



सत्यमेव जयते

Ministry of Urban Development  
Government of India



## PPP and Procurement Training Workshop for Top 33 Smart Cities

# Revenue Models, Financing Options and Value Capture

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# Urban PPPs Snapshot

Water Supply

Too many models for implementation, no standardization, cost recovery major issue, increase in contracts awarded in the recent past

SWM/  
Sanitation

Models in disposal through scientific landfill standardized, constant supply of compost/ waste is issue, New policy for WTE; user charges and advertisements insufficient

Urban  
Transport

City Mobility Plans developed for major cities, BRTS & metro popular projects, financial viability is an issue, financing innovations required

Urban  
Housing

Not many PPPs materialized, private sector more interested in high end luxury housing projects which are more profitable

Parking

Technology Choices; supplementing user charges with real estate/ advertisement streams

Street  
Lighting

Energy Savings/ Capital sharing/ Service level definition

Newer  
Projects

Roof top solar, e rickshaw, IT Connectivity, Smart bus stops – largely unexplored models; Need to have appropriate development process for successful implementation



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# Key Questions

- Whether solely on the basis of returns on investments, is the project do-able through PPP framework ?
- Whether the financial returns from the project are more than the cost investments ?
- Whether the project returns are attractive for the private sector to partner ?
- What revenue the private partner could share with the government is in case the project is attractive for private partnership ?
- Are there any economies across projects that could be captured ?



# Financial Assessment

Formulate Reasonable and Realistic Assumptions



Life Cycle Cost Analysis & Source of Finance



Revenue Estimation



Financial Feasibility Assessment



Optimise Financial Viability



# SWM Business Models

MSWM Activity	Details
Collection	<ul style="list-style-type: none"> <li>• Cost toward door to door collection recovered through user charges</li> <li>• User charges accrue to waste collectors (Deployed by RWAs/ NGOs/ ULBs)</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• No revenue source; trip based/ weight based/ lumpsum</li> </ul>
Treatment	<ul style="list-style-type: none"> <li>• Revenues from sale of compost/ fuel pellets/power/ carbon</li> <li>• However low sale price, limited demand/ acceptability, high capital costs, limited tenure of PPA has restricted the revenue potential</li> <li>• Most of the treatment facilities (with mechanized facilities) are not self sustainable</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>• Landfill facilities are cost centers with limited revenue</li> </ul>

- Need for Tipping Fees
  - Appropriate Amount? (~200 Blr, ~1500 Hyd, ~1200 Delhi, ~ 800 Belgaum etc.)
  - Like a NPV of a Mutual Fund
  - To make project viable, depends on components covered, scope, extent of preparedness and so on.



# MSW - Select Project Experience

- Lucknow SWERF
  - Was the technology inappropriate, or did the ULB literally expect 'grit-to-gas'?
- Thiruvananthapuram Composting
  - How much waste does the city generate
- Bangalore – the first (PPP) sanitary land-fill in the country
  - Land?
- GHMC – the largest one yet
- Waste to Energy (AP cities, Bangalore, UP etc.)
  - Kasturirangan Committee
- A number of tipping fee based contracts have been awarded

Some developers continue to rest hopes on SWERF



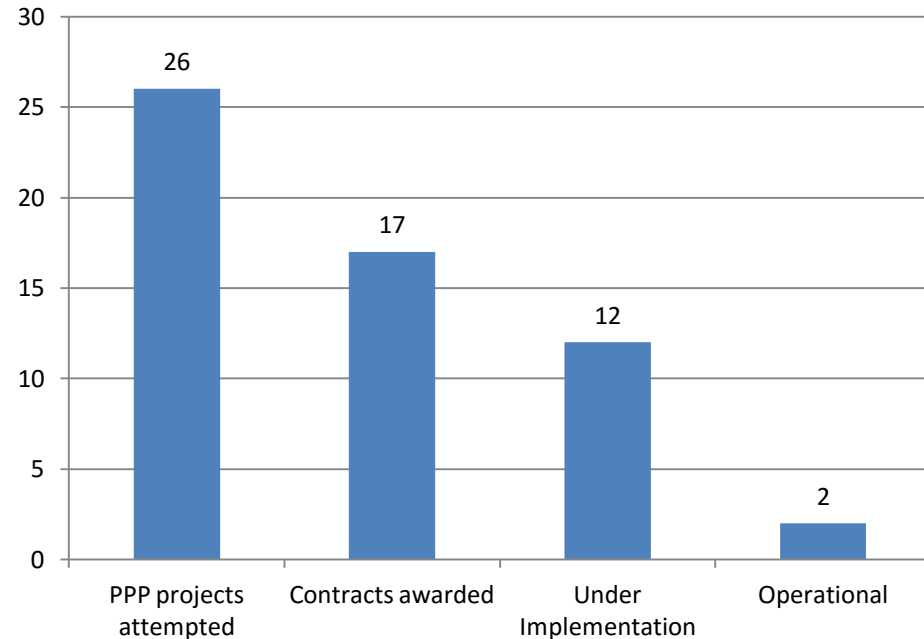
# Hyderabad SWM

- Integrated SWM project
- JnNURM financing structure
- Gap to be recovered through tipping fees
- Transaction and Implementation
  - Across all components of MSW chain
  - Entire city – Greater Hyderabad
  - Existing contracts to be factored
  - Sequential handover of sites/ areas



# Water

- Tiruppur Water Supply – the first attempt?
  - About 20% urban, and 80% industrial
    - by the time the project was made, circumstances were unmade...
- Visakhapatnam Water Supply
  - Similar structure 20% urban and 80% industrial
- Pilots – KUWASIP, Nagpur etc.
  - Management contracts – near risk free
    - Is upscaling on similar model practical?
- Full city models
  - Tariffs and adherence to agreements
- Central schemes, user charges, annuities
- Assumptions/ base line info is important



- Too many models, limited bidders
- Lesser financial bids ; more questions (pre bid queries)
- Growing interest in participation





# Urban Transport

- One of the earliest LRT system awarded was in Bangalore, but later cancelled
- A few large projects bid/ awarded
  - With capex
    - Mumbai, Hyderabad (!), Haryana
  - Without capex
    - Delhi Airport Link
  - Bangalore airport rail link, Hyderabad (encore)
- Buses:
  - Indore, a successful model
    - Interestingly, why is this model not widely replicated?
  - Ahmedabad BRT
  - A number of BRT systems (Delhi, Bangalore, Mysore) studied and structured on PPP, but being executed by the Authority



# Financing Options

- Tax Buoyancy
- Project specific/ general purpose loans from banks/ FIs/ MLAs, securing municipal revenues
  - Loan conditionality; State Government guarantees
- Bond issues of Ahmedabad, Hyderabad, BMP, Nashik, KUIDFC etc., have not led to large-scale replication
  - Issues of market appetite, end-use
  - Limited number of ULBs which can access financing on a standalone basis
  - Small ‘pilots’ Rs. 40-100 Crores. Enormous amount of effort and arm twisting to close.
  - Pooled Finance ‘seems’ a more appropriate structure for small ULBs
- No perceptible efforts to leverage



# Are we on right track?

- Feasibility studies in urban sector provide only a partial picture – projects not financially free standing!!
  - Water: Tariffs set to recover only O&M costs, and after factoring efficiencies, there is a deficit in finances.
  - SWM: Hardly any user charges or markets for sale of products/ recyclables
  - Most sub sectors (Parking, urban transport etc) experimented with revenues from real estate
  - Dependence on government finances in some form (capital grants/ annuities/ tipping fees etc.)
  - Other project parameters are matters of detail
- Not so smart structure! “Project = land available with Authority + Some public use + commercial development”
- Assuming we get the above elements right, will the project (s) go ahead?
- Lots of “concerns” remain unanswered!!



# Key Takeaways

- PPPs in urban sector need to be hybrid models
  - *less focus on 'typology' .....more focus on **tailored solutions** + **results***
- Get project development process right
  - Information to take right decisions
  - Business case scenarios
- Commence with service standards needed, and work backward towards governance structures, transaction & contractual documentation, and procurement process



# Thank you

