Strengthening Audit Oversight of Public Private Partnerships

Case Study Based Training Programme for Officials of the Comptroller and Auditor General of India

Indian Institute of Management Mumbai

1. Project Background and Bid Rationale

Water Management in India – Current Status & Need for Reform

- Water is available in abundance in India.
- Despite advanced processes, **mismanagement persists** due to systemic issues.
- **Governance in implementation of water management** is the urgent need of the hour.

Current Infrastructure

- **Water Treatment Plants (WTPs):**
  - Total: **35,574** (as per Parliament debate, 3 April 2025).
- **Sewage Generation:**
  - **72 BLD** (72,368 MLD).
- **Installed Treatment Capacity:**
  - **~43.9%** of sewage generated.
- **Actual Treatment Achieved:**
  - Less than **27%**.

Common Effluent Treatment Plants (CETPs) in India

- Total CETPs: **222**.
- Zero Liquid Discharge (ZLD) CETPs: **53**.

Governance & Sustainability in Water Treatment Facilities

Current Scenario

- ***Ownership***: The majority of water and wastewater treatment plants are government-owned.
- ***Operations***: Management of these plants is typically contracted out to private parties on an annual basis, awarded on an L1 (lowest bid) basis.
- ***Challenges with L1 Contracts***:
- Bids often fall below realistic cost estimates.
- Contractors resort to cost-cutting measures, compromising the primary purpose of effective treatment.
- ***Expenditure is treated merely as an expense, not as an investment in sustainability.***
- ***By the time contractors stabilize processes, their tenure ends, leading to discontinuity and inefficiency***

Projects to be discussed

1. Zydus SEZ – 5.2 MLD CETP

- **Capacity:** 5.2 MLD
- **Type:** Private Common Effluent Treatment Plant (CETP)
- **Key Highlight:** Operated successfully as a **Profit Center**, demonstrating a self-sustainable model of wastewater management.

2. Vikram Udyogpuri Ltd., Ujjain – 3 MLD CETP

- **Capacity:** 3 MLD
- **Developed By:** National Industrial Corridor Development Corporation (NICDC) & Madhya Pradesh Industrial Development Corporation (MPIDC)
- **Key Highlight:** A collaborative initiative showcasing **government-industry partnership** in effluent treatment infrastructure.

*Both projects highlight **innovative approaches** to CETP management.*
*They serve as **models for replication**, balancing sustainability with financial viability.*


Zydus SEZ – 5.2 MLD CETP


Vikram Udyogpuri Ltd., Ujjain – 3 MLD CETP

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2. KPI for Service Delivery

Norms & Standards

•**Uniform Parameters PAN India**

•Water quality norms to be defined strictly as per **CPCB guidelines**.

•All service delivery parameters to remain **consistent across states and regions**.

2. Operating Framework

Minimum Operating Rates

Establish baseline operating rates to ensure financial viability.

Rates to reflect **true cost of treatment and delivery**.

3. Bidding Process

Transparent & Competitive Bidding

Invite bids from both **government organizations** and **private parties**.

Evaluation based on **service quality, compliance, and sustainability**, not just lowest cost.

4. Long-Term Commitment

Winning Party Obligations

Must **invest, operate, and maintain** the facility on a **per KL of water treated/delivered** basis.

Tenure structured for **perpetual operation**, ensuring continuity and accountability.

5. Strategic Outcome

- Shift from Expense to Investment
- Water treatment facilities to be managed as self-sustainable profit centers.

3. Risk Perception at Bid Stage

Demand–Supply Gap: With a 72–75% shortfall, **risk is negligible**.

When there is a huge gap of 72-75 % in demand & supply, there is NO RISK INVOVED.
Government has already spent big sum for this purpose.

- **Government Investment:** Significant capital has already been deployed.

NEED OF THE HOUR:

- Establish a **clear policy and framework**. *A PROPER POLICY & FRAME WORK IS REQUIRED.*
- Develop **robust business models** to ensure sustainability and efficiency.

4. Financial Closure and Lender Perspective

Timeline: Financial closure must be achieved within **6 months**.

- **Lender Priorities:**
  - Rapid recovery of investment is critical. *Everyone wants to recover money ASAP*
  - Key conditions include **traffic projections, tariff structures, and annuity certainty**. *Sensitivities flagged by lenders*
  - Primary concern: **security of invested capital**. *Weather the money invested is safe ??*

Post-Award Flexibility:

- **No changes permitted** post-award to ensure bankability and contractual integrity. *To achieve bankability (if any)*

5. Construction and O&M Phase Challenges

- **Clearances & Land Acquisition:**
  - Statutory delays common unless project is structured as a **profit center**.
- **Cost & Time Overruns:**
  - Typically arise from **inadequate due diligence** — but are resolvable with proper planning.
- **Interface Issues:**
  - Coordination gaps with authorities/utilities often stem from **human factors**, not structural flaws.
- **O&M Challenges:**
- Service disruptions and cost escalations occur when **norms and rates are not predefined**

6. Revenue, Cash Flow, and Payment Issues

- **Revenues:** Actual vs. projected annuities; payments made as per contract.
- **Challenges:** Delays, escrow issues, and deductions — mostly minor, arising from communication gaps.
- **Impact:** Debt servicing and project viability affected when billing is unclear or users are not informed.

Outcome depends on business modeling.

7. Contractual Frictions and Renegotiations

- **Stress Points:** Clauses causing operational or financial strain.
- **Triggers:** Events leading to renegotiation or amendments.
- **Relief:** Nature of concessions sought or granted.
- **Impact:** Shifts in original risk allocation.

*Lack of clarity in **business modeling** leads to these issues.*

*An **indexing formula** can safeguard investor returns and ensure stability.*

8. Interaction with Authority and Regulators

- **Contract Management:** Generally effective.
- **Decision-Making:** Delays occur due to limited knowledge or ambiguities.
- **Independent Engineer's Role:** Quality of resolution depends on competence; weak oversight leads to recurring issues.
- **Escalation Mechanisms:** Structured processes help resolve disputes efficiently.

- **Key Need:** A **dedicated regulator** is essential to monitor deliverables and ensure accountability.

9. Dispute Resolution Experience (if applicable)

- **Nature of Disputes:** Payments, claims, termination, change in law — primarily **delayed payments**.
- **Mechanisms:** DRB, arbitration, courts; escalation to higher levels when required.
- **Implications:** Time and cost burdens, often with **limited consideration** for efficiency.

10. Key Lessons from Concessionaire Perspective

- **PPP Strengths:**
  - Private model allows **direct billing to users**; payments received within 30 days ensure smooth circulation.
  - Government billing slowed by **tedious MB processes**.
- **Structural Improvements Needed:**
  - Enable **direct user billing** with payments routed through an **escrow account**.
  - Clear separation of government and operator accounts for transparency.
- **Risk Management:**
- Some risks were **underestimated or misallocated**.
- Reliance on **verbal commitments without documentation** created operational gaps.

11. Audit-Relevant Takeaways

- **Contract Drafting:** Stronger clauses needed for **deliverables** and **billing/payment timelines**.
- **Assumptions:** Demand and cost projections must be **realistic**.
- **PPP Capacity Planning:** Build capacity in line with **6-month demand forecasts**, not all at once.
- **Fiscal Stress Causes:** Often linked to **tenders by inexperienced consultants**.
- **Audit Insights:**
- **Periodic audits** must be integral to the system.
- Continuous oversight keeps stakeholders **alert and accountable**.

Quick Questions ! What is at stake ?

- How much water do the above two projects discussed recycle back to the environment ?

A. 80 %

B. 50 %

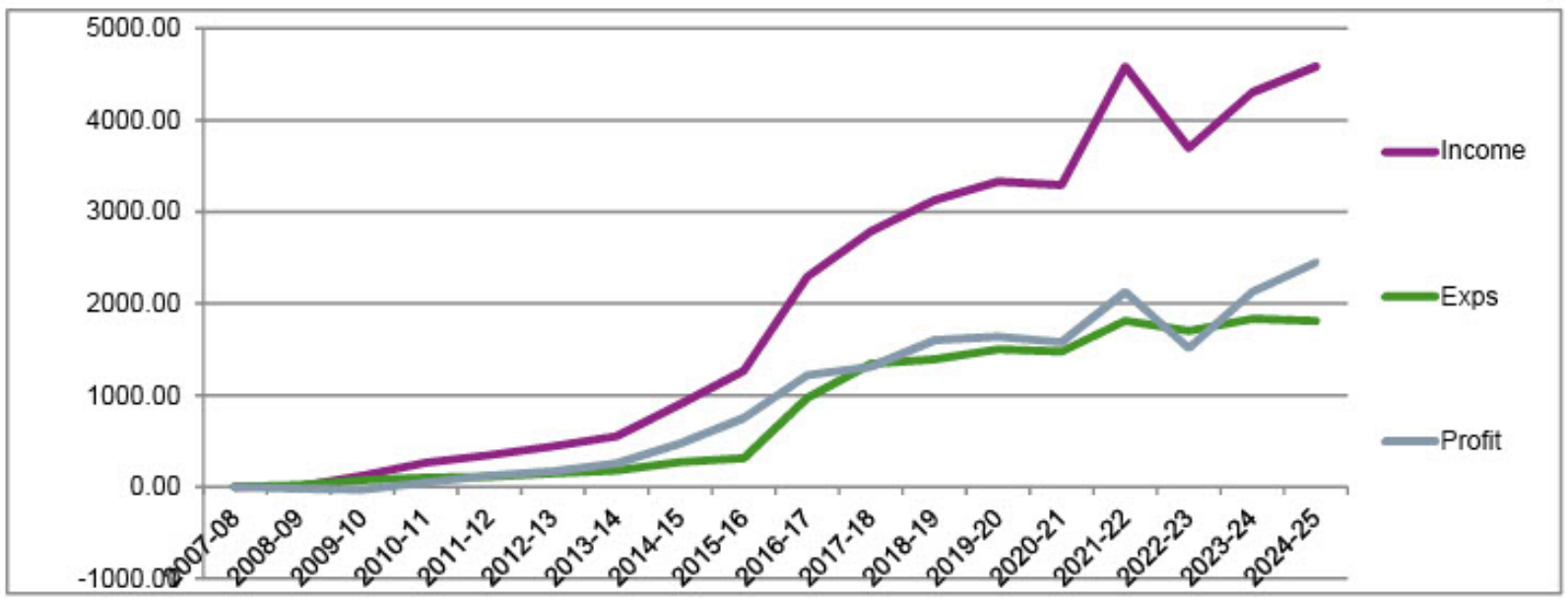
C. 95 %

D. 60 %

Common Effluent Treatment Plant

Sr No	Year	Income	Exps	Profit	% Profit
1	2007-08	0.00	0	0	
2	2008-09	4.26	18.43	-21.70	
3	2009-10	123.13	77.47	-31.22	
4	2010-11	266.17	98.36	47.23	18%
5	2011-12	347.43	109.69	123.33	35%
6	2012-13	441.97	147.59	167.92	38%
7	2013-14	552.24	179.74	257.15	47%
8	2014-15	903.21	271.58	474.18	52%
9	2015-16	1265.18	313.22	752.93	60%
10	2016-17	2293.23	970.08	1217.89	53%
11	2017-18	2788.90	1341.69	1313.16	47%
12	2018-19	3127.98	1390.80	1598.31	51%
13	2019-20	3328.52	1498.75	1636.36	49%
14	2020-21	3290.40	1474.88	1578.46	48%
15	2021-22	4584.97	1813.16	2126.71	46%
16	2022-23	3698.24	1704.26	1515.35	41%
17	2023-24	4305.75	1833.54	2128.65	49%
18	2024-25	4585.86	1808.22	2448.74	53%

Income – Expense – Profit Graph



Sustainability must be embedded at the heart of the system — not treated as an optional add-on or mere compliance requirement.

It should drive **policy, operations, and business modeling**, ensuring long-term resilience.

Making sustainability a core, transforms projects into **self-sustaining, future-ready frameworks** that protect both resources and investments.

THANKYOU