Reimagining Utility Sustainability: A Conceptual Framework for Performance-Linked Water Financing

Kapil Dhabu | *Arghyam*
Kailash Karthik N., IAS | *Government of Assam*

Acknowledging ideation support received from
Mr. Mathews Mullackal (World Bank) and the Arghyam team

WASH Economics Conference 2026

17th- 18th April 2026, Ahmedabad

Water sustains life, drives economies, and underpins every dimension of human development.

Universal Access is Still Unfinished

Water Is a Governance Challenge

Investment Alone Is Not Enough

And yet, the systems we build to deliver water are struggling to survive their own handover.

“

Water is built. Handed over. Expected to sustain itself.

On financing models that were never designed to support sustained operations.

”

Capital gets funded. Operations get forgotten.

Deferred maintenance costs 60% more in capital

Only 15% of developing-country utilities are financially viable

The Scale of the Problem

$22.7T
Global water infrastructure financing need by 2050 (OECD, 2018)

$260B
Annual global economic losses from inadequate WASH (OECD, 2018)

15%
Water utilities in developing countries that are financially viable

60%
Increase in capital costs from deferred maintenance (Rozenberg & Fay, 2019)

50%
Low-income country utilities unable
to cover even O&M costs by 2010

70%
Lower-middle-income utilities unable to cover O&M costs

4%
World Bank WSS projects that declared financial viability as objective (IEG, 2018)

India’s Unprecedented Transition

80%+

Rural households with functional household tap connections under JJM

Infrastructure created. O&M responsibility transferred.

No ring-fenced O&M financing architecture

History warns us

Rural schemes have consistently fallen into disrepair within years of construction without O&M.

The risk if this is not resolved

Rural households — having abandoned traditional sources — will face severe hardship when these systems fail. (Srivastava, 2025)

What the Literature Tells Us: The Financing Landscape

Global Financing Deficit

Spending gap is structural, not incidental

Private finance has not arrived at scale

Regulation mediates everything

The O&M Imperative

O&M is 54–58% of total service cost

The trend is worsening, not stable (O&M costs recovery)

Financial viability is rarely an objective

What the Literature Tells Us: Precedents for a New Approach

Performance Benchmarking

Composite scoring enables visibility & is possible at scale

Quantification drives accountability

Current benchmarks are equity-blind

Results-Based & Outcomes-Based Financing

Results-based-Funding has promoted dedicated institutional focus

Outcome-based-Funding models generate mutual accountability

RBF/OBF models need caution: alignment with political economy scenarios

Why Existing Instruments Fall Short

Static Subsidies
- Input-based.
- Weakly linked to outcomes.
- Do not reward sustainability/ performance of services.

Water Bonds & Borrowing
- Financially exclusive.
- Most utilities lack creditworthiness.
- No performance linkage.
- Inaccessible/difficult to institutionalize at local governance institutional levels.
- Limited enthusiasm for subscription

PPPs & Blended Finance
- Short-term focus.
- Limited applicability in rural contexts.
- Low cash-flow profile makes bankability structurally elusive.
- Limited concern for O&M

The real challenge is lack of bankable, performance-anchored models. (McCoy & Schwartz, 2023)

Two Pathways Forward

The literature does not leave the O&M financing crisis as an open question. It establishes it as a structural, worsening, and solvable problem. What it does not resolve is the instrumental question.

Pathway 1: Financing Instrument Innovation

New mechanisms that mobilise resources from beyond the public sector, anchored to demonstrated performance. Drawing on cross-sector RBF evidence from health and education.

Pathway 2: Governance Policy Innovation

Reconsidering the governance logic of existing mandatory flows — India's CSR framework under the Companies Act, 2013. A resource availability problem reframed as a governance design problem.

These are not alternatives. They are complementary — one creates new money, the other redirects existing mandatory flows.

The Common Anchor: Composite Performance Score (CPS)

Both instruments share one measurement foundation. CPS is a multi-dimensional, publicly disclosed, independently verified index.

Service Regularity & Continuity	Sufficiency of Supply	Water Quality Compliance	Tariff Discipline & Financial Management
Energy Efficiency & Cost Control	O&M Discipline & Asset Upkeep	Greywater Management	Community Governance & Grievance Handling

Instrument 1: Regulated, Performance-Linked Water Certificates

How It Works

Issued against each registered utility

Ring-fenced O&M proceeds

Tradeable on a regulated platform

Tiered participation

Design Intent

Retail participation for democratisation & direct involvement with impact

Certificate purchases: traceable, auditable, and performance-responsive

Time-locked fund extraction; CPS movement ensuring operational quality

Instrument 2: Dynamic CSR Compliance Framework (D-CSR)

Step 1

Deploy CSR funds to utility operational strengthening

Capacity building, energy efficiency, metering, governance tools. Operational control stays with community.

Step 2

Independent CPS-wide verification

Evaluator checks improvement across ALL parameters — not just the composite score. Partial improvement does not qualify.

Step 3

Carry-forward relaxation earned

Only verified value of CPS-wide improvement offsets next cycle's obligation. Example: ₹25Cr spent, ₹5Cr verified = ₹5Cr offset only.

Easy wins do not qualify. Full CPS-wide improvement required.

Equity multipliers: Higher recognition for rural, high-risk, and first-time performing utilities.

Two Instruments, One Design Logic

Water Certificates

- New capital flows.
- Tradeable, performance-linked.
- Flexible participation
- Ring-fenced O&M proceeds.
- Time-locked extraction.

Composite Performance Score (CPS)

- Common anchor.
- Independent verification.
- Disaggregated by parameter.

D-CSR Framework

- Redirected mandatory flows.
- Carry-forward relaxation tied to independently verified CPS-wide improvement.
- Anti-gaming design.
- Equity multipliers for rural utilities.

Neither instrument requires the other to function. Together, they address both sides of the financing gap.

What We Don’t Know Yet?

These open questions are not gaps, but are the substance of the deliberation.

Who issues and regulates *(and how)* the certificates, and under which regulatory framework?

What regulatory pathway operationalises the D-CSR carry-forward mechanism?

How is the baseline CPS value assigned at point of issuance?

How is CPS improvement attributed to a specific corporate CSR intervention?

What circuit-breaker prevents simultaneous investor exit from destabilising utility O&M?

Who constitutes the independent evaluator, and how is consistency ensured?

How are the weakest utilities — lowest CPS, least data — supported to participate?

How is the full CPS-wide threshold calibrated to remain achievable without being gamed?

This Discussion Is a Starting Point, Not a Conclusion

The instruments proposed are intended towards driving a structured conversation around the globally acknowledged gap of O&M financing, and carry unresolved questions that are difficult to set with just one conversational setting.

For researchers

Simulation, empirical testing, and attribution methodology for performance-linked instruments in rural water contexts.

For policymakers

Regulatory pathways for certificate issuance and D-CSR carry-forward. Governance architecture for CPS verification.

For practitioners

Equity design for lowest-capacity utilities. Transition support for GPs and VWSCs entering the instrument's first cycles.

If this discussion succeeds in opening that conversation — it will have achieved what it set out to do.

Thank You

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