Saad al-Ayyoubi, NGO water, sanitation, and hygiene coordinator and implementer, phone interview by author, 11 December 2025.

38 Interview with Abi Haidar.

alone is insufficient: Accountability requires timely and comparable data, clarity on roles, and complaints that trigger corrective action rather than merely accumulating as unresolved records.[39] These same conditions are also important for safety oversight, because quality risks cannot be governed where information and responsibility remain diffuse.

8. Safety Under Hybrid Provisioning: Quality Uncertainty and Unequal Risk Management

If accountability explains why service failures are difficult to contest, safety explains why their consequences are not only financial but also physical. In Lebanon's hybrid water system, the most consequential outcome of service failure is that users live with persistent uncertainty about what is safe to drink or use. Ranine Awad, an investigative journalist, described how breakdowns in distribution management, weak regulation of private supply, and uncontrolled well drilling can push households toward unverified sources and self-managed treatment.[40] Under such conditions, safety becomes household work.

8.1. How water quality becomes household work

Stakeholder accounts indicate that when service is intermittent, and households rely on multiple sources, quality becomes an emergent property of the whole chain rather than a guaranteed attribute of one provider. The issue is not only source quality, but also what happens during transport, hose transfer, storage, pumping, and point-of-use handling. The World Health Organization–UNICEF Joint Monitoring Programme's evidence for Lebanon reinforces this concern by showing that water can remain relatively accessible without being consistently safe to drink, especially across non-network modes of provision.[41] Where users cannot reliably know the source, handling chain, or storage conditions, the burden of vigilance, precaution, and additional spending shifts onto the household.

8.2. Risk pathways and the regressive cost of safety

Across the interviews, four linked risk pathways recur. First, intermittency and low pressure can increase intrusion risks and undermine confidence in returning network water. Second, trucked water introduces uncertainty over source, filling point, vehicle hygiene, and transfer conditions; trust is often built socially rather than through enforceable inspection. Third, household and building-level storage can become contamination points when tanks accumulate sediment or are cleaned irregularly. Fourth, treatment and risk-reduction capacities are unequally distributed: Some households can boil water, install filters, or buy bottled water, while others are forced to accept higher uncertainty.

This is why safety is a justice issue, not simply a technical one. Higher-income households are more able to "buy down" risk through bottled water, filters, maintenance, and trusted vendors, whereas lower-income households ration protective practices and absorb greater exposure. Fatima Sidaoui's work similarly characterizes the private water sphere as weakly regulated and monitored, leaving households to manage safety through market choices rather than through enforceable standards.[42] Dr Yasmina Choueiri and other interviewees further note that disputes over volume, source, or timing in hybrid systems are often handled through vendor switching and private judgment rather than through dependable oversight.[43]

The result is a regressive cost of safety layered on top of the regressive cost of continuity. Households pay more when public services fail, and to reduce

39 Interview with Dr Mahdi Wehbi, water, sanitation and hygiene sector information management specialist, phone interview by author, 17 December 2025.

40 Interview with Ranine Awad, investigative journalist on environment and water, phone interview by author, 18 December 2025.

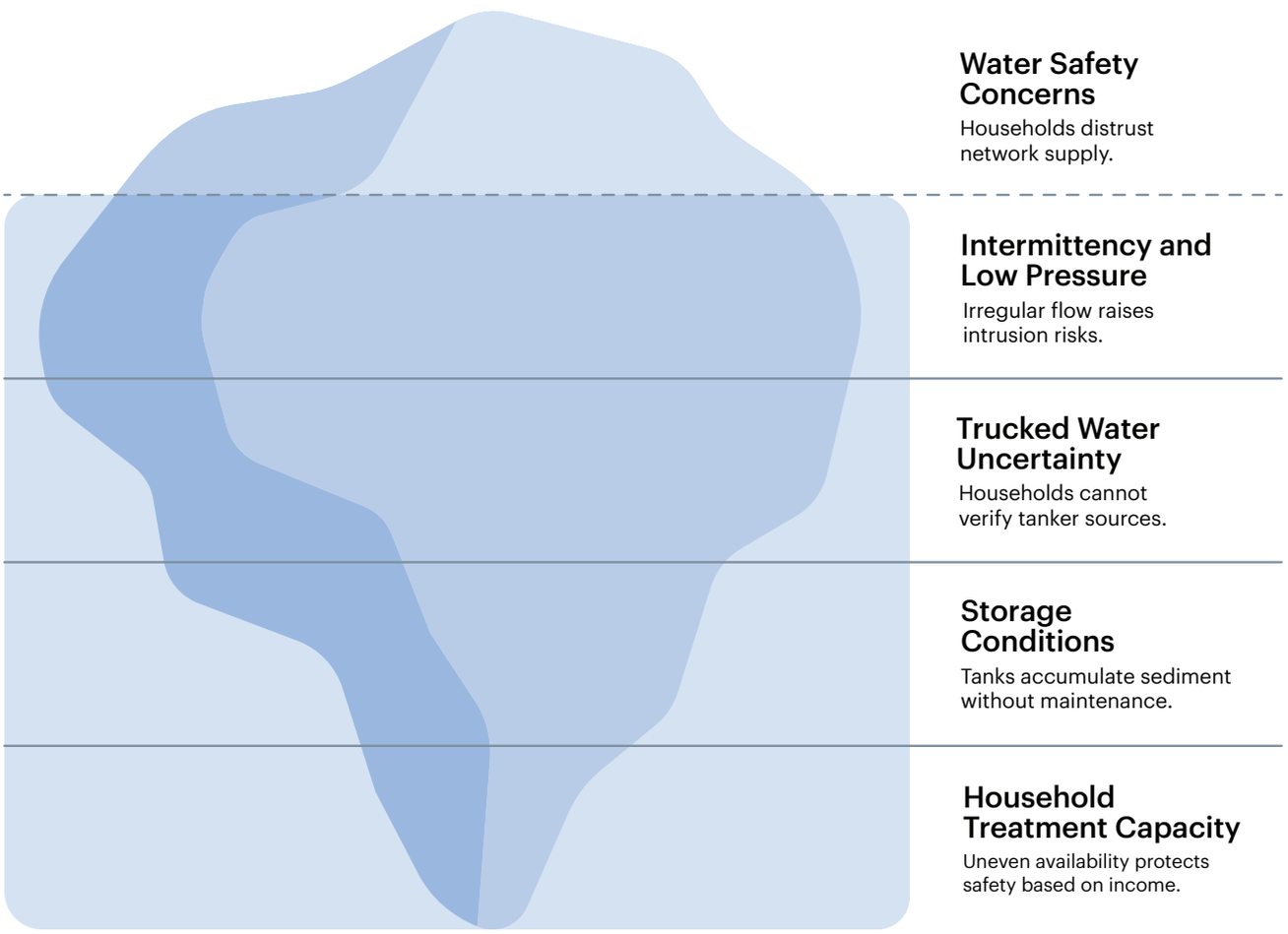
41 World Health Organization and UNICEF, "Lebanon: Water Quality Survey", 2016, available at https://washdata.org/sites/default/files/documents/reports/2019-06/Lebanon-water-quality-survey-2016.pdf (WHO and UNICEF, "Lebanon: Water Quality Survey").

42 Sidaoui, The Political Ecology of Water Justice.

43 Interview with Dr Choueiri.

health risks, with poorer households least able to do so. This is why the paper treats safety uncertainty as another expression of disguised tariffication: The price of safe use is increasingly paid privately rather than secured through public assurance.[44] The 2022 cholera episode[45] made these risks painfully visible by showing how weakly monitored substitute pathways can intensify exposure when households are left to manage safety individually.[46]

Figure 8: The Issues that Lead to Water Safety Concerns



44 ECODIT Liban Sarl, "Strategic Environmental and Social Assessment".

45 Lebanon's 2022 cholera outbreak was the country's first since 1993. It is referenced here as an example of how unsafe water, weak sanitation, and fragile water-service monitoring can turn household-level water-safety uncertainty into a wider public-health risk. See World Health Organization, "Cholera – Lebanon", Disease Outbreak News, 19 October 2022; UNICEF Lebanon, "UNICEF is actively supporting the Lebanese Government fighting the cholera outbreak", 26 October 2022.

46 Cavalcanti and Hourany, "Riding with the Black Hose Brigade".

8.3. What minimum safety governance could look like under constraint

Safety protection is strongly stratified because higher-income households are more able to purchase bottled water, install household filters, maintain storage infrastructure, or select trustworthy vendors at higher prices. In contrast, lower-income households are more likely to ration protective practices and accept greater uncertainty by relying on lower-cost supplies. This matters because the private water sector has been widely described as weakly regulated and monitored, which means households must "buy down" risk through market-based choices instead of being protected by standards.[47]

The implication is not that hybrid provisioning can be eliminated quickly, but that it must be governed more credibly. At a minimum, users need clearer public guidance on storage, handling, and common risk points; more routine disclosure of water quality data, where it exists; and a complaint-and-response pathway through which recurring safety concerns can be logged and followed. Dr Yasmine Jabali emphasized that transparency and routine public reporting are prerequisites for rebuilding trust in both network water and substitute supplies.[48] Without minimum safety governance, the burden remains individualized, and households continue to compensate for systemic uncertainty with their unequal resources.

9. When the System Works: Three Pragmatic Service Improvements

The cases in this section do not offer nationally replicable models, nor do they suspend the structural constraints described in the rest of the paper. Their value is more bounded and more practical: They show that the gap between nominal connection and governed service can, under certain conditions, be narrowed. Across different local settings, the cases illuminate what becomes possible when roles are clarified, a manageable service unit is defined, users have an accessible interface, and payment is linked more credibly to visible service functions rather than to formal status alone. In that sense, they are important not because they disprove the wider diagnosis, but because they identify the operational conditions under which daily injustice can be reduced.

9.1. Hammana

The case of the town of Hammana illustrates how local operational proximity can partially stabilize service where central procedures are too slow or too distant to manage everyday continuity problems. The town's domestic water system relies primarily on local springs and storage reservoirs feeding the network. Under intermittent conditions, the immediate question was not how to redesign the sector as a whole, but how to avoid repeated household hardship when shortfalls, maintenance needs, and local distribution tensions had to be managed in real time.[49]

The response was a locally anchored one. The municipality assumed practical responsibility for key elements of domestic supply, including local sources, storage, and segments of the network, while treating storage expansion as a continuity measure rather than a secondary technical

47 Sidaoui, The Political Ecology of Water Justice.

48 Interview with Dr Yasmine Jabali, water quality researcher and expert, academic professor, phone interview by author, 12 January 2026.

49 Interview with attorney Habib Rizk, municipal official, phone interview by author, 16 December 2025 (Interview with Rizk).

upgrade. Municipal priorities increasingly focused on increasing buffering capacity, especially under rising summer demand, and this was paired with local troubleshooting and closer operational follow-up. In practical terms, the arrangement reduced the speed with which intermittent supply translated into direct household shortage by creating more local capacity to absorb shocks.[50]

What made the arrangement comparatively strong was not institutional perfection but a framework that fits local conditions. Hammana had local source knowledge, a history of municipal and committee involvement, and the ability to translate operational concerns into municipal decisions more quickly than distant bureaucratic channels would allow. Storage, maintenance, and collection were therefore treated as parts of one service. Contributions were framed not only as a billing mechanism but as a way to sustain continuity and protect households from harsher breakdowns. This gave payment a more intelligible meaning than under the wider flat-tariff regime, even if the underlying legal and institutional ambiguities were never fully resolved.[51]

The case nevertheless remained limited. Access was not experienced equally across the town, especially in higher-elevation areas, and disputes persisted over what households were actually paying for: A water fee, a maintenance contribution, or a hybrid of both. The case also remained exposed to the unresolved ambiguity created by post-2001 sector reforms over who should operate local systems, who can collect and manage revenues, and how municipal legacies fit within Water Establishment mandates. Hammana, therefore, shows not a full solution, but a bounded gain: Where local operational ownership exists, continuity and legitimacy can improve, but they remain institutionally fragile.[52]

9.2. Ouzaii

Ouzaii presents a different kind of service problem: Not only intermittency, but also regulatory exclusion. In this dense coastal settlement, many buildings are unregulated, and many residents cannot regularize their subscriptions because premises are not legally recognized or administrative conditions cannot be met in practice. In such a context, the question was whether a public institution could still create a bounded and accountable service arrangement without waiting for full legal formalization.[53]

The resulting approach was a public-public partnership between the Beirut and Mount Lebanon Water Establishment and the Union of Municipalities of Dahyeh. Rather than treating household subscription as the sole entry point, the arrangement created a district metered area through which water could be introduced into a defined service zone, measured at an area scale, and managed as a bounded unit. This was paired with a local interface for registration, payment collection, and day-to-day operational follow-up. The significance of the model was therefore not that it resolved informality, but that it created a governable service in a setting where individual formalization remained blocked.[54]

The strength of the case lies in measurability and local usability. Bulk metering made inflows and distribution more legible, while the local office created a practical interface through which residents could interact with the system without depending entirely on distant, slow, or inaccessible bureaucratic channels. In this sense, Ouzaii reduced transaction costs for users and moved the area, at least partially, from improvised access toward a more intelligible and managed arrangement. The case also illustrates how donor- or partner-supported public–public arrangements can create service improvements without relying on full privatization or on immediate legal normalization.[55]

Yet the limitations are equally important. The arrangement did not eliminate dependence on tanker water or other substitute providers, especially during shortages. Electricity constraints and diesel costs continued to shape the reach and reliability of the system. Because full formalization remained impossible for many residents, exclusion remained, although it was managed differently. Internal inequalities also continued, including those linked to proximity to tanks and distribution points. Ouzaii therefore demonstrates that bounded service improvement is possible under informality, but also that measurable service does not by itself dissolve deeper legal, financial, and infrastructural

50 Interview with Jean Abou Farah, private water vendor and operator, in-person interview by author, 10 January 2026.

51 Interview with Rizk.

52 Interview with Rizk.

53 Interview with Amine.

54 Interview with Amine.

55 Interview with Amine.

fragilities.[56]

9.3. Al-Qaraoun and al-Buhayra

The case of al-Qaraoun and al-Buhayra highlights continuity under crisis operation. Here, the burden fell heavily on municipal and federation actors who had to keep stations functioning despite pollution pressures, repeated institutional stress, and high operating costs. The challenge was less about abstract reform design than about keeping service running in practice: Paying operators, maintaining equipment, and absorbing electricity and diagnostic costs that were large enough to threaten continuity directly.[57]

The response was a memorandum of understanding (MoU) between the Union of Municipalities and the Bekaa Water Establishment that created a practical division of labor aligned with real execution capacity. Local actors assumed more of the routine implementation burden of operation, maintenance, follow-up, and support for collections while the Water Establishment provided institutional backing and a clearer enabling framework. The arrangement therefore reduced ambiguity not by clarifying the whole sector, but by clarifying who was responsible for what on the ground.[58]

What made the case comparatively effective was the alignment between mandate and presence. The municipal side could act continuously rather than episodically, and the arrangement made collections and follow-up part of the continuity mechanism rather than peripheral administrative functions. In a constrained environment, this mattered because materials, repairs, diagnostics, and routine intervention became someone's assigned responsibility. The case thus illustrates that continuity often depends less on formal statutory purity than on whether a viable operations owner exists that can sustain day-to-day follow-through.[59]

At the same time, the fragilities remained severe. Energy and diagnostics costs continued to threaten service stability, field presence remained limited, and administrative slowness could still introduce delays. Unequal electricity reliability across localities meant that not all municipalities benefited equally from the arrangement. Al-Qaraoun and al-Buhayra, therefore, reinforce a key lesson of the section as a whole: Continuity gains can be real and meaningful, but they remain highly exposed where operation and maintenance (O&M) finance and energy remain structurally unstable.[60]

10. What the Successes Teach: Transfer Conditions, Limits, and Practical Synthesis

The three case studies presented do not amount to nationally replicable models, but they do clarify the operational conditions under which Lebanon's domestic water service can become better governed and less extractive for households. They show that the country's "paying more, getting less" condition is not immutable. Improvement becomes possible when local actors and public institutions reconfigure the service interface so that continuity, follow-up, and payment are tied to visible functions rather than to connection status alone.

What travels across the three cases is not the institutional form itself – municipal management in Hammana, a district metered area in Ouzaii, or a federation–Water Establishment MoU in al-Qaraoun and al-Buhayra – but a narrower operational logic. In each case, service became more governable once a bounded service unit was made visible, some form of day-to-day operational ownership existed, and users had a more accessible local interface for problems, payments, or follow-up. This is why the cases matter analytically: They show how the gap between nominal access and governed service can be narrowed in practice, even under wider sectoral fragility.

56 Interview with Amine.

57 Interview with engineer Yehya Daher, municipal official, phone interview by author, 18 December 2025 (Interview with Daher).

58 Interview with Daher.

59 Interview with Daher.

60 The synthesis reflects the comparative reading of the three case studies presented in this section.

10.1. From nominal access to governed service

First, the cases show that operational proximity matters. In Hammana, continuity improved where the municipality could act quickly around springs, storage, maintenance, and user follow-up rather than waiting on distant administrative channels.[61] In Ouzaii, the district-level arrangement made service measurable and locally manageable despite the constraints of informality and incomplete formal subscriptions.[62] In al-Qaraoun and al-Buhayra, the MoU worked because execution functions were matched to actors who could actually sustain day-to-day follow-through.[63]

Second, the cases show that service becomes more credible when payment is linked to visible functions. In Hammana, fees were defended in relation to continuity, storage, and maintenance; in Ouzaii, charges were tied to a bounded service arrangement that residents could recognize; and in al-Qaraoun and al-Buhayra, local collection supported a running operational system rather than an abstract entitlement. In all three settings, the meaning of payment shifted – even if incompletely – from nominal obligation toward a more intelligible service bargain.

Third, the cases confirm that accountability improves when users know where to go and what to expect. None of the arrangements eliminated informality, hierarchy, or local inequity. Yet all three reduced transaction costs for residents by creating a more usable interface for complaints, coordination, or operational contact, which is a modest but important justice gain.

10.2. Structural limits: What the success stories do not solve

The transferable lessons are practical rather than institutional. Across the cases, a minimum set of attributes recurs: A bounded service unit, clear operational ownership, minimal measurability, a reachable complaint-and-response pathway, and explicit recognition of energy and O&M realities. Without these elements, improvements tend to revert to intermittent, discretionary, and household-compensated service. The comparative logic is summarized in Table 9.

Table 9: Transfer Conditions vs Structural Limits

Transfer condition	Why it matters	Where it appears	What it does not solve
Bounded service unit and measurability	Service is a governed object that can be monitored and discussed	Ouzaii district metered area; bounded municipal or station systems in the other cases	Does not remove the national energy crisis or all legal ambiguity
Routinized operational ownership	Reduces discretionary delivery and keeps follow-through attached to real actors	Hammana municipal management; al-Qaraoun and al-Buhayra MoU	Does not by itself resolve tariff distortions or eliminate hybrid provisioning
Reachable local interface	Lowers complaint costs and makes payment, maintenance, and follow-up more legible	All three cases	Does not eliminate internal inequalities of elevation, legality, or local bargaining power

61 Interview with Rizk.

62 Interview with Amine.

63 Interview with Daher.

At the same time, the limits remain sharp. None of the cases escape the hard constraint of electricity and OPEX. None fully resolves the broader tariff regime that continues to decouple payment from delivered quantity and service quality. None abolishes hybrid provisioning, particularly for drinking water and risk management. Their analytical importance, therefore, lies not in "solving" the sector's problems, but in showing what kinds of bounded gains can be made despite constraints.

11. Changing the Meaning of Payment: Conclusions on Service, Legitimacy, and Water Justice

This paper has argued that Lebanon's domestic water crisis is not only a story of scarcity or infrastructure weakness. It is a political-economic and operational configuration in which households are positioned as payers under a flat-tariff regime anchored in legacy service connections, while the practical attributes of service – predictability, transparency, responsiveness, and safety – remain uncertain. The result is a durable connection-service gap bridged through private and semiprivate coping pathways that are costly, unequal, and weakly governed.

Read through the four justice dimensions, and the consequences become clear. Intermittency stratifies reliability among connected users; market substitution and energy dependence inflate the household cost stack; accountability collapses into opacity, discretionary mediation, and weak follow-through; and safety becomes household work marked by uncertainty. Payment therefore loses its conventional meaning. Households do not simply pay for service; they pay to remain connected and then pay again to secure what that connection does not reliably deliver.

The case studies do not overturn this diagnosis, but they do sharpen it. They show that service becomes more just when it is reconstituted as a governed object: Bounded enough to manage, measurable enough to discuss, close enough to users to sustain follow-up, and designed around real O&M conditions rather than assumed continuity. In that sense, the core problem is not only that Lebanon's water users pay too much; it is that the system asks them to carry too much of the work, cost, and risk of making water into a usable service.

12. Recommendations: A Minimum Governance-and-Operations Package

- Create a bounded, measurable service. Govern a service unit that can actually be monitored and maintained. Minimal measurement points and basic service logs matter more than perfect instrumentation.
- Assign clear operational ownership and an accessible interface. Someone must be visibly responsible for continuity, maintenance, complaint intake, and follow-up.
- Design continuity around real energy, O&M, and hybrid conditions. Plans should explicitly reflect electricity constraints, pumping feasibility, essential maintenance, and the persistence of hybrid provisioning.

These recommendations are consistent with both the field material and the institutional direction of reform already visible in sector debates, even if implementation remains constrained. Their value lies less in technical novelty than in restoring a basic principle: Payment should correspond to a service that users can perceive, understand, and partly claim. Where that correspondence is rebuilt, even incompletely, the burden of "paying more, getting less" can begin to narrow.

About the Arab Reform Initiative

The Arab Reform Initiative is an independent Arab think tank working with expert partners in the Middle East and North Africa and beyond to articulate a home-grown agenda for democratic change and social justice. It conducts research and policy analysis and provides a platform for inspirational voices based on the principles of diversity, impartiality, and gender equality.

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